Early Child Development In Haldimand County and Norfolk County:

2002 EDI Project Results

Ontario
Early Years

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Many things we need can wait, the child cannot.
Now is the time his bones are being formed,
his blood is being made,
his mind is being developed.
To him we cannot say tomorrow,
his name is today.

Gabriela Mistral, Chilean poet

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Acknowledgements

Establishing a baseline of children's developmental skills before they enter the formal education system in Haldimand County and Norfolk County would not have been possible without the foresight and collaborative efforts of The Early Years Steering Committee of Haldimand and Norfolk, Kids Can Fly in Brant, the Grand Erie District School Board and the Brant Haldimand Norfolk Catholic District School Board. Project funding was generously provided by the Grand Erie District School Board, the Brant Haldimand Norfolk Catholic District School Board and the Ministry of Community, Family and Children's Services.

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Thank you all for working towards improving the life chances of our young children.

Do a child's early years last a lifetime?
How important are the years from prenatal to age six?

The answers are "yes" and "very". Research has shown that a child's experiences in the first six years of life shape the brain's physical development and affect the capacity for learning. Early experiences influence our ability to positively relate to others, achieve academic and career success, and maintain physical and emotional health throughout our lives.

How important is it that our children be ready to begin school?

There is a large societal impact when children have strong developmental skills and are ready to begin school. These children are more likely to complete high school, find employment, and contribute to society as caring citizens, parents, and taxpayers. Children who lack the necessary skills are more likely to repeat a grade, receive special education services, and leave school before completing their secondary education.

How do we know if our children are ready?

The Early Development Instrument (EDI) is a tool used to assess children's development as they enter the formal education system. EDI results are used to establish a baseline of children's early development skills by:

- identifying neighbourhoods within communities where children are thriving and are developmentally ready to begin school and where children are facing challenges
- helping communities assess their ability to support young children and their families
- providing evidence for agencies to use when planning services and mobilize resources to improve outcomes for children
- helping schools plan by indicating areas of strength and identifying challenges that require support to improve learning outcomes

What has been done in Haldimand and Norfolk?

In 2002, EDI was used to examine early child development of almost 43,000 children in 8 provinces across Canada. In March 2002, the EDI was administered to all senior kindergarten children in both school boards across Haldimand and Norfolk. This report presents the results from the EDI data. The results are reported by County and by eleven neighbourhoods within both Counties. Socio-economic indicators that affect early child development are also reported by the same neighbourhoods.

What are the Key Findings?

- 12.6% of all children aged 5 years in Haldimand and Norfolk Counties are experiencing significant developmental difficulties
- 7.6% of all children aged 5 years in Haldimand County are experiencing significant developmental difficulties
- 16.5% of all children aged 5 years in Norfolk County are experiencing significant developmental difficulties
- Neighbourhoods where less than 10% of children are experiencing development difficulties are considered thriving neighbourhoods for children. These include: South West Haldimand (3.4%), North Haldimand (5.3%), Central Haldimand (9.1%), North West Haldimand (9.1%) and North East Norfolk (7.1%)
- Neighbourhoods where more than 20% of children are experiencing developmental difficulties are considered at-risk neighbourhoods for children. These include: West Norfolk (21.7%), South West Norfolk (22.9%) and North West Norfolk (23.4%)
- Neighbourhoods where children are experiencing higher rates of family poverty that may impact children's development include: North West Haldimand (8.1%), South West Haldimand (9.3%), East Haldimand (12.4%), North East Norfolk (8.8%), West Norfolk (9.8%) and Central Norfolk (13.7%)

What's Next?

The EDI results in this report establish a baseline of children's developmental skills as they begin school in Haldimand and Norfolk. This report is meant to provide planning groups with evidence-based data that will help inform policy and service plans. EDI data should not be used for planning purposes in isolation. The next step is for Early Years planning groups and service agencies to combine these results with up-to-date socio-economic, health and program/service information at the neighbourhood level. This will paint a picture of each unique neighbourhood and help policy and planning bodies understand where that neighbourhood is strong in early child development and where that neighbourhood needs help to support better outcomes for their children.

Do a child's early years last a lifetime? How important are the years from prenatal to age six?

There is now an impressive body of research from a wide range of fields that demonstrates the extent to which early child development affects health, well-being and competence throughout life. We now know that the determinants of success in early child development are found in the environments where children grow up, live and learn.[1] Neuroscience research has shown that a child's experiences in the first six years of life shape the brain's physical development and affect the capacity for learning. Early experiences influence our ability to positively relate to others, achieve academic and career success, and maintain physical and emotional health. Environmental influences such as parenting style, access to quality child care and early childhood development programs, and characteristics of a child's neighbourhood have a huge impact on a child's ability to learn. Children beginning school with adequate social and communication skills are better able to cope and take advantage of the many learning opportunities that the school environment has to offer.[2]

What is the definition of a child being "ready to begin school"?

Traditionally, children's developmental skills upon entry to school were defined as a child's ability to read, write and do math. Lewit & Baker define being ready for school with the more specific concept of "a standard of physical, intellectual, and social development that enables children to fulfill school requirements and to assimilate a school's curriculum."[3] Janus & Offord define school readiness as being a more specific group of developmental qualities, referring "more to a child's ability to meet the task demands of school such as being cooperative, having adequate listeneing skills, and acquiring the general skills needed to allow the child to optimally benefit from educational activities provided in a school environment." [4] Educational experts are advocating for broader definitions that include physical, social, and emotional well-being, along with communication skills and cognitive development. The thought now is that children who are ready to begin school have an overall capacity to deal with learning as an experience within itself, along with their ability to absorb information in a healthy, productive manner.

How important is it that a child be ready to begin school?

Children who are developmentally ready to begin school have a greater chance of doing well in school and later in life.[2] Research in Canada[5-7] and the United States[8-11] has shown that being ready to begin school at age six can predict a child's ability to benefit from academic instruction. Academic performance in the early grades is a significant predictor of whether or not a child completes high school.[12-16] The behavioural expectations of school require that children cooperate with others and communicate their wants, needs, and feelings appropriately. Children who lack these skills at school entry can be disruptive and may resort to behaviours such as physical aggression and bullying.[17] Research has shown that children who behave in this manner run the risk of being rejected by their peers and excluded from group activities. [18-20] There is a large societal impact when children have strong developmental skills and are ready to begin school. These children are more likely to complete high school, find employment, and contribute to society as caring citizens, parents, and taxpayers. Children who lack the necessary skills are more likely to repeat a grade, receive special education services, and leave school before completing their secondary education.

How do we know if our children are ready?

Given the importance of children being prepared to begin school, communities must establish a baseline and begin to monitor how well they are supporting young children and their families. Tracking child outcomes will allow communities to understand how well their children are doing and how local circumstances could be changed to improve their life chances. Once communities have this baseline, they can monitor the impact of programs and services and plan for children and their families using evidence-based data.

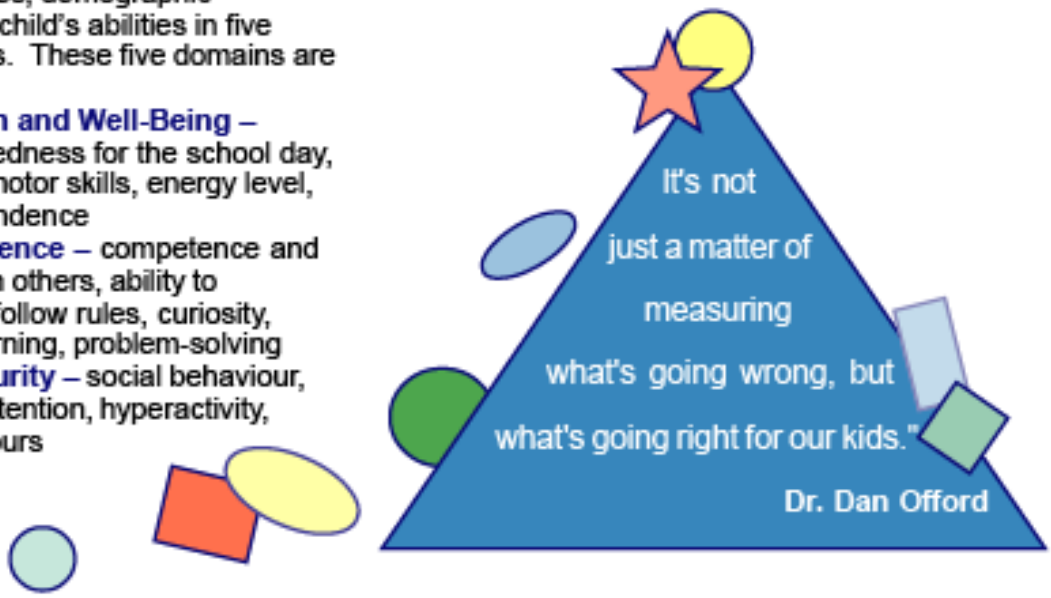
The Early Development Instrument (EDI) is a population-based tool used to assess children's development as they enter the formal education system. The EDI was developed in 1997 by Dr. Dan Offord and Dr. Magdalena Janus of the Offord Centre for Child Studies at McMaster University. It is a checklist consisting of over 120 questions about children's behaviour and developmental characteristics within the classroom. The EDI questionnaire is completed by teachers after several months of classroom interaction. The teachers base their answers on their knowledge and observations of the children. Although the EDI is completed for individual children, it is not meant to be used as an individual diagnostic tool. Data is interpreted at the group level (eg. neighbourhoods, school boards, municipalities) and is best utilized when linked to other population and neighbourhood information. It is important to emphasize that the EDI is not a measure of a school's performance as it is administered to children when they enter kindergarten, but is a measure of the community's ability to support early child development.

The EDI collects information about a child's pre-kindergarten experiences, demographic characteristics and the child's abilities in five developmental domains. These five domains are defined as:

1. **Physical Health and Well-Being** – physical preparedness for the school day, fine and gross motor skills, energy level, physical independence
2. **Social Competence** – competence and cooperation with others, ability to remember and follow rules, curiosity, approach to learning, problem-solving
3. **Emotional Maturity** – social behaviour, aggression, inattention, hyperactivity, anxious behaviours
4. **Language and Cognitive Development** ability to use the language correctly, cognitive development aspects of literacy and numeracy (basic skills)
5. **Communication Skills and General Knowledge** – ability to communicate needs and thoughts to both adults and other children, ability to understand others, clear articulation, aspects of general knowledge

Purpose of the EDI

- to identify neighbourhoods within communities where children are thriving and are developmentally ready to begin school and where children are facing challenges
- to help communities assess their ability to support young children and their families at the neighbourhood level
- to provide evidence for agencies to use when planning services and mobilize resources to improve outcomes for children so they enter the school system ready to benefit from education and be able to participate in school activities
- to help schools plan by indicating areas of strength and identifying challenges that require support to improve learning outcomes
- to establish a baseline and assist communities to monitor change and outcomes in early child development



Our Vision:

The creation of an innovative and responsive model of Early Years sevice delivery that addresses the key principles of accessibility, flexibility, affordability and equity in a rural community of our geographical size and cultural diversity.

Early Years Steering Committee of Haldimand and Norfolk Final Action Plan, 2002

Implementation

The Early Years Steering Committee of Haldimand and Norfolk was established in April 2001. Their mandate was to champion early child development, raise awareness of the importance of the early years and mobilize all sectors to share responsibility for children and expand/build upon existing services to meet the unique needs of each community.
One of the major initiatives undertaken by the Steering Committee was to implement the EDI in Haldimand and Norfolk. The EDI project was a partnership between the Early Years Steering Committee of Haldimand and Norfolk, Kids Can Fly in Brant, The Grand Erie District School Board and the Brant Haldimand Norfolk Catholic District School Board. Funding was generously provided by both school boards and the Ministry of Community, Family & Children's Services.

Methodology

In March 2002, the EDI was administered to all senior kindergarten children in both school boards in Haldimand and Norfolk. See Appendix 1 for a map of schools that participated in the project. This was the first time the tool was used by either school board. Teachers received training on how to complete the EDI and the parents/guardians of children studied were informed by letter from the school boards. In Haldimand and Norfolk Counties, valid data was collected for 1144 children (Haldimand-526; Norfolk-618). The scores of children with known special needs and/or children with missing data for 3 or more domains have been excluded leaving 1102 children included in this report (Haldimand-509; Norfolk-593). The collected data was sent to the Offord Centre for Child Studies at McMaster University for data entry and initial analysis. Further in-depth analysis was conducted by Dr. Shelley Lothian Ph.D., and those results are summarized in this report.

For this report, Haldimand and Norfolk Counties were divided into neighbourhood study areas in consultation with the Early Years Steering Committee and Health and Social Services staff. The criteria for forming the neighbourhood study areas was that they had to be identifiable neighbourhoods that most residents would recognize and include (if possible) one large town, and they had to have at least 30 children assessed with the EDI. Based on census dissemination area boundaries Haldimand County was divided into 5 neighbourhoods and Norfolk County into 6 neighbourhoods. Neighbourhood names were applied based on geographic location and county.

Tables 1 and 2 show the towns/hamlets in each neighbourhood, as well as the names and map labels for each neighbourhood. The EDI data and relative data from Census of Canada, 2001 are reported by these 11 neighbourhoods.

Maps 1 and 2 show the EDI study neighbourhoods and the number of children assessed in each neighbourhood.

Table 1: Neighbourhood Study Areas

Neighbourhood Name	Map Label	Towns/Hamlets In Neighbourhood
East Haldimand	East Hald.	Byng, Canborough, Dunnville, Lowbanks, Port Matiland, Stromness
Central Haldimand	Central Hald.	Canfield, Cayuga, Empires Corners, Fisherville, Kohler, Nelles Corners, Selkirk, Sweets Corners, York
South West Haldimand	SW Hald.	Jarvis, Lambs Corners, Nanticoke, Townsend
North West Haldimand	NW Hald.	Clanbrassil, Garnet, Hagersville
North Haldimand	North Hald.	Blackheath, Caledonia, Tyneside

Map 1: EDI Study Neighbourhoods and Number of Children Assessed

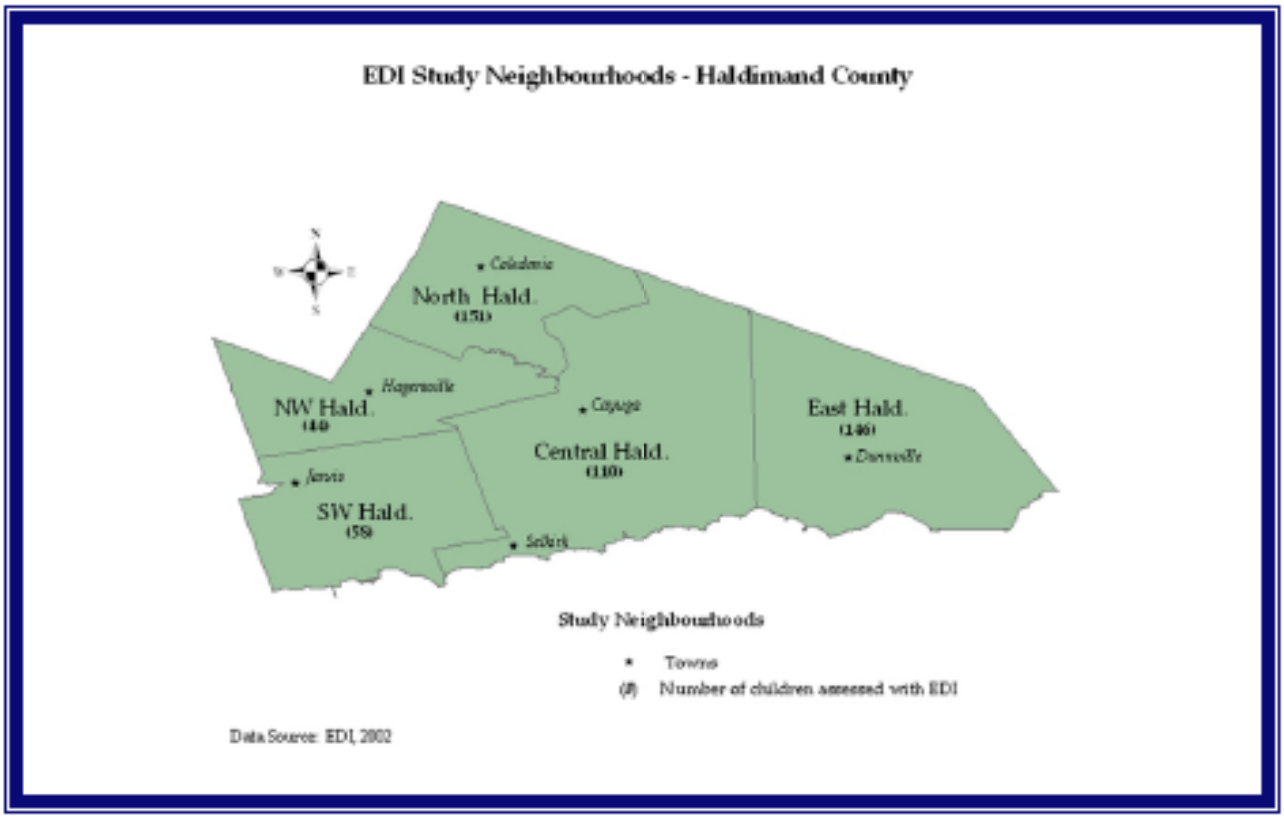


Table 2: Neighbourhood Study Areas

Neighbourhood Name	Map Label	Towns/Hamlets In Neighbourhood
North East Norfolk	NE Norf.	Bloomsburg, Boston, Hartford, Renton, Villa Nova, Waterford, Wilsonville
South East Norfolk	SE Norf.	Port Dover, Port Ryerse
Central Norfolk	Central Norf.	Fisher's Glen, Simcoe, Turkey Point, Vittoria, Walsh
North West Norfolk	NW Norf.	Kelvin, LaSalette, Teeterville, Vanessa, Windham Centre
West Norfolk	West Norf.	Courtland, Delhi, Mabee's Corners
South West Norfolk	SW Norf.	Frogmore, Glen Meyer, Houghton, Langton, Lynedoch, Long Point, Port Rowan, St. Williams, Walsingham

Map 2: EDI Study Neighbourhoods and Number of Children Assessed

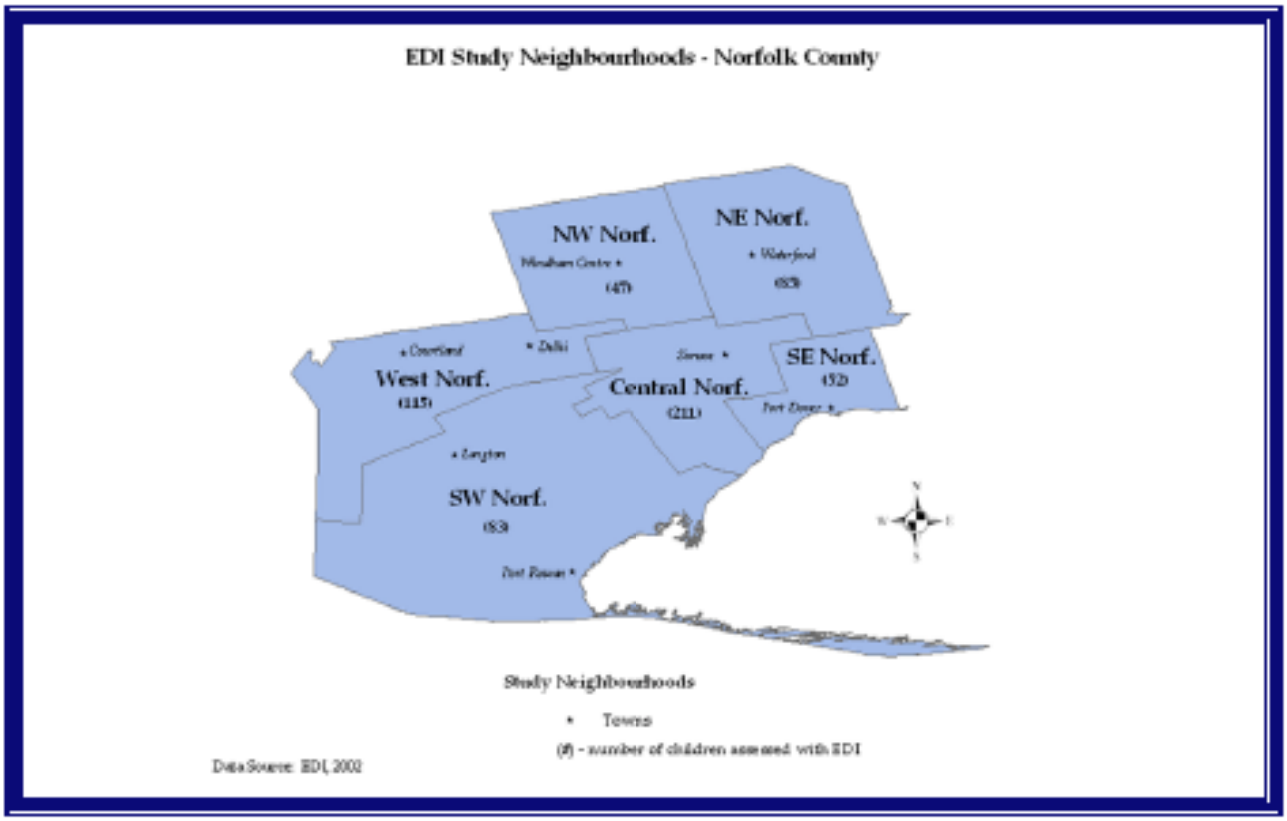


Table 3 is a profile of key socio-economic indicators for each of the 11 neighbourhoods. For example, in 2001 East Haldimand had a total population of 12,576 people and 1,045 children aged between 0 and 6. Of those children assessed with EDI, 10% have developmental difficulties. Eleven percent of families were headed by a lone parent and 12% of families lived below the poverty line. Nine percent of East Haldimand's residents had moved within the last year; 11% had less than a grade 9 education and on average, 16% of residents derived income from government sources. On the next page is a brief description of each indicator and how it relates to the development of children.

Table 3: Profile of Key Socio-Economic Indicators

	Total Population	Total Population 0 to 6 Years	Developmental Difficulties %	Lone Parent Families %	Low Education %	Family Poverty Rate %	One-Year Mobility %	Dependence on Gov't. Income %
East Haldimand	12576	1045	10.3	11.1	11.3	12.4	9.0	15.9
Central Haldimand	9383	720	9.1	10.6	7.1	7.3	10.0	12.2
South West Haldimand	4376	415	3.4	8.1	8.2	9.3	7.6	8.6
North West Haldimand	4671	380	9.1	14.2	10.8	8.1	11.5	11.9
North Haldimand	12271	1335	5.3	10.6	3.6	3.6	12.4	7.6
North East Norfolk	8754	705	7.1	9.2	10.8	8.8	8.8	11.9
South East Norfolk	7698	450	11.5	9.5	8.3	7.4	7.1	10.0
Central Norfolk	19120	1355	15.6	14.3	11.9	13.7	11.5	15.1
North West Norfolk	3607	330	23.4	11.7	14.5	5.4	6.5	9.4
West Norfolk	10339	855	21.7	10.4	18.4	9.8	12.6	14.4
South West Norfolk	11676	995	22.9	9.0	21.1	7.2	7.9	13.0
HALDIMAND & NORFOLK	104670	8520	12.6	11.1	11.7	9	9.9	12.8
HALDIMAND	43728	3905	7.6	10.7	7.8	7.8	10.2	11.4
NORFOLK	60847	4610	16.5	11.3	14.4	9.9	9.8	13.9
ONTARIO	11410045	975030	n/a	15.2	8.7	14.4	13.9	9.8

Source: Statistics Canada Census, 2001

Total population aged 0 to 6 years – total number of children aged 0 to 6 years that live within the neighbourhood. Neighbourhoods with large numbers of children may have larger numbers of children at-risk and should be considered key areas for locating programs for children and parents.

Developmental Difficulties - percent of children scoring in the lowest 10th percentile on two or more EDI domains. Children having difficulties at entry into grade 1 are at significant risk of future academic failure. A more detailed description of this indicator is available in the EDI results section of this report.

Lone parent families – percent of total families that are headed by a lone parent. While most children from lone-parent households do well, research has shown that a higher proportion of children with cognitive and behavioural problems come from such families.[21-22] In addition, a higher incidence of two-parent families living in a neighbourhood has been linked to healthier child and adolescent development.[23]

Low Education (less than Grade 9) – percent of total population aged 20 and older with less than grade 9 education level. Education levels of residents are considered a crucial part of the socio-economic environment of communities where children grow and develop. Adults in the community with high levels of education are more likely to be employed, less likely to live in poverty, and more likely to serve as positive role models and mentors to their own children and other children in the community. Conversely, those with lower education levels may face diminished employment prospects and are more likely to live in poverty.

Family poverty rate - percent of census families below the low income cut-offs. Neighbourhoods where a high number of residents live in poverty can pose challenges to families and children, service providers and policy makers. Such areas may lack resources, and residents could be deprived of interaction with mainstream social networks and role models through processes of isolation and segregation. These neighbourhoods may also experience overcrowding, lower levels of safety, a less-desirable physical environment, and a scarcity of resources.

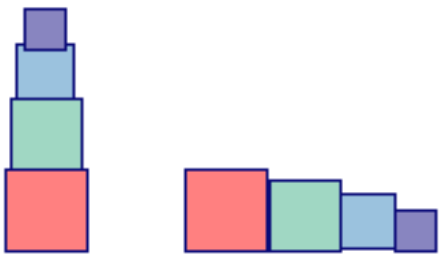
One-year mobility – percent of residents that have moved in the past year. High rates of residential mobility and transience in neighbourhoods often correspond to social disruption and weakened social ties, which in turn can create a climate more conducive to crime and other types of anti-social behaviour.

Dependence on Government Income – percent of total income from government sources. Reliance on government transfer payments is a sign of economic problems within a household.

Further information regarding how these indicators are linked with early child development is contained in the following two reports:

Dafna E. Kohen, Clyde Hertzman, and Jeanne Brooks-Gunn: Neighbourhood Influences on Children's School Readiness http://www11.hrsdc.gc.ca/en/cs/sp/arb/publications/research/1998-000171/page00.shtml

Gillian Doherty, Zero to Six: The Basis for School Readiness
http://www11.sdc.gc.ca/en/cs/sp/arb/publications/1997-002557/page00.shtml



"I believe that equitable outcomes for all of Canada's children and youth should be our ultimate goal"

Dr Dan Offord

Understanding EDI Results

Each of the five EDI domains is scored on a scale of 0 to 10 with higher scores indicating greater developmental skills. The EDI results are reported by average scores and by percentiles. Percentiles or cut-off points are based on the distribution of scores and show what percentage of children score in a certain percentile range. For example, if a child scores "very low" in a particular domain, this means that this child's score falls among the lowest (poorest) 10% of all scores in Haldimand and Norfolk. Theoretically, if children's abilities were evenly spread across the two Counties, each neighbourhood should have 10% of its students fall into this category. However, the Haldimand and Norfolk results show that the EDI scores are not evenly distributed and there are neighbourhoods where more than 10% of the scores are below the 10th percentile.

EDI percentile scores should be interpreted as follows:

Below the 10th percentile

Children who scored in the lowest (poorest) 10% of all scores are said to have scored "below the 10th percentile". These children may be at risk to experience difficulties at school and are considered vulnerable in terms of their developmental skills. If a child scores below the 10th percentile on two or more domains, the risk increases.

In terms of neighbourhood scores, it is expected that about 10% of children should be scoring in the lowest 10th percentile if the scores are evenly distributed throughout the counties. However, there are some neighbourhoods that have more children scoring in the lowest 10th percentile compared to other neighbourhoods. So, when looking at the percent of children scoring in the lowest 10th percentile by county or neighbourhood, if that percent is lower than 10%, children in that neighbourhood are doing BETTER than expected. If the percent is higher than 10%, children in that neighbourhood are doing WORSE than expected.

Between the 10th and 25th Percentile

While children who scored in this percentile are not in the lowest range, they may still be considered at risk to experience difficulties at school and are recognized as a cause for concern in terms of their developmental skills. For the neighbourhood interpretations, it is expected that about 15% of children should be scoring between the 10th and 25th percentile. Neighbourhoods with less than 15% are doing BETTER than expected while neighbourhoods with more than 15% are doing WORSE than expected.

Above the 75th Percentile

Children who scored in the top 25% are considered to be thriving in terms of their developmental skills. For the neighbourhood interpretations, it is expected that about 25% of children should be scoring above the 75th percentile. Neighbourhoods with less than 25% are doing WORSE than expected. Neighbourhoods with more than 25% are BETTER than expected.

Using EDI Results

The EDI results should not be used in isolation when planning services as neighbourhood influences play a big role in helping children develop and be ready to begin school.

To understand how well communities are able to prepare children for school, the EDI results must be examined in combination with other community information such as census data, Healthy Babies, Healthy Children program data, Children's Aid Society referrals, provincial grade 3 standardized assessment data, program/service data and neighbourhood characteristics. Until these other sources of information are examined with these results, conclusions about why children in one neighbourhood appear to be doing better than in another are not possible. This report highlights where children are facing developmental challenges; understanding why and making intervention recommendations are the next steps that require contributions from people with experience working and living within those communities.

> "Much has been learned about how to help very young children grow to be smart and healthy. The important step, however, is the next step - to engage families, communities, universities, religious and other organizations, as well as the government, to invest in the first and most lasting hope of the new century, the world's children."
>
> E. V. Iglesias and D.E. Shalala, World Bank

One way to examine the EDI results is by comparing average scores in Haldimand and Norfolk to the average scores of Canadian children that were assessed with the EDI in the school year 2000/02 (see Table 4). Comparing average scores allows communities the opportunity to examine their level of child development in relation to other communities and the 2001/02 EDI cohort. The EDI cohort for the year 2001/02 includes almost 43,000 children from 8 provinces in Canada. When comparing the average Haldimand & Norfolk scores to the EDI cohort, these children scored the same as or below the average in all EDI domains except for the Communication Skills and General Knowledge domain where Haldimand & Norfolk is above the cohort average. In comparison to other communities, Haldimand & Norfolk children are generally scoring just slightly lower than children in Brant but slightly higher than children in Hamilton with a few exceptions. Average scores in Haldimand & Norfolk are lower than children living in Halton on all domains except for Communication and General Knowledge.

Table 4: Average EDI Domain Scores, Haldimand & Norfolk Counties, EDI 2001/02 Cohort, and Select Communities

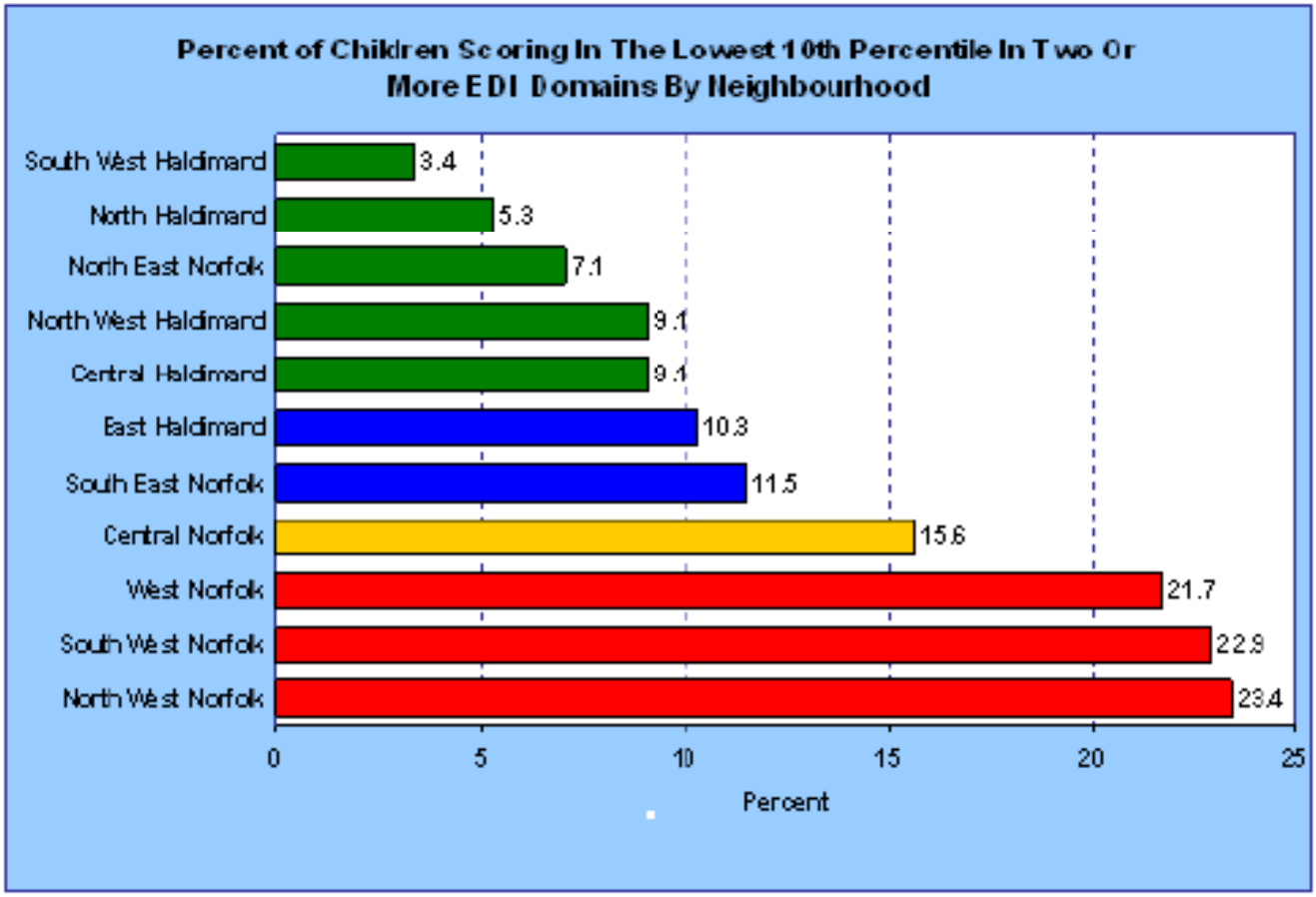
EDI Domains	2001/02 Cohort (n=42,568)	Haldimand & Norfolk (n=1102)	Brant (n=1313)	Hamilton (n=5407)	Halton (n=4237)
Physical Health and Well-Being	8.8	8.7	8.8	8.6	8.9
Social Competence	8.4	8.2	8.2	8.2	8.3
Emotional Maturity	8.1	7.9	8.0	8.1	8.4
Language & Cognitive Development	8.4	8.4	8.3	8.2	8.5
Communication Skills & General Knowledge	7.8	7.9	8.0	7.8	7.9

1 Children with known special needs and/or children with missing data for 3 or more domains are excluded
2 n = number of children assessed
3 Each domain is scored on a scale of 0 to 10; the higher the score, the greater developmental skills

Several comparisons were conducted on the EDI average scores. The following is a summary of key findings:

- For all five domains, girls consistently scored better than boys. This is a consistent developmental phenomenon across all sites where the EDI has been implemented.
- Children born earlier in the year scored better than children born later in the year. Again, this is a consistent developmental phenomenon: older children are, on average, more ready to begin school than younger children.
- Children who attended preschool scored higher than those who did not in the domains of Physical Well-being and Communication Skills and General Knowledge.
- Children who attended Junior Kindergarten scored higher than those who did not in the domain of Language and Cognitive Development.
- Children who attended child care full-time were not significantly different from children who attended part-time.

This report also examines EDI scores by examining the percent of children scoring in the lowest 10th percentile as well as by the number of domains where this occurs. Examining EDI scores by the lowest 10th percentile allows for easier comparisons to be made between neighbourhoods within a given community. If the children have similar scores regardless of where they live, it would be expected that the percent of children scoring in the lowest 10th percentile would be about 10% for each neighbourhood. This is not the case in most communities as some neighbourhoods have a disproportionately higher number of children with developmental difficulties (over 10%) while other neighbourhoods have less than would be expected (less than 10%).



Data Source: EDI, 2002

Figure 1 and Maps 3 and 4 shows the percent of children by neighbourhood scoring in the lowest 10th percentile in two or more EDI domains. Children who score in the lowest 10th percentile in two or more domains (out of 5) are experiencing significant developmental difficulties and are at-risk for future problems.[4]

Overall, 12.6% of all children assessed with EDI in Haldimand and Norfolk Counties are experiencing significant developmental difficulties. Individually, Haldimand County has 7.6% of children experiencing significant developmental difficulties and Norfolk County has 16.5%. There are neighbourhoods where only 3% of children (South West Haldimand) are scoring in the lowest 10th percentile in two or more domains compared to 23% of children living in the North West Norfolk neighbourhood. This is a range of neighbourhood scores for developmental difficulties of 20%.

Generally speaking, neighbourhoods with 10% or less of children scoring in the lowest 10th percentile in two or more domains are considered thriving neighbourhoods (green on chart) for children. There are five neighbourhoods (Haldimand: South West, North, Central, North West; Norfolk: North East) in this group meaning that children living in these neighbourhoods are doing better than expected.

There are two neighbourhoods (East Haldimand and South East Norfolk) where 10.1% to 15% of children are scoring in the lowest 10th percentile in two or more domains. These neighbourhoods are considered average neighbourhoods (blue on chart) where the majority of children have average developmental skills.

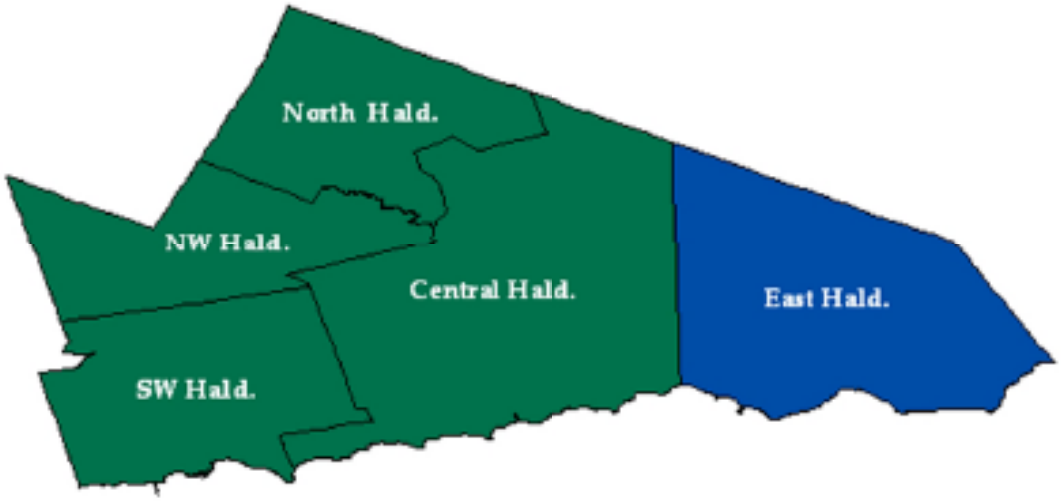
Neighourhoods having 15.1% to 20% of children scoring in the lowest 10th percentile in two or more domains are considered caution neighbourhoods (yellow on chart) and may be in need of some additional interventions. Central Norfolk is the only neighbourhood in this category.

Neighbourhoods with more than 20% of children scoring in the lowest 10th percentile in two or more domains are considered at-risk neighbourhoods (red on chart) and should be viewed as in need of both universal and targeted interventions. There are three neighbourhoods in Norfolk County that meet the at-risk criteria: West, South West and North West Norfolk. There are no at-risk neighbourhoods in Haldimand County.

Important Note: Although some neighbourhoods have been identified as thriving or average, there are children living in every Haldimand and Norfolk neighbourhood who are vulnerable in their development.

Map 3

Percent of Children Scoring in the Lowest 10th Percentile in Two or More EDI Domains - Haldimand County



Percent of Scores Below 10th Percentile

3.4 - 10.0 Thriving

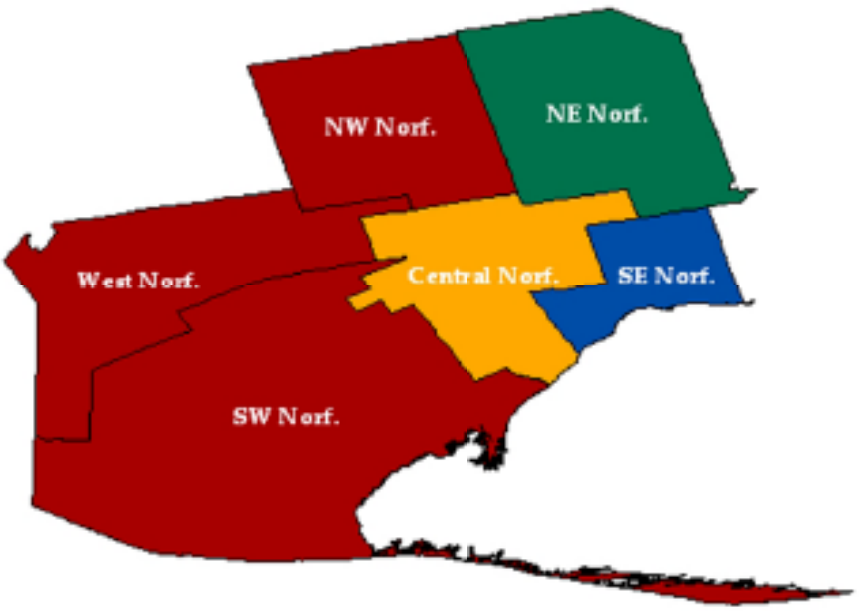
10.1 - 10.3 Average

Notes:
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only

Data Source: EDI, 2002

Map 4

Percent of Children Scoring in the Lowest 10th Percentile in Two or More EDI Domains - Norfolk County



Percent of Scores Below 10th Percentile

	7.1 - 10.0	Thriving
	10.1 - 15.0	Average
	15.1 - 20.0	Caution
	20.1 - 23.4	At-Risk

Notes:
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only

Data Source: EDI, 2002

Neighbourhood Results By Domain

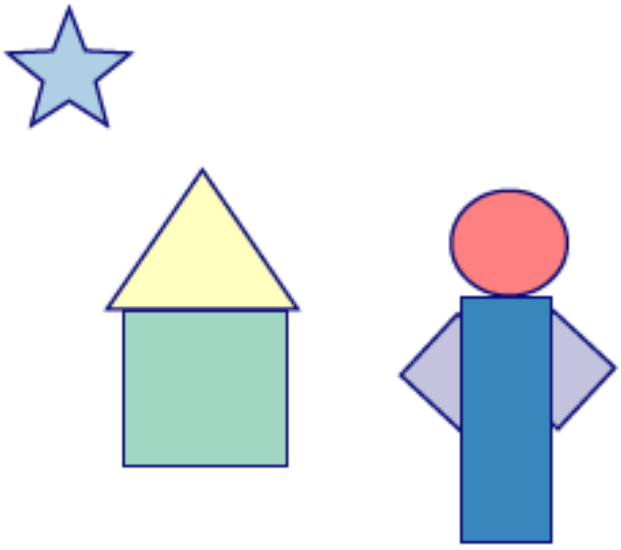
The following sections report the EDI results by the five EDI domains. Reporting the results by domain allows a further breakdown of the results by neighbourhood and may be useful in identifying what areas of child development need to be improved in a particular neighbourhood.

How to Read the Domain Maps and Tables

Earlier in this report there is a section on understanding the EDI results that discusses how scores are reported by percentile. The following maps and tables report neighbourhood EDI scores by individual domains and by percentiles.

Maps:

The maps only report the percent of children scoring below the 10th percentile. Neighbourhoods where less than 10% of children are scoring below the 10th percentile are considered thriving (green neighbourhoods). Average neighbourhoods are those where 10.1% to 15% of children are scoring below the 10th percentile (blue neighbourhoods). Neighbourhoods are identified as caution areas where 15.1% to 20% of children are scoring below the 10th percentile (yellow neighbourhoods). When neighbourhoods have more than 20% of children scoring below the 10th percentile, they should be considered high-risk areas and should be identified for service intervention (red neighbourhoods).



Tables:

The tables report the percent of children scoring in three percentile ranges for each neighbourhood. The percentile ranges include: below the 10th percentile; between the 10th and 25th percentile; and above the 75th percentile. One way to identify neighbourhoods of concern is when more than 10% of the children are scoring below the 10th percentile. The greater the neighbourhood percentage is over 10%, the greater the concern. Neighbourhoods where children are doing exceptionally well are those with greater than 25% of scores above the 75th percentile.

The physical health and well-being domain is used to determine the child's health status as well as motor development, levels of energy and concentration. Health status is important as frequent absences from school due to illness may result in failure to learn the basics needed for advancing through school. Adequate nutrition gives children sufficient levels of energy, stamina and concentration to complete basic school activities. Children need to possess the necessary gross and fine motor abilities to complete common kindergarten and grade one tasks, such as controlling a pencil. A child who lacks age-specific motor skills may become discouraged and develop a negative self-image, withdraw from the classroom, and lose learning opportunities. Teacher observations for this domain include: fine and gross motor skills; daily living skills; washroom independence; adequate energy levels for classroom activities; daily preparedness for school (tired, late, hungry); established handedness.

Table 5 is a description of children's capabilities within a certain percentile in this domain. For example, children scoring above the 75th percentile are considered to be thriving in physical health and well-being and the table describes what that means in practical terms.

Table 5: Percentile Profile: Physical Health and Well-Being

Below the 10th Percentile	Between the 10th and 25th Percentile	Above the 75th Percentile
These children have poor or average fine and gross motor skills; were sometimes tired or hungry; usually clumsy; had flagging energy levels; and average or poor overall physical development.	These children had mostly average fine and gross motor skills and an occasional problem with being prepared for the school day by being late or arriving hungry.	These children were always physically ready to tackle the new day at school; generally independent; and had good or excellent motor skills.

The following two tables and Maps 5 and 6 report the percent of children scoring in three percentile ranges. Haldimand County has 5.3% of children who are at risk (below the 10th percentile) in the physical health and well-being domain; 11.2% (between 10th and 25th percentile) who are a cause for concern; and 26.8% (above 75th percentile) who are thriving. Norfolk County had 14.1% of children who are at risk in the physical health and well-being domain; 19.2% who are a cause for concern; and 18.6% who are thriving in this domain.

All five Haldimand neighbourhoods have less than 10% of the children scoring in the lowest 10th percentile. East Haldimand has the greatest percentage (9.7%) of children experiencing physical health and well-being difficulties and the largest percentage (33.1%) of children doing very well in this domain.

For Norfolk County, West Norfolk has almost 30% of children scoring below the 10th percentile meaning these children are at-risk in physical health and well-being. South West Norfolk and North West Norfolk both have about 15% of children scoring below the 10th in physical health and well-being. South East and North East Norfolk have the largest percentage of children doing very well in this domain.

Table 6: Physical Health and Well-Being Scores by Percentile– Haldimand County

	East Hald.	Central Hald.	South-West Hald.	North West Hald.	North Hald.	Haldimand County
% Below 10th percentile	9.7	4.6	0.0	4.5	3.3	5.3
% In 10 - 25th percentile	11.7	10.1	3.4	13.6	14.0	11.2
% Above 75th percentile	33.1	29.4	25.9	9.1	24.7	26.8
# of children	145	109	58	44	150	508

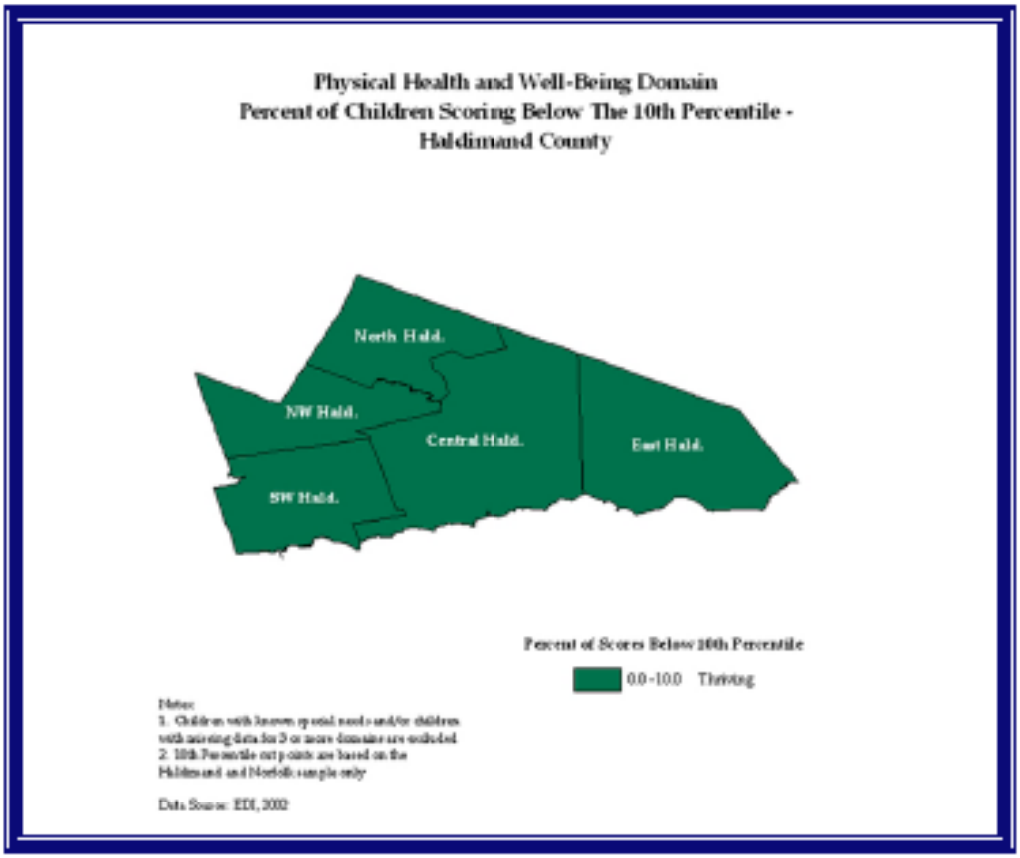
[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Table 7: Physical Health and Well-Being Scores by Percentile– Norfolk County

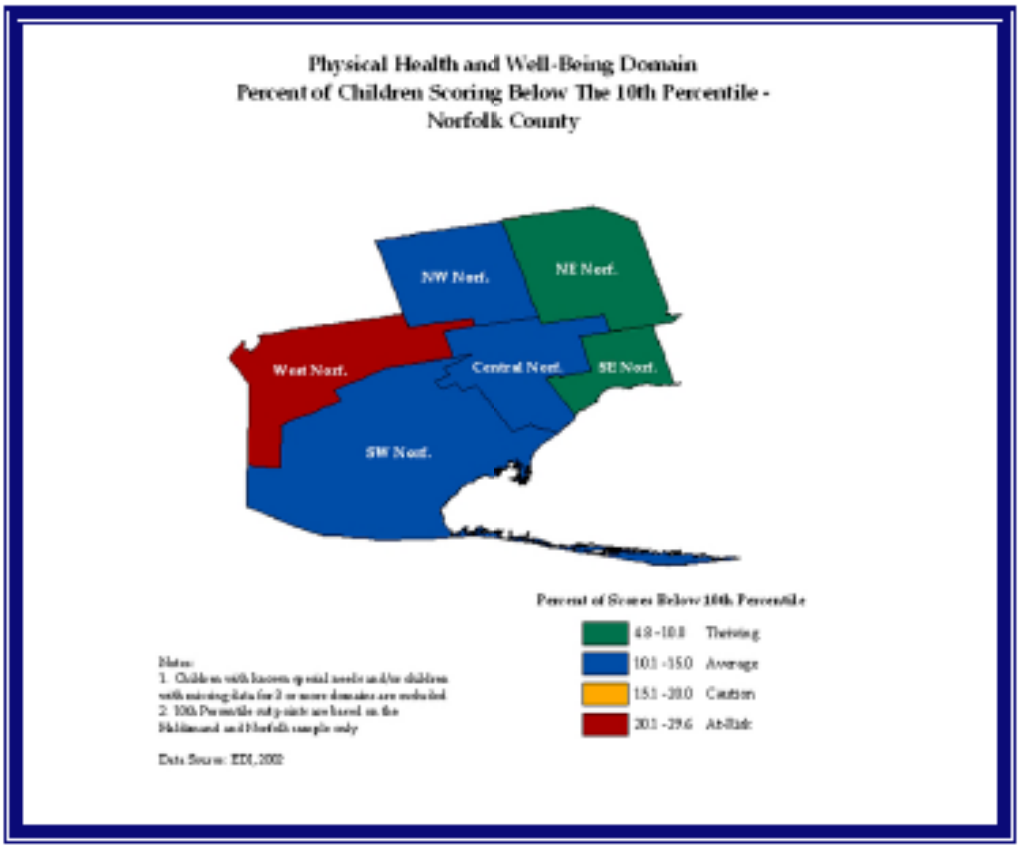
	North East Norfolk	South East Norfolk	Central Norfolk	North West Norfolk	West Norfolk	South West Norfolk	Norfolk County
% Below 10th percentile	4.8	5.8	11.4	14.9	29.6	14.5	14.1
% In 10 - 25th percentile	10.7	11.5	17.5	21.3	29.6	20.5	19.2
% Above 75th percentile	28.6	32.7	19.0	19.1	5.2	16.9	18.6
# of children	84	52	211	47	115	83	590

[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Map 5


Physical Health and Well-Being Domain
Percent of Children Scoring Below The 10th Percentile -
Haldimand County
North Hald.
NW Hald.
Central Hald.
East Hald.
SW Hald.
Percent of Scores Below 10th Percentile
0.0 - 10.0 Thriving
Notes:
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded.
2. 10th Percentile cut-points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Map 6

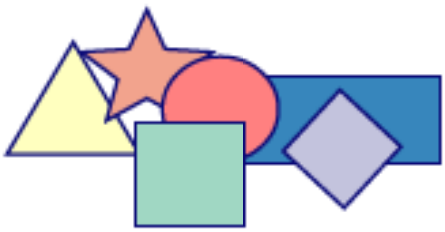

Physical Health and Well-Being Domain
Percent of Children Scoring Below The 10th Percentile -
Norfolk County
NW Norf.
NE Norf.
West Norf.
Central Norf.
SE Norf.
SW Norf.
Percent of Scores Below 10th Percentile
4.8 - 10.0 Thriving
10.1 - 15.0 Average
15.1 - 20.0 Caution
20.1 - 29.6 At-Risk
Notes:
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded.
2. 10th Percentile cut-points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Participation in a classroom requires that children be aware of the general standards of acceptable behaviour; show respect for adult authority; be able to control their behaviour; cooperate with others and be able to communicate their feelings in appropriate ways. Research has shown that children who exhibit appropriate classroom behaviour in grades one and two perform better in reading and math than children who lack adequate classroom skills. Research has also shown that children failing to develop the necessary social skills for positive peer interaction have higher rates of peer rejection. To get along successfully with classmates, children need social skills such as the ability to negotiate instead of using aggression, and the ability to enter a group that is already engaged in an activity without disrupting it. Lack of cooperation and aggressive behaviour in children can persist over time and across settings, resulting in continued peer rejection, even if children change peer groups.[24] Teacher observations for this domain include: curiosity about the world; eagerness to try new experiences; knowledge of standard acceptable behaviour in a public place and self-control with regards to behaviour; ability to follow rules; ability to cooperate, play and work with other children; appropriate respect for adult authority.

Table 8 is a description of children's capabilities within a certain percentile in this domain. For example, children scoring above the 75th percentile are considered to be thriving in social competence and the table describes what that means in practical terms.

Table 8: Percentile Profile – Social Competence

Below the 10th Percentile	Between the 10th and 25th Percentile	Above the 75th Percentile
These children had poor or average overall social skills, with regular serious problems in more than one of the following areas: cooperating with other children; accepting responsibility for their actions; and/or following rules and class routines. They may also have had problems with being respectful to adults and children, self-confidence, self-control, and adjustment to change. They were usually unable to work independently.	This group included a range of children with mostly average social skills. They had occasional problems getting along or cooperating with other children. They also had occasional problems with following rules and directions; self-confidence; self-control; accepting responsibility; and solving problems and working independently	These children rarely had a problem getting along, working or playing with other children; they were respectful to adults; self-confident; had no difficulty following class routines; and were capable of pro-social behaviour.



Haldimand County has 5.5% of children who are at risk (below the 10th percentile) in the social competence domain; 11.7% (between 10th and 25th percentile) who are a cause for concern; and 29.9% (above 75th percentile) who are thriving (Table 9 & Map 7). Norfolk County has 13% of children who are at risk in the social competence domain; 19% who are a cause for concern; and 20.5% who are thriving in this domain (Table 10 & Map 8).

In Haldimand County, all five neighbourhoods have less than 10% of the children scoring below the 10th percentile. Neighbourhoods with the largest percentage of children with difficulties in the social competence domain are North West Haldimand (9.1%) and East Haldimand (8.9%). East Haldimand, Central Haldimand, North West Haldimand and North Haldimand have over 25% of children thriving in this domain.

Norfolk neighbourhoods with the greatest percent of children scoring in the lowest 10th percentile include South East Norfolk (19.2%) and West Norfolk (18.3%). North East Norfolk and South East Norfolk both have more than 35% of children scoring above the 75th percentile which is much better than expected if scores were evenly distributed across the County.

Table 9: Social Competence Scores by Percentile – Haldimand County

	East Hald.	Central Hald.	South-West Hald.	North West Hald.	North Hald.	Haldimand County
% Below 10th percentile	8.9	6.4	1.7	9.1	1.3	5.5
% In 10 - 25th percentile	8.2	18.2	8.6	11.4	11.9	11.7
% Above 75th percentile	32.2	27.3	22.4	29.5	32.5	29.9
# of children	146	110	58	44	151	511

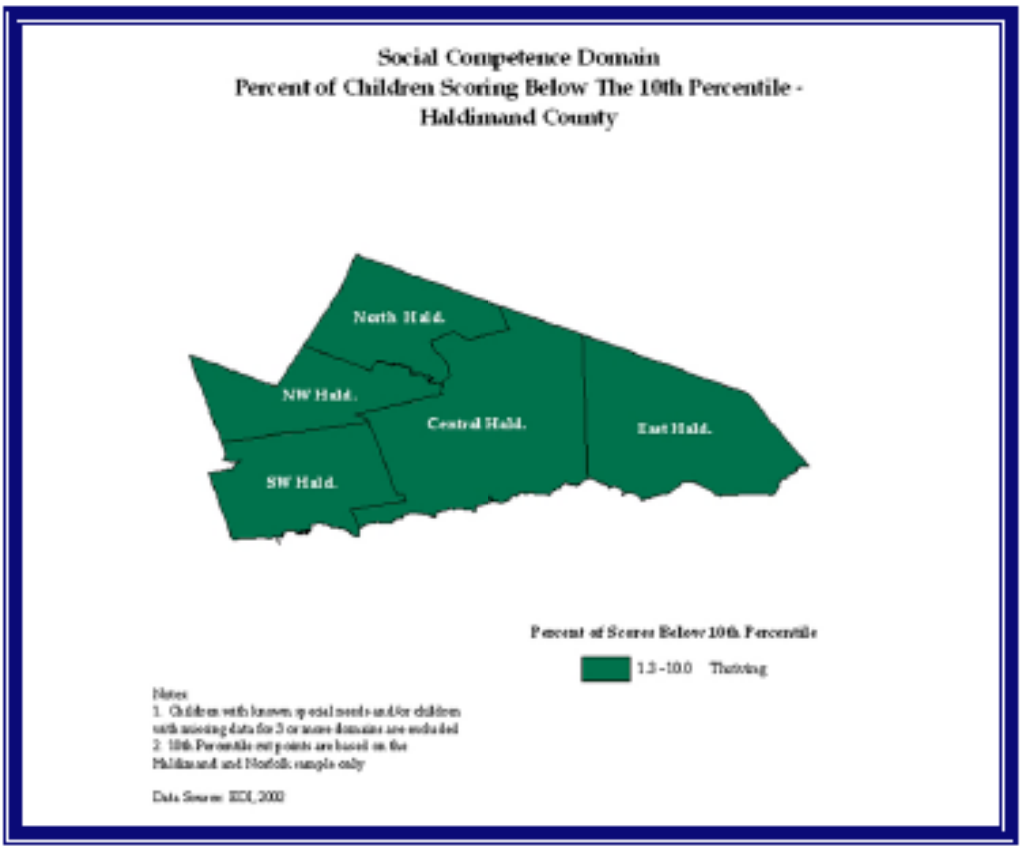
[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Table 10: Social Competence Scores by Percentile– Norfolk County

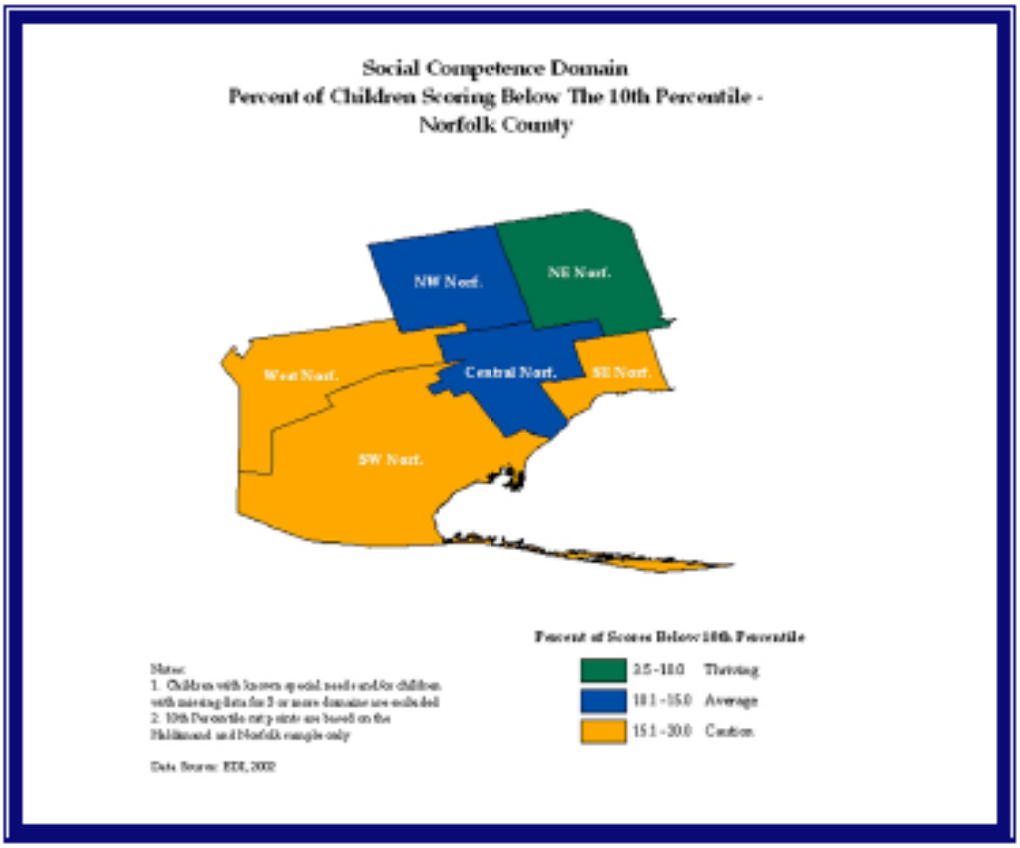
	North East Norfolk	South East Norfolk	Central Norfolk	North West Norfolk	West Norfolk	South West Norfolk	Norfolk County
% Below 10th percentile	3.5	19.2	11.4	14.9	18.3	15.7	13.0
% In 10 - 25th percentile	10.6	5.8	20.4	27.7	20.0	25.3	19.0
% Above 75th percentile	38.8	36.5	17.5	12.8	11.3	16.9	20.5
# of children	85	52	211	47	115	83	591

[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Map 7


Social Competence Domain
Percent of Children Scoring Below The 10th Percentile -
Haldimand County
North Hald.
NW Hald.
Central Hald.
East Hald.
SW Hald.
Percent of Scores Below 10th Percentile
1.3 - 10.0 Thriving
Notes
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Map 8


Social Competence Domain
Percent of Children Scoring Below The 10th Percentile -
Norfolk County
NW Norf.
NE Norf.
West Norf.
Central Norf.
SE Norf.
SW Norf.
Percent of Scores Below 10th Percentile
2.5 - 11.0 Thriving
11.1 - 15.0 Average
15.1 - 20.0 Caution
Notes
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Children with emotional maturity have self-confidence and a positive approach to new experiences. They are able to balance a curiosity about the world and an eagerness to try new experiences and have some ability to reflect before acting. Children who lack self-confidence are fearful and reluctant to try new activities and, as a result, may miss out on learning opportunities. Impulsive children may fail to perceive all aspects of a task, and as a result, may not fully understand it. Important factors related to emotional maturity include the ability to defer immediate gratification; persistence in repetitive but necessary tasks such as sounding out words; ability to cope with small failures and upsets without an outburst of weeping or intense anger that prevents continued concentration and learning from mistakes. Teacher observations for this domain include pro-social behaviour (helping, tolerance, empathy); aggressive behaviour; anxiety; hyperactivity; inattention and impulsiveness.

Table 11 is a description of children's capabilities within a certain percentile in this domain. For example, children scoring above the 75th percentile are considered to be thriving in emotional maturity and the table describes what that means in practical terms.

Table 11: Percentile Profile – Emotional Maturity

Below the 10th Percentile	Between the 10th and 25th Percentile	Above the 75th Percentile
These children had regular problems managing aggressive behaviour; were prone to disobedience; and/or were easily distractible, inattentive, and restless. They were usually unable to show spontaneous helping behaviour towards other children; were occasionally fearful or nervous.	These children were occasionally disobedient or showed aggressive behaviour. They may have been inattentive or easily distracted; fearful or worried; upset when left by their caregiver; and/or insensitive to other children's distress	These children almost never showed aggressive, anxious or impulsive behaviour; have a good ability to concentrate; and were often helping other children.

Table 12 & Map 9 show that Haldimand County has 6.9% of children who are at risk (below the 10th percentile) in the emotional maturity domain; 10.4% (between 10th and 25th percentile) who are a cause for concern; and 26.8% (above 75th percentile) who are thriving. Norfolk County has 13% of children who are at risk in the emotional maturity domain; 15.5% who are a cause for concern; and 20.1% who are thriving in this domain (Table 13 & Map 10).

Haldimand neighbourhoods with the greatest percentage of children experiencing difficulties in the emotional maturity domain are Central Haldimand (9.3%), North West Haldimand (9.1%), and East Haldimand (9.0%). North Haldimand (35.8%) and Central Haldimand (28%) have over 25% of children doing better than expected if scores were evenly distributed across the County.

For Norfolk County, North West Norfolk has 19.1% of children experiencing difficulties in emotional maturity followed by South West Norfolk (17.3%) and West Norfolk (14.8%). North East Norfolk (37.6%) has the largest percentage of children doing very well and is the only neighbourhood doing better than expected.

Table 12: Emotional Maturity Scores by Percentile - Haldimand County

	East Hald.	Central Hald.	South-West Hald.	North West Hald.	North Hald.	Haldimand County
% Below 10th percentile	9.0	9.3	6.9	9.1	1.5	6.9
% In 10 - 25th percentile	14.6	9.3	12.1	9.1	6.6	10.4
% Above 75th percentile	22.9	28.0	22.4	15.9	35.8	26.8
# of children	144	107	58	44	137	492

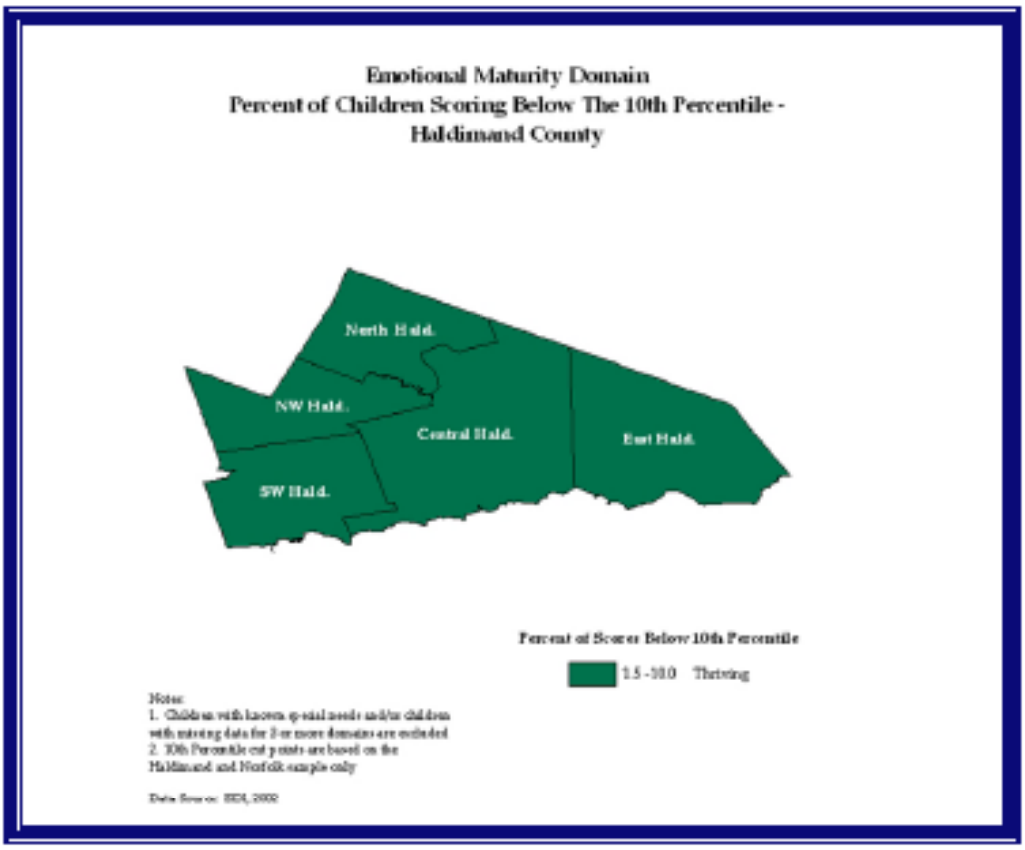
[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Table 13: Emotional Maturity Scores by Percentile- Norfolk County

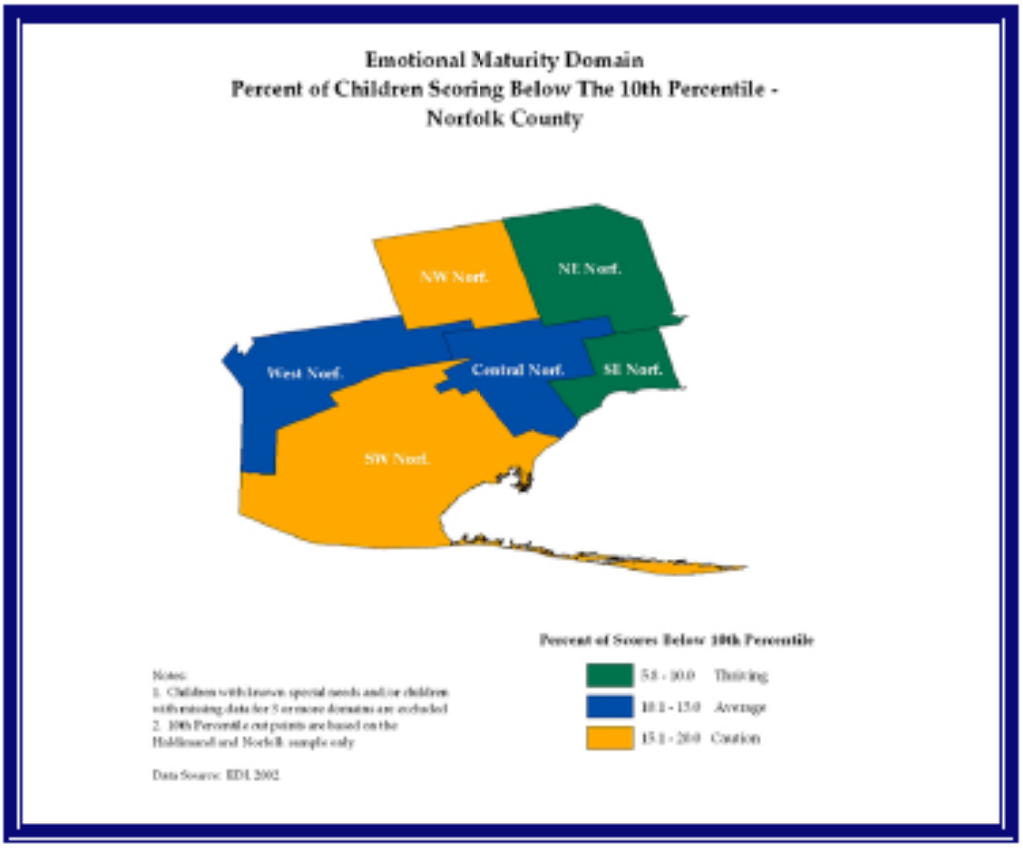
	North East Norfolk	South East Norfolk	Central Norfolk	North West Norfolk	West Norfolk	South West Norfolk	Norfolk County
% Below 10th percentile	5.9	5.8	13.9	19.1	14.8	17.3	13.0
% In 10 - 25th percentile	9.4	11.5	19.7	19.1	16.5	9.9	15.5
% Above 75th percentile	37.6	23.1	12.5	23.4	17.4	21.0	20.1
# of children	85	52	208	47	115	81	586

[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Map 9


Emotional Maturity Domain
Percent of Children Scoring Below The 10th Percentile -
Haldimand County
North Hald.
NW Hald.
Central Hald.
East Hald.
SW Hald.
Percent of Scores Below 10th Percentile
5.5 - 10.0 Thriving
Notes:
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Map 10


Emotional Maturity Domain
Percent of Children Scoring Below The 10th Percentile -
Norfolk County
NW Norf.
NE Norf.
West Norf.
Central Norf.
SE Norf.
SW Norf.
Percent of Scores Below 10th Percentile
5.5 - 10.0 Thriving
10.1 - 15.0 Average
15.1 - 20.0 Caution
Notes:
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Language and Cognitive Development

Language skills refer to vocabulary size and a child's ability to name letters and listen to the component sounds within words. According to research conducted in both Canada and the United States, a child's oral language level accounts for between 30% and 40% of later reading ability.[25-27] Cognitive (thinking) skills are the way children perceive, organize, and analyze information in their environment. Children require good cognitive skills to retain/ retrieve information and effectively explore new experiences. Cognitive skills that children need when entering school are age appropriate numeracy skills (counting and sorting); the ability to understand similarities and differences between groups of objects; and the ability to remember specific pieces of information and recite them back. Research indicates that cognitive skill levels upon entering school can predict later academic success.[28] Teacher observations for this domain include interest in books, reading, and language related activities; age-appropriate reading and writing skills; interest in simple math-related activities; age-appropriate numeracy skills; ability to understand similarities and differences; ability to recite specific pieces of information from memory.

Table 14 is a description of children's capabilities within a certain percentile in this domain. For example, children scoring above the 75th percentile are considered to be thriving in language and cognitive development and the table describes what that means in practical terms.

Table 14: Percentile Profile – Language and Cognitive Development

Below the 10th Percentile	Between the 10th and 25th Percentile	Above the 75th Percentile
Children in this range had problems with both reading/writing and numeracy, and were unable to read and write the simplest words. They were uninterested in trying, and often unable to identify letters and attach sounds to letters. (yet the majority of this group could write their own name). They also had difficulty with remembering things; counting to 20; recognizing and comparing numbers.	These children usually could not read simple words and were not very interested in numbers, reading or writing (yet they were often able to write their own name). They were often unable to attach sounds to letters and may have had occasional problems with remembering things.	These children were interested in books, reading, writing and rudimentary maths. They were capable of reading and writing simple and sometimes complex words, and could count and recognize numbers and geometric shapes.

Haldimand County has 8% of children who are at risk (below the 10th percentile) in the language and cognitive development domain; 13.9% (between 10th and 25th percentile) who are a cause for concern; and 18.2% (above 75th percentile) who are thriving (see Table 15 & Map 11). Norfolk County has 9.7% of children who are at risk in the language and cognitive development domain; 15.3% who are a cause for concern; and 29.2% who are thriving in this domain (see Table 16 & Map 12).

In Central Haldimand and North West Haldimand, over 11% of children were assessed with language and cognitive difficulties. North Haldimand had the largest percentage (28.5%) of children doing very well and is the only neighbourhood doing better than expected.

South West Norfolk had the highest percentage (15.9%) of children with language and cognitive difficulties. Four of six neighbourhoods (South East, West, Central, North West) have more children scoring well (above 25%) on this scale than expected.

Table 15: Language & Cognitive Development Scores by Percentile - Haldimand County

	East Hald.	Central Hald.	South-West Hald.	North West Hald.	North Hald.	Haldimand County
% Below 10th percentile	5.5	11.8	3.4	11.4	8.6	8.0
% In 10 - 25th percentile	10.3	20.9	6.9	22.7	11.9	13.9
% Above 75th percentile	9.6	16.4	20.7	13.6	28.5	18.2
# of children	146	110	58	44	151	511

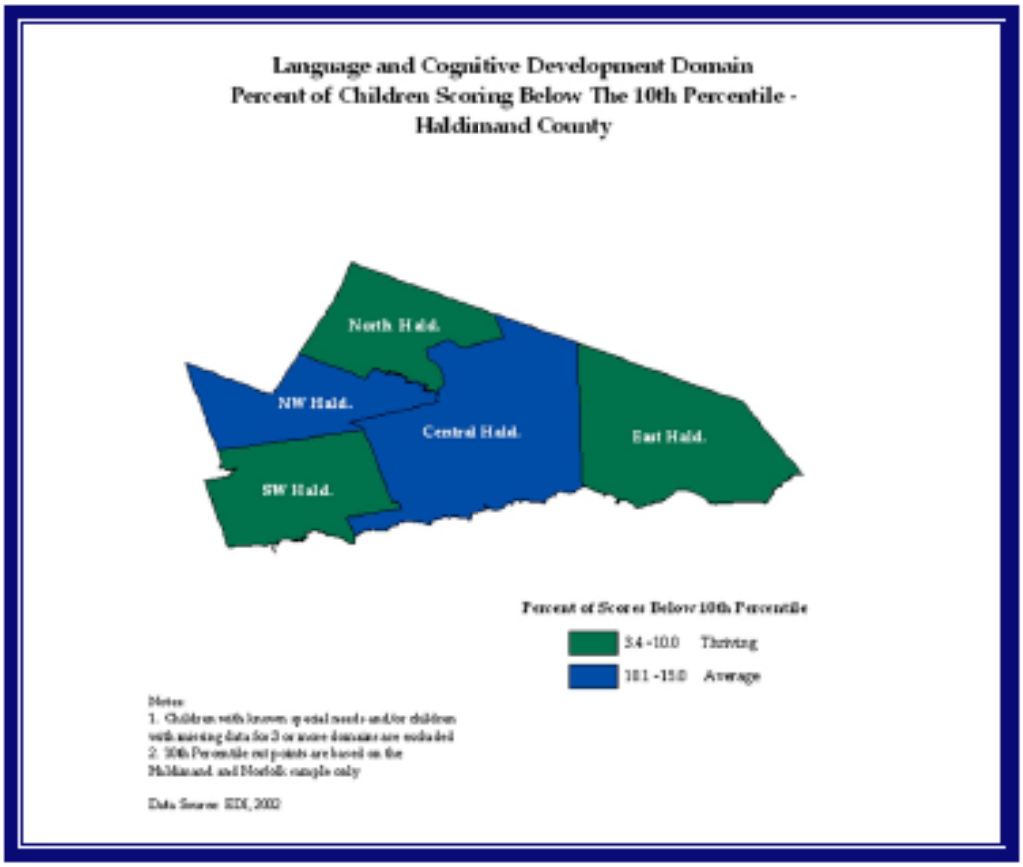
[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Table 16: Language & Cognitive Development Scores by Percentile- Norfolk County

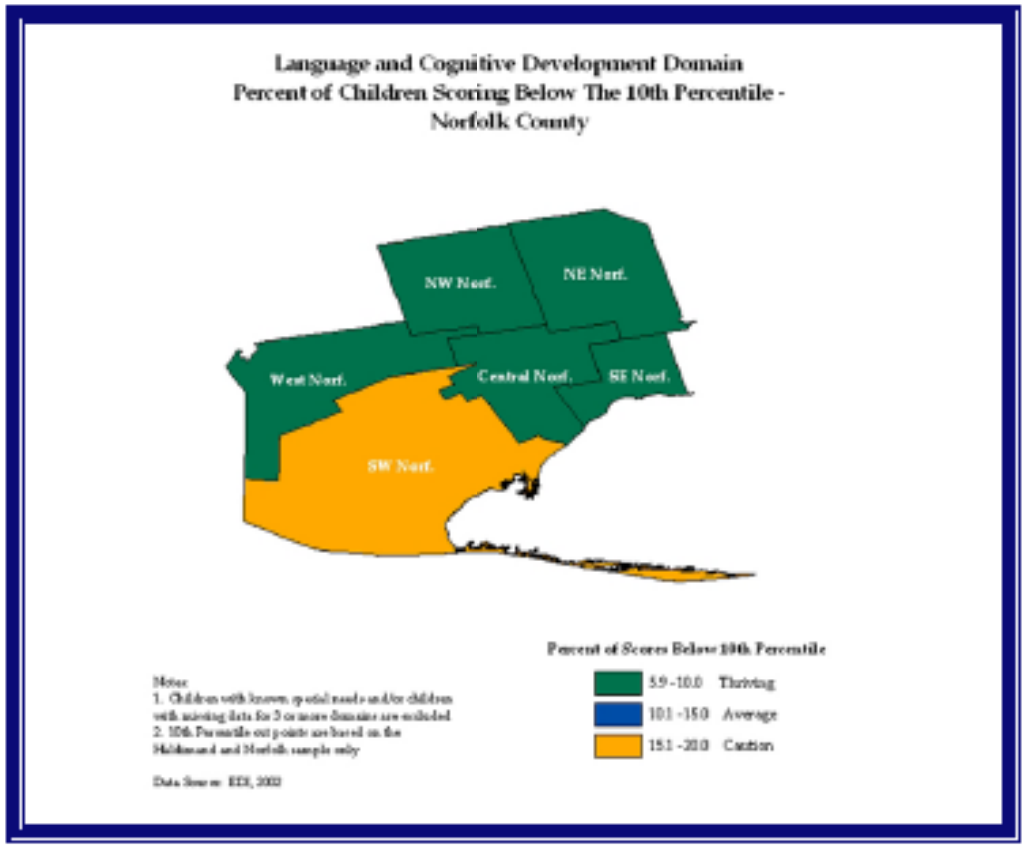
	North East Norfolk	South East Norfolk	Central Norfolk	North West Norfolk	West Norfolk	South West Norfolk	Norfolk County
% Below 10th percentile	5.9	9.6	9.0	8.5	9.6	15.9	9.7
% In 10 - 25th percentile	22.4	7.7	16.1	23.4	10.4	13.4	15.3
% Above 75th percentile	22.4	34.6	30.8	29.8	32.2	23.2	29.2
# of children	85	52	211	47	115	82	590

[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Map 11


Language and Cognitive Development Domain
Percent of Children Scoring Below The 10th Percentile -
Haldimand County
North Hald.
NW Hald.
Central Hald.
East Hald.
SW Hald.
Percent of Scores Below 10th Percentile
5.4 - 10.0 Thriving
10.1 - 15.0 Average
Notes:
1. Children with known special needs and/or children with missing data for 2 or more domains are excluded
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Map 12


Language and Cognitive Development Domain
Percent of Children Scoring Below The 10th Percentile -
Norfolk County
NW Norf.
NE Norf.
West Norf.
Central Norf.
SE Norf.
SW Norf.
Percent of Scores Below 10th Percentile
5.9 - 10.0 Thriving
10.1 - 15.0 Average
15.1 - 20.0 Caution
Notes:
1. Children with known special needs and/or children with missing data for 2 or more domains are excluded
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Children starting school must be able to understand verbal communications and should be able to communicate experiences, ideas, and feelings in a way that others understand. These communication skills help children adjust to the school setting. Language skills are important for a child to learn to read and write. For example, knowing that a story has a beginning, middle, and end is a factor in a child's reading skills. The ability to count is important to learn arithmetic, and board games that involve numbers, such as Snakes and Ladders, help children learn basic adding and subtracting. Teacher observations for this domain include the ability to communicate one's own needs and understand others; clear articulation; active participation in story-telling (not necessarily with good grammar and syntax); age appropriate interest and knowledge about life and the world around us.

Table 17 is a description of children's capabilities within a certain percentile in this domain. For example, children scoring above the 75th percentile are considered to be thriving in their communication skills and general knowledge and the table describes what that means in practical terms.

Table 17: Percentile Profile – Communication Skills and General Knowledge

Below the 10th Percentile	Between the 10th and 25th Percentile	Above the 75th Percentile
These children had poor or average communication skills and articulation. Their command of English was average. They had difficulties talking to others; understanding; and being understood. Typically, these children also have poor general knowledge.	Children in this range had average or good communication skills and average articulation, but limited ability to participate in play involving the use of language.	These children have good or excellent communication skills; could tell a story and communicate with both children and adults and have no problems with articulation. English was usually their first language.

Communication Skills and General Knowledge

Table 18 and Map 13 show that Haldimand County has 5.9% of children who are at risk (below the 10th percentile) in the communication skills and general knowledge domain; 13.7% (between 10th and 25th percentile) who are a cause for concern; and 29.4% (above 75th percentile) who are thriving. Table 19 and Map 14 indicate that Norfolk County has 13.5% of children who are at risk in the communication skills and general knowledge domain; 15.7% who are a cause for concern; and 22.8% who are thriving in this domain.

All Haldimand neighbourhoods have less than 10% of children at risk in this domain. Central Haldimand has the largest percent of children having difficulties in communication skills and general knowledge with 8.2% scoring in the lowest 10th percentile. East Haldimand, North Haldimand, South West Haldimand, and Central Haldimand have over 25% of children scoring well on this domain.

In Norfolk County, North West Norfolk has 21.3% of children experiencing difficulties in communication and general knowledge, followed by West Norfolk (15.7%) and South West Norfolk (15.7%). North East Norfolk, South East Norfolk and South West Norfolk all have children doing better than expected in this domain.

Table 18: Communication Skills and General Knowledge Scores by Percentile

	East Hald.	Central Hald.	South-West Hald.	North West Hald.	North Hald.	Haldimand County
% Below 10th percentile	5.5	8.2	0.0	6.8	6.6	5.9
% In 10 - 25th percentile	13.0	17.3	10.3	20.5	10.6	13.7
% Above 75th percentile	34.2	26.4	29.3	11.4	31.8	29.4
# of children	146	110	58	44	151	511

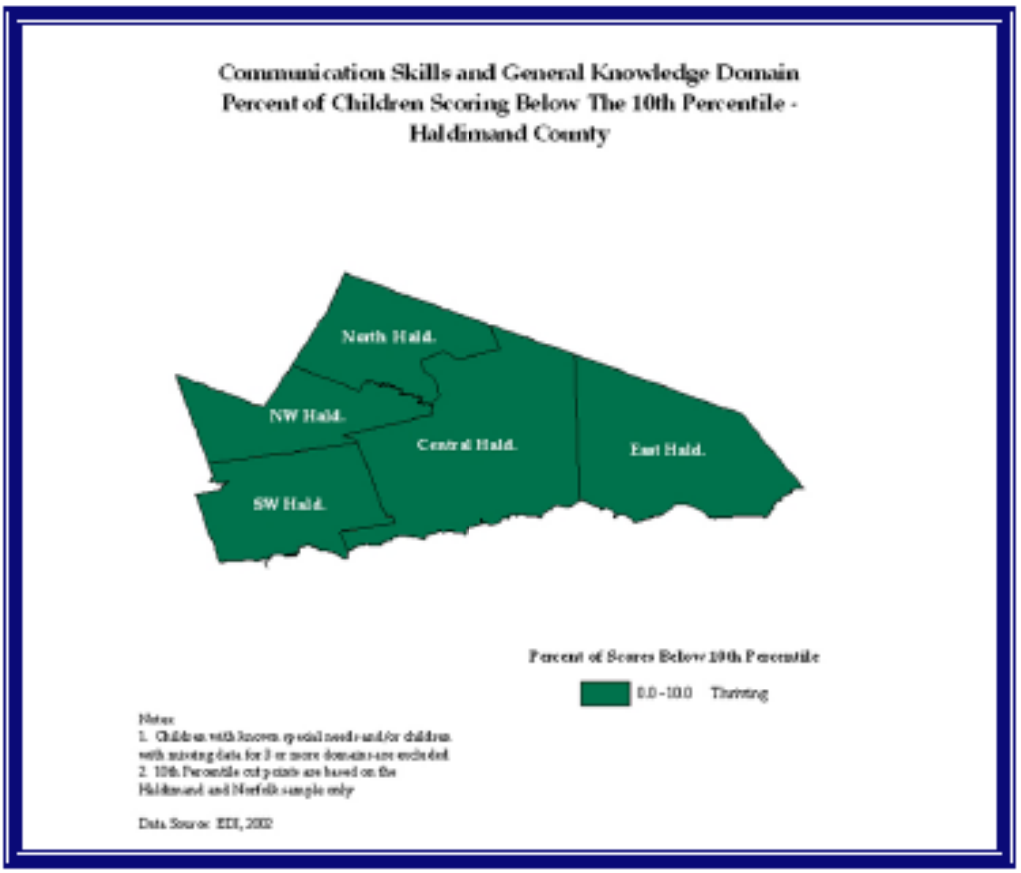
[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Table 19: Communication Skills and General Knowledge Scores by Percentile

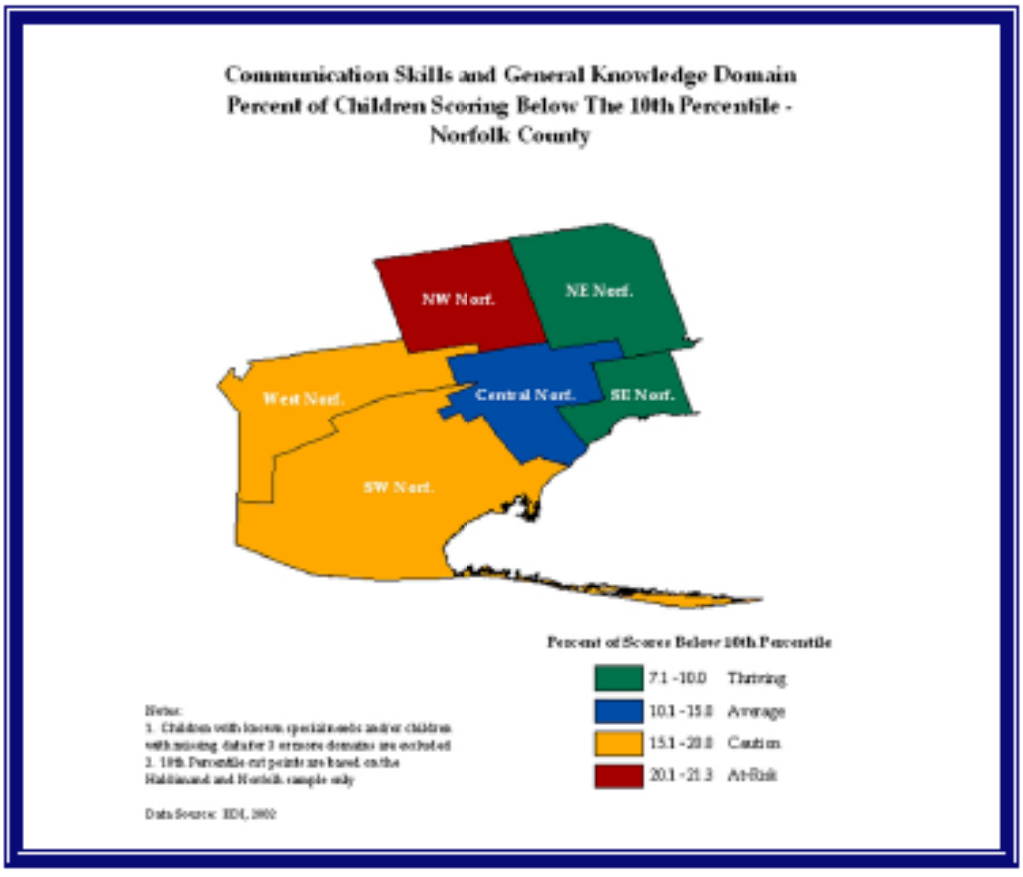
	North East Norfolk	South East Norfolk	Central Norfolk	North West Norfolk	West Norfolk	South West Norfolk	Norfolk County
% Below 10th percentile	7.1	9.6	13.3	21.3	15.7	15.7	13.5
% In 10 - 25th percentile	14.1	5.8	14.2	14.9	26.1	14.5	15.7
% Above 75th percentile	31.8	32.7	22.3	12.8	13.0	28.9	22.8
# of children	85	52	211	47	115	83	591

[1] Children with known special needs and/or children with missing data on 3 or more domains are excluded

Map 13


Communication Skills and General Knowledge Domain
Percent of Children Scoring Below The 10th Percentile -
Haldimand County
North Hald.
NW Hald.
Central Hald.
East Hald.
SW Hald.
Percent of Scores Below 10th Percentile
0.0 - 10.0 Thriving
Notes:
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded.
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Map 14


Communication Skills and General Knowledge Domain
Percent of Children Scoring Below The 10th Percentile -
Norfolk County
NW Norf.
NE Norf.
West Norf.
Central Norf.
SE Norf.
SW Norf.
Percent of Scores Below 10th Percentile
7.1 - 10.0 Thriving
10.1 - 15.0 Average
15.1 - 20.0 Caution
20.1 - 21.3 At-Risk
Notes:
1. Children with known special needs and/or children with missing data for 3 or more domains are excluded.
2. 10th Percentile cut points are based on the Haldimand and Norfolk sample only
Data Source: EDI, 2002

Preliminary assessment for Ontario indicates that children entering school with poor EDI performance have poor Grade 3 test results.

Margaret McCain &
Fraser Mustard
The Early Years Study,
Three Years Later

An area of discussion among some communities is that the information collected in the EDI tool is based on self-reported measures. The data is subjective and based on teacher perceptions of a child's abilities, which could be influenced by a number of factors. It is important to remember that teachers had the opportunity to observe the children tested for six months before they completed the survey and also that the six month time frame gave children time to adjust to the school environment. Objective data, such as academic performance, should eventually validate the EDI results. Research on the correlation between EDI results and grade 4 testing has been done in Vancouver by Dr. Clyde Hertzman and can be found on his website at www.earlylearning.ubc.ca. In discussion with Dr. Fraser Mustard, he advises that the EDI assessment tool has been extensively tested, is robust and correlates with the results from the National Longitudinal Study of Children and Youth. For further reading see " Validation Of A Teacher Measure of School Readiness With Parent and Child-Care Provider Reports" and "Readiness to Learn At School" by Dr. Magdalena Janus. Further research establishing the validity of the EDI tool has also been conducted by Dr. Fraser Mustard and Dr. Clyde Hertzman.

One other aspect to consider is the number of children studied in some neighbourhoods. Haldimand and Norfolk Counties are mostly rural in nature and the children are spread out over large geographical areas. When the Counties are divided into neighbourhoods, the number of children can be small and these low sample sizes may cause unreliable results. In future EDI research, communities should consider using the EDI tool for two consecutive years and combining the results to increase sample sizes. This model is being used very successfully in British Columbia by Dr. Clyde Hertzman to ensure a more accurate assessment in rural neighbourhoods.

"The better the care and stimulation a child receives, the greater the benefit - for national economy as well as the child. The world is finally recognizing that children's rights to education, growth and development - physical, cognitive, social, emotional and moral - cannot be met without a comprehensive approach to serving their needs from birth."

Carol Bellamny
United Nations Children's Fund,
The State of the World's Children
1999

As can be seen from the results in this report, the majority of children in Haldimand and Norfolk Counties are doing well and should successfully transition to grade one and experience few difficulties as they move into the formal education system. However, there are neighbourhoods where children are experiencing developmental difficulties that may impact future academic and social success. The individual characteristics of all the neighbourhoods need to be studied to help identify what makes them unique and which features help that neighbourhood be more able to support and promote early child development.

This report is meant to provide planning groups with information that will help inform policy and service plans. As stated previously, this EDI data should not be used for planning purposes in isolation but should be looked at with other up-to-date socio-economic, health and program/service information. Census 2001 data is now available and a community profile for the two Counties has been created and distributed. It can be found on the Haldimand-Norfolk Health Unit's website at www.haldimand-norfolk.org/health An inventory and survey of the programs and services available for young children and their families/caregivers was collected across Haldimand and Norfolk in the winter of 2003. The response rate for this collection was over 90%, which is one of the highest response rates in the province. This enthusiastic response had resulted in a very comprehensive set of information. The public can search for services by visiting www.hney.ca, www.haldimand-norfolk.info or by contacting their nearest Ontario Early Years Centre (Appendix 2). A report from this inventory survey identifying community programming strengths and gaps is available on the Haldimand-Norfolk Health Unit's website at www.haldimand-norfolk.org/health. That report uses the same study neighbourhoods as this EDI report.

The EDI results in this report establish a baseline of children's developmental skills as they begin school in Haldimand and Norfolk. The next step is for Early Years planning groups/agencies to combine these results with all the up-to-date data at the neighbourhood level. This will paint a picture of each unique neighbourhood and help policy and planning bodies understand where that neighbourhood is strong in early child development and where that neighbourhood needs help to support better outcomes for their children.

In conclusion, McCain and Mustard said it best: "Action now will put our children and our society on a firmer foundation for the future. This action is necessary, not only to keep a reasonable standard of living, but also because it is the right thing to do for our children".

We can turn away from this challenge and hope our helping systems (the schools, social and health services) will be able to cope, even though they tell us they are having increasing difficulty meeting the demand. We can hope that children will "grow out of" behaviour and learning problems that were set in early life, even though evidence suggests that many of them will have great difficulty doing so and will not reach their full potential. We can put more money into policing and correctional systems and other special services, although that will be expensive and unlikely to make a big difference. Or we can take a big leap into the future.

We have new knowledge today. We must seize the opportunity to use that knowledge to benefit all children.[2]

References

1. Hertzman, C., McLean, S., Kohen, D., Dunn, J., & Evans, T. (2002). Early Development in Vancouver: A Report of the Community Asset Mapping Project.
2. McCain, M.N. & Mustard, J.F. (1999). "Reversing the Real Brain Drain: Early Years Study." The Canadian Institute for Advanced Research.
3. Lewit, E. & Baker, L. (1995). School Readiness. The Future of Children, 5(2), 128-139.4.
4. Janus, M. & Offord (2000). Readiness to Learn at School. ISUMA, 1(2), 71-75.
5. Pulkkinen, L. and R. E. Tremblay (1992). "Patterns of Boys' Social Adjustment in Two Cultures and at Different Ages: A Longitudinal Perspective." International Journal of Behavioural Development, 15: 527-53.
6. Stennett, R.D. (1988). The Kindergarten Class of 1978-79: Ten Years Later. London, Ontario: The Board of Education for the City of London.
7. Tremblay, R. E., B. Masse, D. Perron, M. Leblanc, A. E. Schwartzman and J. E. Ledingham (1992). "Early Disruptive Behavior, Poor School Achievement, Delinquent Behavior, and Delinquent Personality: Longitudinal Analysis." Journal of Consulting and Clinical Psychology, 60: 64-72.
8. Horn, W. F. and T. Packard (1985). "Early Identification of Learning Problems: A Meta-Analysis." Journal of Educational Psychology, 77(5): 597-607.
9. Kontos, S. (1988). "Development and the Interrelationships of Reading Knowledge and Skills during Kindergarten and First Grade." Reading Research and Instruction, 27:13-28.
10. Reynolds, A. J., N. A. Mavrogenes, N. Bezruczko and M. Hagemann (1996). "Cognitive and Family-Support Mediators of Preschool Effectiveness: A Confirmatory Analysis." Child Development, 67, 1119-1140.
11. Stevenson, H., T. Parker, A. Wilkinson, A. Hegion and E. Fish (1976). "Predictive Value of Teachers' Ratings of Young Children." Journal of Educational Psychology: 507-517.
12. Barrington, B. and B. Hendricks (1989). "Differentiating Characteristics of High School Graduates, Dropouts, and Non-Graduates." Journal of Educational Research, 82(6): 309-319.
13. Cairns, R., B. Cairns and H. Neckerman (1989). "Early School Drop-Outs: Configurations and Determinants." Child Development, 60(6): 1437-1452.
14. Entwistle, D., and Hayduk, C. (1988). "Lasting Effects of Elementary School." Sociology of Education, 61: 147-159.
15. Gilbert, S., L. Barr, W. Clark, M. Blue and D. Sunter (1993). Leaving School. Ottawa: Minister of Supply and Services Canada. Catalogue LM-294-07-93E.
16. Lloyd, D. N. (1978). "Prediction of School Failure from Third-Grade Data." Educational and Psychological Measurement. 38(4): 1193-1200.
17. Doherty, G. (2000). "Zero to Six: The Basis for School Readiness. Applied Research Branch, Strategic Policy, Human Resources Development Canada. R-97-8E.
18. Coie, J. D., and J. B. Kupersmidt (1983). "A Behavioral Analysis of Emerging Social Status in Boys' Groups." Child Development, 54: 1400-1416.

19. Dodge, K. A. (1983). "Behavioral Antecedents of Peer Social Status." Child Development, 54: 1386-1389.

20. Ladd, G. W. and J. M. Price (1987). "Predicting Children's Social and School Adjustment Following the Transition from Preschool to Kindergarten." Child Development, 58(5): 1168-1189.

21. Lipman, E. L., Boyle, M. H., Dooley, M. D., & Offord, D. R. (1998). Children and Lone mother Families: An Investigation of Factors Influencing Child Well-being. Working Paper No. W-98-11E. Ottawa: Applied Research Branch, Strategic Policy Human Resources Development Canada.

22. Duxbury, L. and Higgins, C. (1994). Families in the Economy. In Baker, M(Ed), Changing Families: Challenges to Public Policy. Ottawa: The Vanier Institute of the Family.

23. Brooks-Gunn, J., Duncan, G. J., Klebanov, P. K., & Sealand, N. (1993). Do Neighbourhoods influence child and adolescent development? American Journal of Sociology, 99:353-395.

24. Entwisle, D., K. Alexander, D. Cadigan and A. Pallas (1986). "The Schooling Process in First Grade: Two Samples a Decade Apart." American Educational Research Journal, 23: 587-613. and S. A. Mednick. Norwell, MA: Kluwer-Nijhoff, 73-97.

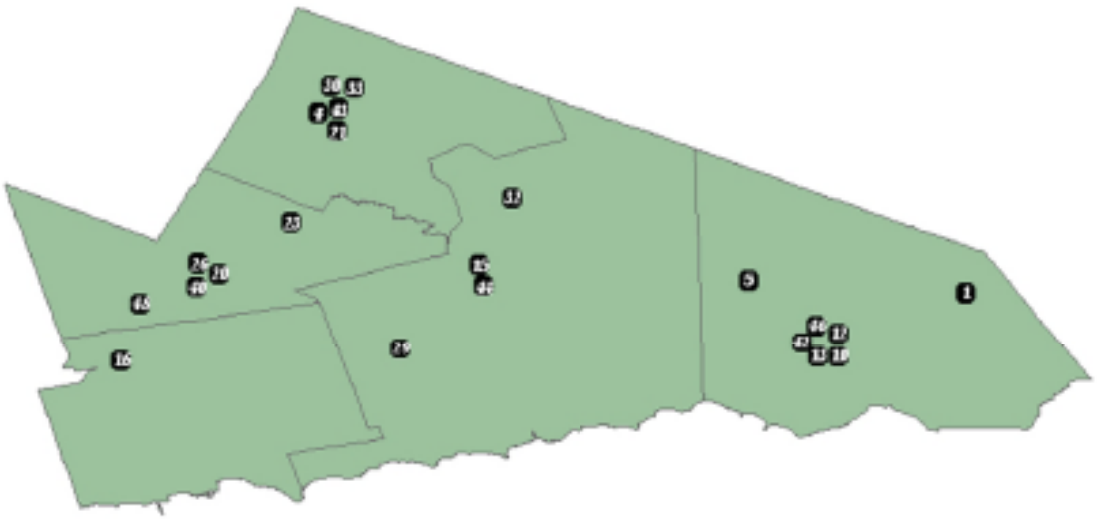
25. Berninger, V., Proctor, A., de Bruyn, I. & Smith, R. (1988). Relationship Between Levels of Oral and Written Language in Beginning Readers. Journal of School Psychology, 26, 341-357.

26. Biemiller, A. & Sigel, L. (1991). The Identification and Remediation of Reading Problems in Disadvantaged Grade One Children. Paper presented at the annual conference of the Canadian Society for the Study of Education, Kingston, Ontario.

27. DeHirsch, K., Jansky, J.J., & Langford, W.S. (1966). Predicting Reading Failure. New York: Harper & Row.

28. The United Way of America (1993). Standards for Success: Building Community Supports for American's Children. Alexandria, VA: Published by Author.

Schools Participating in EDI Project
Haldimand County

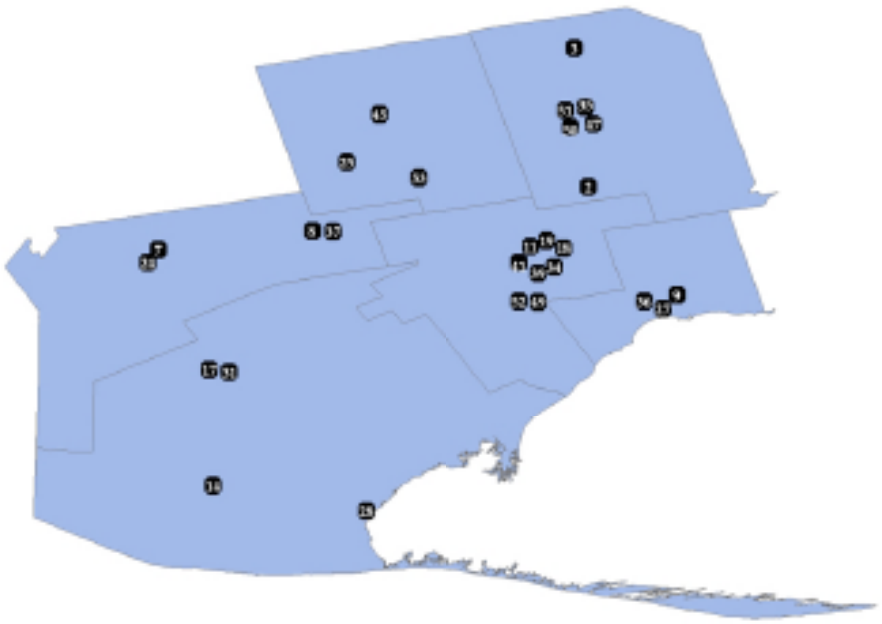


Number	School
1	Anna Melick
4	River Heights
5	Canboro Central
10	St. Michael's
12	Thompson Creek
13	Grandview Central
15	St. Stephen's
16	Jarvis Public
20	Northview
21	Seneca Unity
23	Oneida Central

Number	School
26	St. Mary's
29	Rainham Central
30	Notre Dame
32	Seneca Central
33	Caledonia Centennial
40	Parkview
42	Dunnville Central
43	St. Patrick's
44	J.L. Mitchener
46	Fairview Avenue
48	Walpole North

Data Source: EDI, 2002

Schools Participating in EDI Project
Norfolk County



Legend	Elementary School	Legend	Elementary School
2	Bloomsburg	31	Sacred Heart
3	Boston	34	South
7	Our Lady of Fatima	35	St. Bernard of Clairvaux
8	Delhi	36	Port Dover C.S. Elementary
9	Doverwood	37	St. Frances Cabrini
11	St. Joseph	39	Elgin Avenue
14	Houghton	41	Lynndale Heights
17	Langton	45	Testerville
18	West Lynn	47	Townsend Central
19	North	49	St. Michael's
24	Courtland	50	Waterford - Hewitt, W.F.
25	Our Lady of LaSalette	51	Waterford - Munsecon, A.B.
27	St. Cecilia's	52	Walsh
28	Port Rowan	53	Windham Central

Data Source: EDI, 2002

Ontario Early Years Centre – Haldimand & Norfolk

The Ontario Early Years Centre - Haldimand & Norfolk has four locations plus a mobile unit that travels though out both Counties providing service to areas where transportation is a challenge.

Caledonia 905-765-1661
172 Argyle Street North, Unit 6 (Slack Plaza)

Delhi 519-429-2875
393 James St. (Delhi District Secondary School, Room 108)

Dunnville 905-541-0682
121 Alder St. West (Dunnville Central School)

Simcoe 519-429-2875
12 Colborne St. North

Call Toll Free 1-866-463-2759 (1-866-HNEARLY)

"In spite of turbulent times and government restraint, it is not too much to hope that we can make substantial progress in improving the well-being of children and families. Our knowledge of what is possible must be matched by a will to make it a reality. Investing in children is the mark of a compassionate society. It is also enlightened self-interest since today's children are Canada's intellectual, economic and social future."

John Evans
Chairman of Torstar Corporation