OUR KIDS, THEIR STORY…

SNAPSHOT OF DEVELOPMENTAL HEALTH AT SCHOOL ENTRY IN OTTAWA 2005-2015

Image courtesy of Freepik.com/Pressfoto

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"Truly wonderful, the mind of a child is"

-Jedi Master Yoda

ACKNOWLEDGEMENTS

This report would not have been possible without the collaborative efforts of the four local school boards (the Ottawa Catholic School Board, the Ottawa-Carleton District School Board, the Conseil des écoles catholiques du Centre-Est, the Conseil des écoles publiques de l'Est de l'Ontario), the Offord Centre for Child Studies, the Ministry of Children and Youth Services, the Ministry of Education, the Data Analysis Coordinators of Eastern Ontario and the Parent Resource Centre. Together, we were able to successfully implement four Early Development Instrument (EDI) cycles in Ottawa in 2005-06, 2008-09, 2010-12, and 2014-2015.

We wish to extend our gratitude and appreciation to all of the parents who allowed their children to be a part of the study, and to all the senior kindergarten teachers in Ottawa who participated in the four EDI cycles. Without your help, knowledge, and patience it would not have been possible. Your dedication and contribution to the healthy development of future generations is both exemplary and inspiring. As well, we would also like to thank the Offord Centre for Child Studies for their support. The EDI has been an invaluable tool in Early Years research, and the Offord team has been a reliable resource for clarification and direction. In addition, we would like to thank United Way and the Ottawa Child and Youth Initiative for their continued support.

We would like to take this opportunity to thank all the community service providers, front-line staff and community organizations that work tirelessly and selflessly to support and care for Ottawa's children. Your commitment to addressing the developmental needs of children is unwavering.

Finally, we are incredibly thankful to all those who provided feedback on the report's contents, and cannot express enough gratitude to those who support us in summarizing, disseminating, and facilitating the use of this local data to make community planning a priority in serving the needs of children and families.

Image courtesy of Stockvault.net/Val Lawless

OTTAWA SNAPSHOT

The **EDI** is a measure of children's **developmental health at school entry** within 5 domains of development

OVER

10 YEARS

OF EDI DATA COLLECTED

The percentage of vulnerable children **over time** has:

*EDI domain logos created by Knowledge Translation team at Human Early Learning Partnership

WHY CARE?

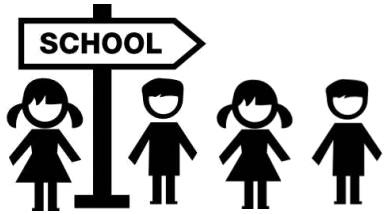
The EDI can help:

1. Adapt programs to children's needs
2. Inform **universal** service delivery
3. Assess local differences to help **target** priority areas

4TH EARLY DEVELOPMENT INSTRUMENT (EDI) CYCLE IN OTTAWA

REPRESENTING 8961 SENIOR KINDERGARTEN CHILDREN

74% of our children are **on track** as they enter school



1 in 4 Children in Ottawa are **vulnerable in one or more areas** of their development

PHYSICAL HEALTH AND WELL-BEING	
AT-RISK	4%
VULNERABLE	13%

SOCIAL COMPETENCE	
AT-RISK	14%
VULNERABLE	12%

EMOTIONAL MATURITY	
AT-RISK	14%
VULNERABLE	9%

LANGUAGE AND COGNITIVE DEVELOPMENT	
AT-RISK	13%
VULNERABLE	7%

COMMUNICATION SKILLS AND GENERAL KNOWLEDGE	
AT-RISK	14%
VULNERABLE	10%

LOCAL PLANNING IS IMPORTANT

The % of vulnerable children varies between **7% and 48%** across Ottawa neighbourhoods.

As a community committed to addressing the **critical developmental needs of children** as early as possible, it is imperative that we use the EDI data along with other relevant sources to inform local planning and ensure the **best possible outcomes for all children**.

PRC CRP parentresource.ca

Communities where all children discover and develop skills to live the best life possible.

WHY ARE THE EARLY YEARS SO IMPORTANT?

Children's first years of life set the stage for later development, and are foundational to their success in school and well-being.[1, 2]

From birth to six years there exist critical periods during which particular skills are developed (e.g., emotional regulation, peer social skills).[1]

Optimal development occurs when these skills are practiced in happy, healthy and stimulating environments.

WHAT IS DEVELOPMENTAL HEALTH AT SCHOOL ENTRY?

All children are born ready to learn, but not all children arrive at school ready to learn in a school environment. Children's early experiences can have a direct impact on their ability to meet the demands of school. Developmental health at school entry measures children's ability to meet age-appropriate expectations that would allow them to benefit from the educational activities provided at school. In this sense, it serves as an indicator of children's health in a community.

Children's first years in school are fundamentally important for their later learning. Children who are ready to learn at school perform better in early grades than children who are not, and in turn, are more likely to finish high school[3]. High school completion is subsequently directly related to employability, which has positive economic repercussions for society as a whole.[3]

THE DEMANDS OF SCHOOL[4]

- ✓ Being comfortable exploring and asking questions
- ✓ Being able to hold a pencil
- ✓ Playing and working with other children
- ✓ Remembering and following rules
- ✓ Listening to the teacher

Image courtesy of photo.elsoar.com

ENSURING ANONYMITY OF EDI RESULTS

- All results are compiled to a population level (neighbourhoods, cities, regions, or provinces)
- EDI scores are never analysed or discussed at an individual level (i.e., single student)
- EDI results for Ottawa neighbourhoods with less than 40 children are not reported

Image courtesy of FreeImages.com/Omar_Franco

WHAT IS THE EARLY DEVELOPMENT INSTRUMENT?

The Early Development Instrument (EDI) is a proven and comprehensive population-based measure of children's developmental health at school entry.[5, 6] By using the EDI, we can:

1. monitor populations of children over time;
2. report on different communities; and
3. predict later school achievement.

The EDI was developed by Drs. Dan Offord and Magdalena Janus at the Offord Centre for Child Studies, McMaster University.[6] It is a 103-item questionnaire to be completed by Senior Kindergarten teachers during the winter months of the school year, after children have had a chance to familiarize themselves with their classrooms and teachers. It measures children's developmental health across five domains, which in turn are divided into 16 sub-domains (Figure 2, page 10).

EARLY DEVELOPMENT INSTRUMENT

Each question reflects developmental milestones rather than specific curriculum goals. The EDI also collects basic demographic information (e.g., age, first language, gender) for each student.

Although the EDI is completed for children individually, the results are compiled and interpreted based on groups of children (populations) who live in a shared geographic area, such as a neighbourhood or city. As such, the EDI serves as a population-based measure and is neither a diagnostic tool for individual children nor an indicator of a school's performance.

EDI results, in combination with other local data (e.g., housing, income, health), are meant to help inform communities about the development of their young children so that they can be proactive about providing the necessary supports for current and future generations.

CANADA

1.1 Million

CHILDREN HAVE COMPLETED THE EDI (1999-2015)

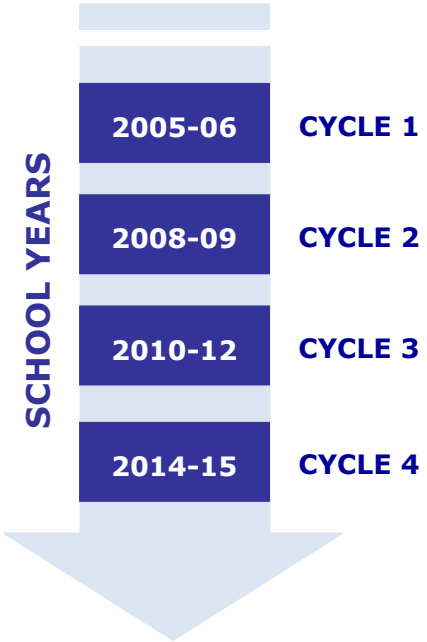
12 of 13

PROVINCES/TERRITORIES HAVE COMPLETED THE EDI

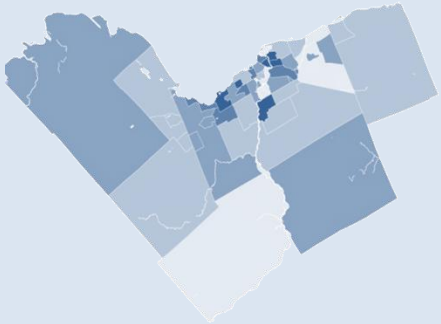
THE EDI IN OTTAWA

Four EDI cycles have been completed in Ottawa, starting in 2005-06 and finishing in 2014-15 (Figure 1). The participating school boards were: Ottawa-Carleton District School Board, Ottawa Catholic School Board, Conseil des écoles catholiques du Centre-Est, and Conseil des écoles publiques de l'Est de l'Ontario.

FIGURE 1
EDI IMPLEMENTATION IN OTTAWA



OTTAWA



33 Thousand

CHILDREN HAVE COMPLETED THE EDI (2005-2015)

4 of 4

PUBLICLY FUNDED SCHOOL BOARDS HAVE PARTICIPATED

Image courtesy of FreeImages.com/Ehsan_Namavar

FAMILY AS THE FIRST LEARNING ENVIRONMENT

"Early brain development benefits from activities that challenge young children and from interactions with adults who are responsive.

Access to shelter, clean water and food, and to developmental opportunities such as parks, high-quality early childhood programs and libraries increases families' abilities to be responsive and stimulating."[7]

Best Start Expert Panel on Early Learning, 2007

THE IMPORTANCE OF FAMILY AND COMMUNITY

The EDI provides information on children's developmental health at school entry but does not show how various home and community factors might influence overall results.

Differing social and cultural contexts, including quality of stimulation, availability of resources, and preferred patterns of interactions within communities, interact with each child's potential for development.[8, 9, 10, 11]

The home is the first and most important learning environment to which a child is exposed. The second learning environment is the surrounding community, including early learning programs and childcare. Research shows that strong relationships between families and their community are essential.[7]

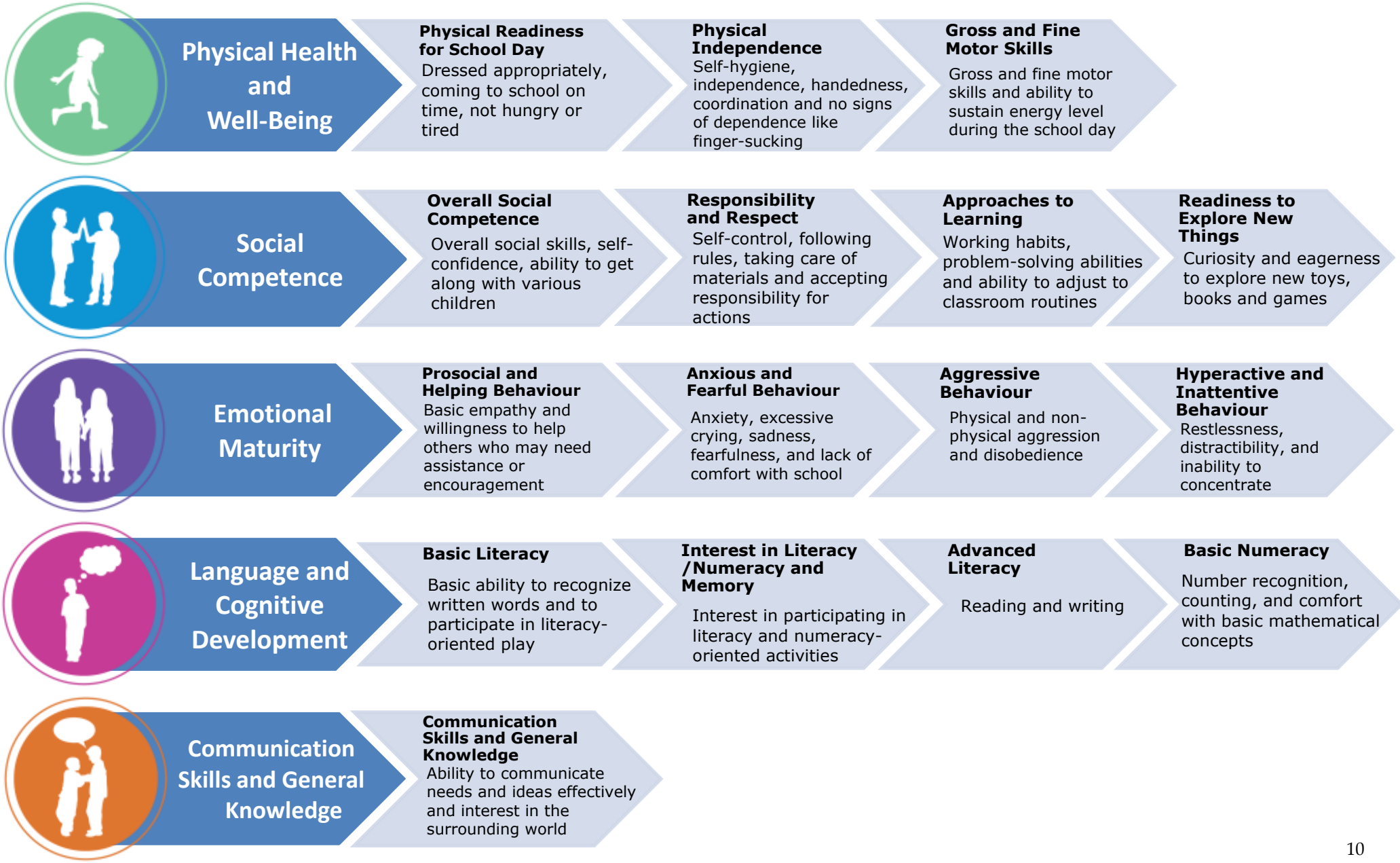
Compiling information from tools such as the EDI and contextualizing the results using additional socio-demographic and health data can help professionals and service organizations to identify children's developmental needs and protective and risk factors at home and in the community. This approach is consistent with an ecological model which accounts for the many factors that can impact healthy development.

LOOKING FOR IDEAS TO SUPPORT HEALTHY CHILD DEVELOPMENT AT HOME OR WORK?

Check out the **Early Literacy Specialists** resources
On the Parent Resource Centre website:

PRC CRP
parentresource.ca

FIGURE 2
DESCRIPTION OF EDI DOMAINS AND SUB-DOMAINS



OTTAWA
-CYCLE 4-

8961
EDI QUESTIONNAIRES WERE USED IN OUR ANALYSIS

Image courtesy of FreeImages.com/Varyamo

DATA SOURCES

The data presented in this report were collected during the 4th Early Development Instrument (EDI) cycle in Ottawa (Figure 1, page 8). A total of **9810** EDI questionnaires were filled out by Senior Kindergarten (SK) teachers across all four Ottawa School Boards in the 2014-15 school year and sent to the Offord Centre for Child Studies, McMaster University. Of the 9810 questionnaires submitted, **8961** were valid and subsequently included in the analysis for **children without special needs**. Questionnaires were considered valid if at least four of the five domains had data and the children had been in class for more than one month.[13]

EDI DOMAINS

Each of the five domains on the EDI is scored on a scale of 0 to 10 based on teachers' answers to questionnaire items. Each question falls within one of five domains. The higher the score, the more that child is considered developmentally on track at school entry. A perfect score in any EDI domain is a score of 10.

When reporting results, EDI scores for each domain are divided into four categories: "on track, top"; "on track, middle"; "at risk"; and "vulnerable" (Figure 3, page 12). These categories are based on percentile cut-offs established using provincial baseline data provided by the Offord Centre for Child Studies[14] (Table 2, page 12).

STUDY SITE

The EDI data from Cycle 4 are reported for the Ottawa region and all fifty of its Best Start neighbourhoods (see page 17). For confidentiality reasons, EDI results were suppressed for neighbourhoods with less than 40 participating children.

Check out our detailed neighbourhood boundary road maps on the Parent Resource Centre website:

PRC CRP
parentresource.ca

WHAT IS A PERCENTILE?

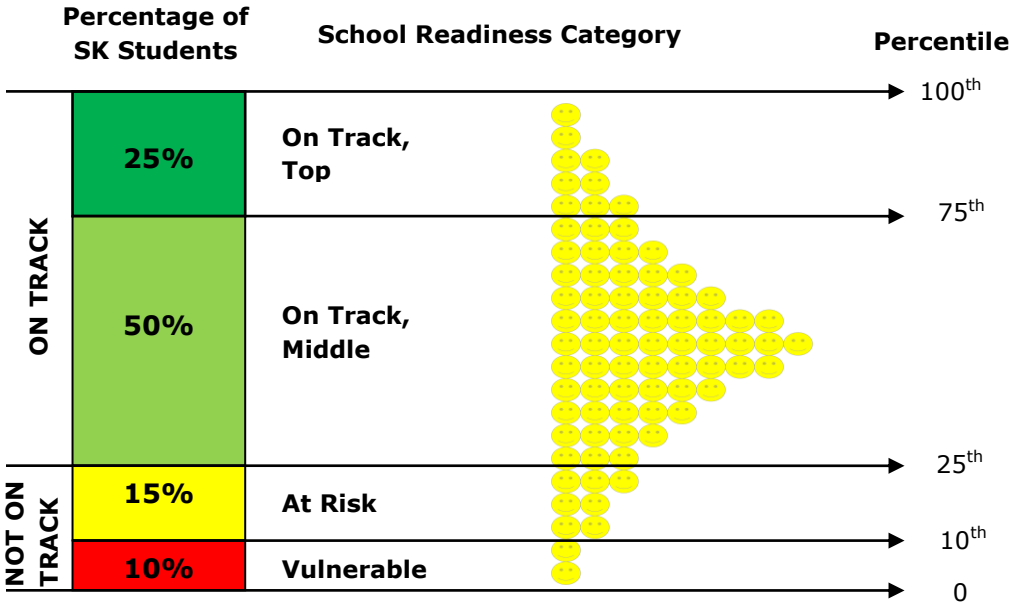
A percentile is the value of a variable (e.g., EDI score) below which a certain percent of observations fall. For example, the 10th percentile is the EDI score below which 10% of the SK students in Ontario scored (Figure 3). Using these cut-offs we can compare the developmental health at school entry of SK students in one neighbourhood with those of another neighbourhood, as well as to all SK students in the region, and to those from previous EDI cycles (Table 1).

Image courtesy of Stockvault.net/Guillermo Ossa

TABLE 1
EDI DOMAIN SCORE CUT-OFFS (ONTARIO BASELINE, 2004-06)

EDI DOMAINS	PERCENTILE CUT-OFFS 10TH	25TH	75TH
Physical Health And Well-Being	7.3077	8.0769	10.0000
Social Competence	5.5769	7.3077	9.8077
Emotional Maturity	6.0000	7.3214	9.1667
Language And Cognitive Development	6.1538	8.0769	9.6154
Communication Skills And General Knowledge	4.3750	5.6250	10.0000

FIGURE 3
DEVELOPMENTAL HEALTH CATEGORIES



WHO IS VULNERABLE?

Children who scored below the 10th percentile, based on province-wide data are considered **vulnerable** with regards to their developmental health at school entry. These children have the lowest EDI scores in their neighbourhood and in the Ottawa region.

With early years program planning and prioritization in mind, this report focuses primarily on the percentage of children that are considered **vulnerable** in each EDI domain and **not on track** in each EDI sub-domain.

These children represent those experiencing the greatest difficulties and, consequently, those in need of the most support.

EDI SUB-DOMAINS

Each EDI domain is divided into one or more sub-domains, for a total of 16 EDI sub-domains. Each of these sub-domains represents a relatively homogenous aspect of child development (Figure 2, page 10).

Sub-domain results were analyzed differently than domain-level results. Instead of being scored out of 10, students were subdivided into three groups based on their developmental skills and abilities. Teachers' answers to sub-domain questions helped to identify whether children met:

- ✓ **All/Almost All** developmental expectations
- ✓ **Some** developmental expectations

ON TRACK

- ✓ **Few/None** of the developmental expectations

NOT ON TRACK

For the purpose of this report, children who met **all/almost all** and **some** of the developmental expectations have been grouped together as "**on track**". Children who have met **few/none** of the developmental expectation are considered "**not on track**".

VULNERABLE IN ONE OR MORE (1+) DOMAINS

Another way of assessing children's developmental health at school entry using EDI results is by calculating the percentage of children that are vulnerable in 1+ domains. This measure provides an overall view of vulnerability and captures all the children who are struggling, even those whose struggles may not be apparent.

DID YOU KNOW?

Looking at family and neighbourhood characteristics such as:

- **Income;**
- **Lone parent status;**
- **Education; and,**
- **Rate of employment**

along with EDI data is key when planning for children as they influence a child's development. [3, 5, 8, 15-21]

Image courtesy of Freepik.com/Pressfoto

NEIGHBOURHOOD COMPARISONS

The Ottawa region encompasses almost every type of modern community setting: from the dense urban neighbourhoods of Lower Town and Centre Town, to the suburban subdivisions of Orleans East and Nepean Central, to the rural landscapes of Rideau and Osgoode.

Previous research has demonstrated that family demographics (e.g., income, lone parent status, education) and the socio-economic status of neighbourhoods (e.g., rate of unemployment) are correlated with early child development indicators.[3, 5, 8, 15-21]

Therefore, with such a wide geographical range of neighbourhoods in Ottawa, it is reasonable to assume that children from different types of communities will enter grade school with different levels of readiness.

HOW ARE THE EDI SURVEYS FILLED OUT?

Children did not complete any tests or perform any tasks explicitly for the purpose of obtaining EDI data. Rather, SK teachers were asked to use their best judgment and fill in a survey for each child in their classroom based on their observations.

Thus, scores are somewhat subjective (i.e., the same child may have slightly different EDI results if evaluated by a different teacher) and biases may exist between classes (i.e., certain teachers may be more positive in their assessment of their students than others).

Despite this inherent subjectivity, objective data (e.g., Grade 3 testing) have been correlated with EDI results. [2, 6, 15]

EDI CYCLE 4

517

CHILDREN WITH SPECIAL NEEDS PARTICIPATED

414

CHILDREN WERE ON WAITLISTS FOR ASSESSEMENT

10%

CHILDREN, NON-SPECIAL NEEDS, WITH TEACHER OBSERVED DIFFICULTITES

REPORTING ON SUB-GROUPS

SPOKEN LANGUAGES

As the capital of a country with two official languages, it was of interest to examine the developmental health over time for two specific subgroups: Francophone children and children whose first languages do not include French or English.

SPECIAL NEEDS

Although the EDI collects additional information describing children's special needs, we have not included the results due to several methodological and ethical concerns. Firstly, special needs children are only identified if teachers are aware of a medically diagnosed exceptionality. Often, however, children with special needs remain undiagnosed until Grades 1 and 2, which may lead to a rather large underestimate of the size of this subgroup. Furthermore, there are so few children within each special needs category, and most categories are very broad, that it would be impossible to report the groups separately without risking their identification.

STATISTICAL TESTS

Comparisons were made between groups using Pearson's chi-square test, independent samples *t*-test, and independent samples analysis of variance (ANOVA). Fisher's exact test was used instead of Pearson's chi-square if the minimum expected count was below five. To examine vulnerability trends over time, the Mantel-Haenszel chi-square test for trends was performed. All statistical tests were considered significant if $p < 0.05$. Keppel's adjustment of the Bonferroni correction was used to calculate critical *p*-values for post-hoc tests. In the absence of homogeneity of variance when performing a One-Way ANOVA, Welch's adjusted F-ratio was used. An asterisk (*) indicates significant differences between groups in figures.

CYCLE 4

8961

CHILDREN

5 Years and 8 Months

AVERAGE AGE

1:1

RATIO OF GIRLS TO BOYS

Image courtesy of Freepik.com/Asierromero

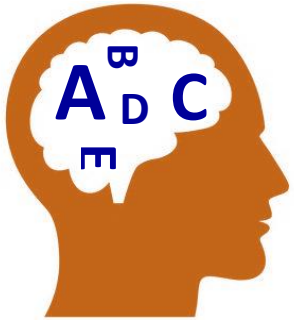
CYCLE 4 DEMOGRAPHICS

The Ottawa non-special needs Cycle 4 cohort consisted of 8961 Senior Kindergarten (SK) students. The average age was 5 years 8 months, give or take 3 months.

In the fourth EDI cycle, most students were learning in their first language (Figure 4). This is not surprising, considering most students had one of Canada's official languages as a first language (Figure 4). It is important to note, however, that a sizeable minority (16%) were learning in a second language (Figure 4).

FIGURE 4

CHILDREN'S SPOKEN LANGUAGES IN CYCLE 4 IN OTTAWA



First Languages

71%	English
10%	French
10%	Other Languages Only
9%	English and French

Learning in a 2nd Language

16% YES

84% NO

DID YOU KNOW?

Previous research has shown that children's

- **age**[6]
- **gender**[6, 10, 22]
- **learning in second language**[6, 10, 22]

can significantly influence their EDI results.

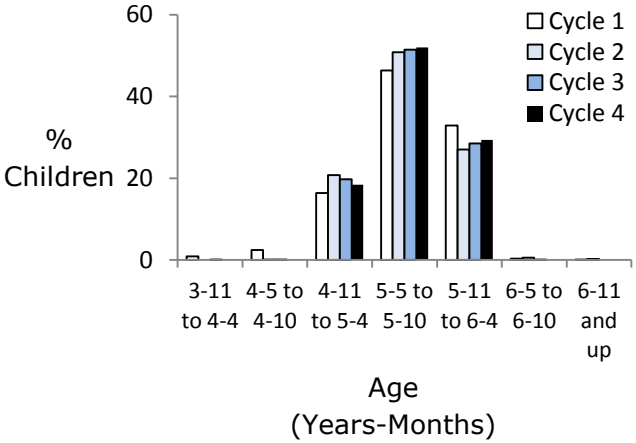
Image courtesy of FreeDigitalPhotos.net/David Castillo Dominici

DEMOGRAPHICS

AGE AT COMPLETION

When children are between five and six years old, a few months can translate into wide differences in social, emotional, and academic development.[6] For this reason, it is important to note that there were significant age differences between cycles (Appendix I - Table 1). Children were **slightly older** in Cycle 4 (Figure 5).

FIGURE 5
AGE OVER TIME IN OTTAWA



GENDER

Girls have been shown to outperform boys in most EDI domains and sub-domains.[6, 22, 23, 24] The ratio of girls to boys, however, was not significantly different between cycles (**50:50**) (Appendix I - Table 1).

FIRST LANGUAGE(S)

Differences between cycles were found in reports of children's language of instruction. The percentage of children learning in a second language was significantly **lower** in Cycle 4 than in previous cycles (Appendix I - Table 1).

Previous studies have shown that children who do not speak EN or FR as a first language are more likely to be vulnerable in the *Language and Cognitive Development* and the *Communication and General Knowledge* domains and sub-domains.[6, 23, 24, 25]

CYCLE 4

74%

CHILDREN ON TRACK

TRENDS IN VULNERABILITY (C1-C4)

OTTAWA RESULTS

Overall, the majority of children (73.9%) in Ottawa were on track developmentally at school entry in 2015.

VULNERABLE IN ONE OR MORE (1+) DOMAINS

The percentage of children in Ottawa vulnerable in 1+ domains has not changed significantly over time (Appendix I - Table 2). When comparing results to the provincial baseline from 2004-06, Ottawa's children fared slightly better across all cycles (Figure 6).

THE 5 DEVELOPMENTAL DOMAINS

The percentage of children classified as "Not on track" (i.e., "at risk" and "vulnerable") in Ottawa was lower than the provincial baseline in all but one EDI domain, *Emotional Maturity* (Figure 7, page 19).

When examining change over time, the percentage of vulnerable children is increasing significantly in 3 of the 5 domains (Appendix I - Table 2). Encouragingly, the percentage of vulnerable children is decreasing significantly in two domains: *Language and Cognitive Development* and *Communication Skills and General Knowledge* (Appendix I - Table 2).

FIGURE 6
CHILDREN VULNERABLE IN ONE OR MORE DOMAINS OVER TIME

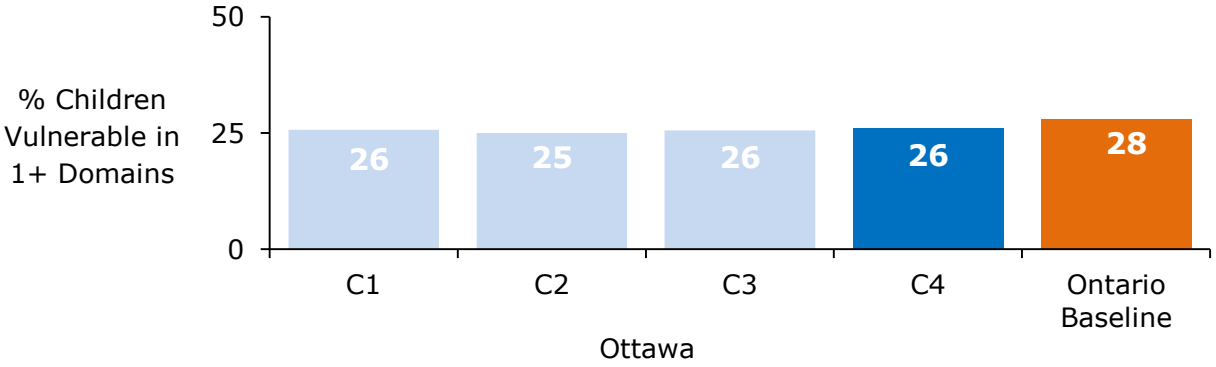
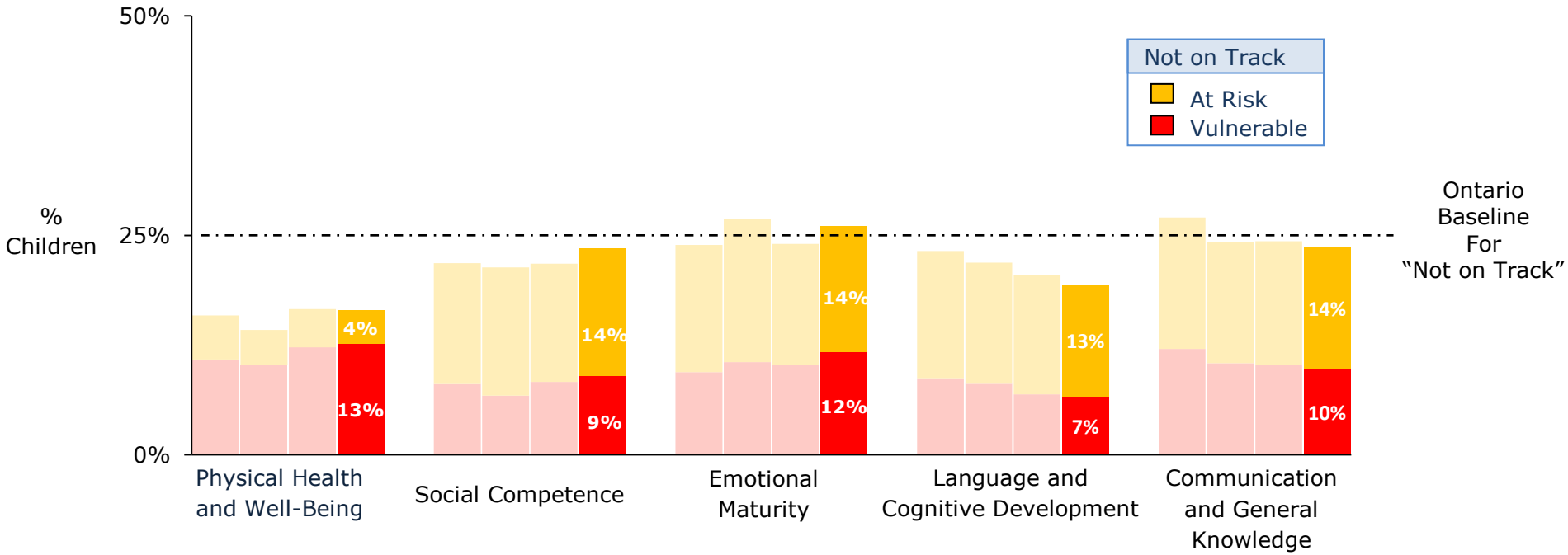


FIGURE 7
CHILDREN NOT ON TRACK BY EDI DOMAIN IN CYCLES 1 TO 4 (LEFT TO RIGHT)



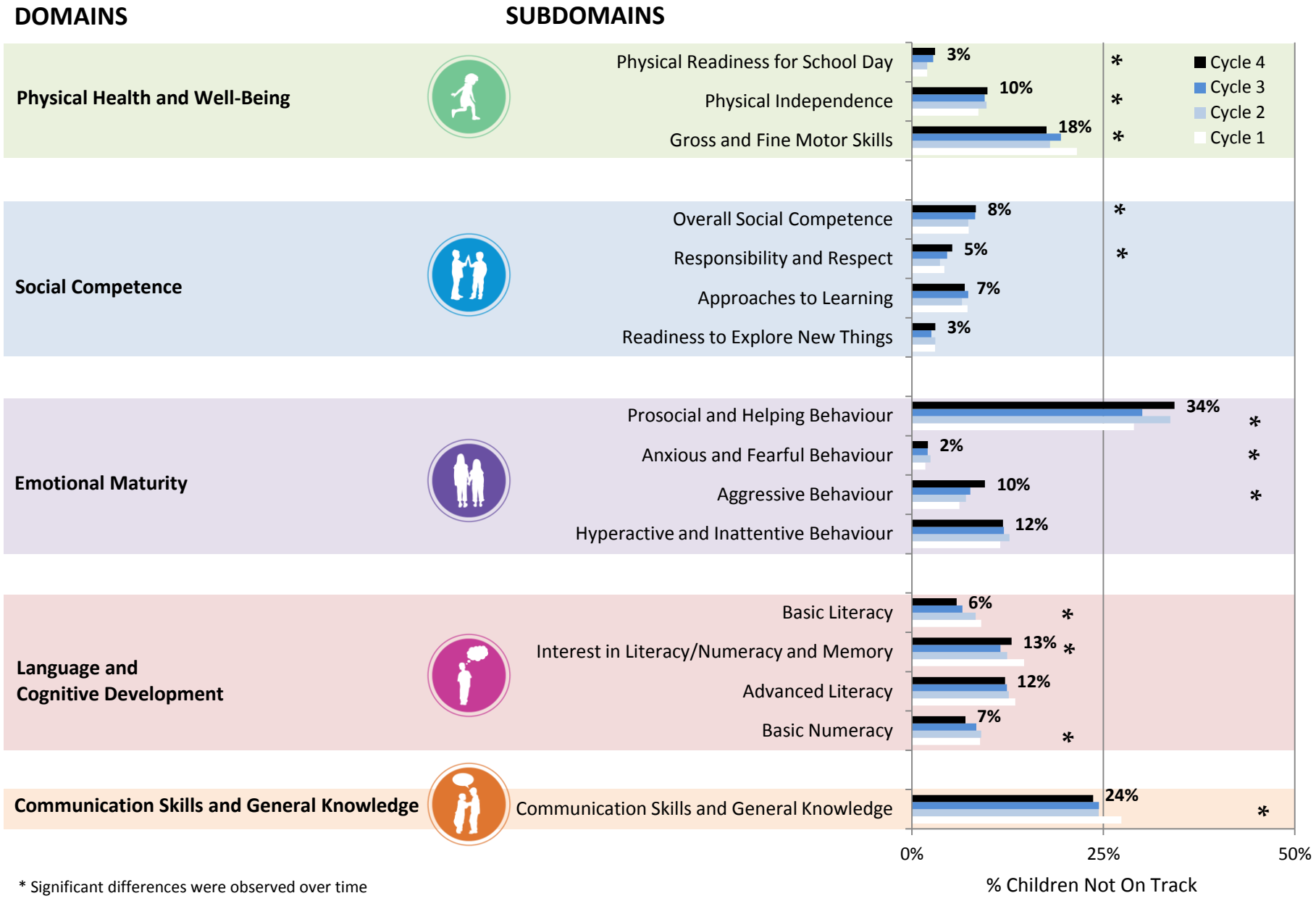
THE 16 DEVELOPMENTAL SUB-DOMAINS

Over the past four cycles, there were significant changes to results in 12 of the 16 EDI sub-domains (Figure 7; Appendix I - Table 3). Showing signs of improvement, the percentage of children not on track is decreasing significantly over time in the sub-domains of *Gross and Fine Motor Skills*, *Overall Social Competence*, *Basic Literacy*, *Interest in Literacy/Numeracy and Memory*, *Basic Numeracy*, and *Communication Skills and General Knowledge* (Figure 7).

On the other hand, the percentage of children not on track is increasing significantly over time in the sub-domains of *Physical Readiness for School Day*, *Physical Independence*, *Responsibility and Respect*, *Prosocial and Helping Behaviour*, and *Aggressive Behaviour* (Figure 7; Appendix I - Table 3).

FIGURE 8

CHILDREN NOT ON TRACK BY EDI SUB-DOMAIN IN CYCLES 1 TO 4 (BOTTOM TO TOP)



* Significant differences were observed over time

CYCLE 4

1637

FRANCOPHONE CHILDREN PARTICIPATED

82%

DEVELOPMENTALLY ON TRACK AT SCHOOL ENTRY

1:1

RATIO OF GIRLS TO BOYS

Image courtesy of FreeDigitalPhotos.net/Phaitoon

FRANCOPHONE CHILDREN RESULTS

Overall, the majority (81.7%) of Francophone children in Ottawa were on track developmentally at school entry in 2015.

VULNERABLE IN ONE OR MORE (1+) DOMAINS

The percentage of Francophone children in Ottawa who were vulnerable in 1+ domains has not changed significantly over time (Appendix I - Table 5). When comparing results to the provincial baseline from 2004-06, Ottawa's Francophone students fared considerably better across all cycles (Figure 9).

THE 5 EDI DOMAINS

The percentage of Francophone students classified as "Not on track" (i.e., "at risk" and "vulnerable") in Ottawa was lower than the provincial baseline in all EDI domains (Figure 10, page 22). The largest differences in vulnerability, favouring Ottawa's Francophone students against the Ontario baseline, were witnessed in the *Physical Health and Well-Being* and *Communication and General Knowledge* domains.

When examining change over time by domain, the percentage of vulnerable Francophone children has not changed significantly, with the exception of *Social Competence* (Appendix I - Table 5). Within this domain, however, there was no linear trend.

FIGURE 9

FRANCOPHONE CHILDREN VULNERABLE IN 1+ DOMAINS OVER TIME

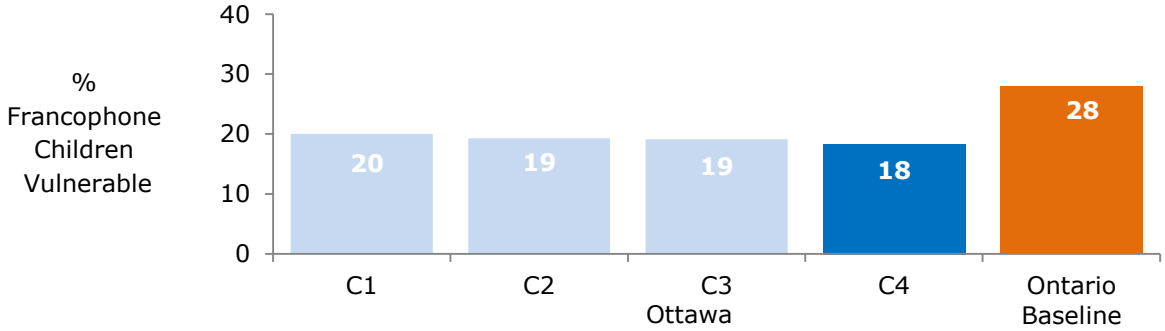
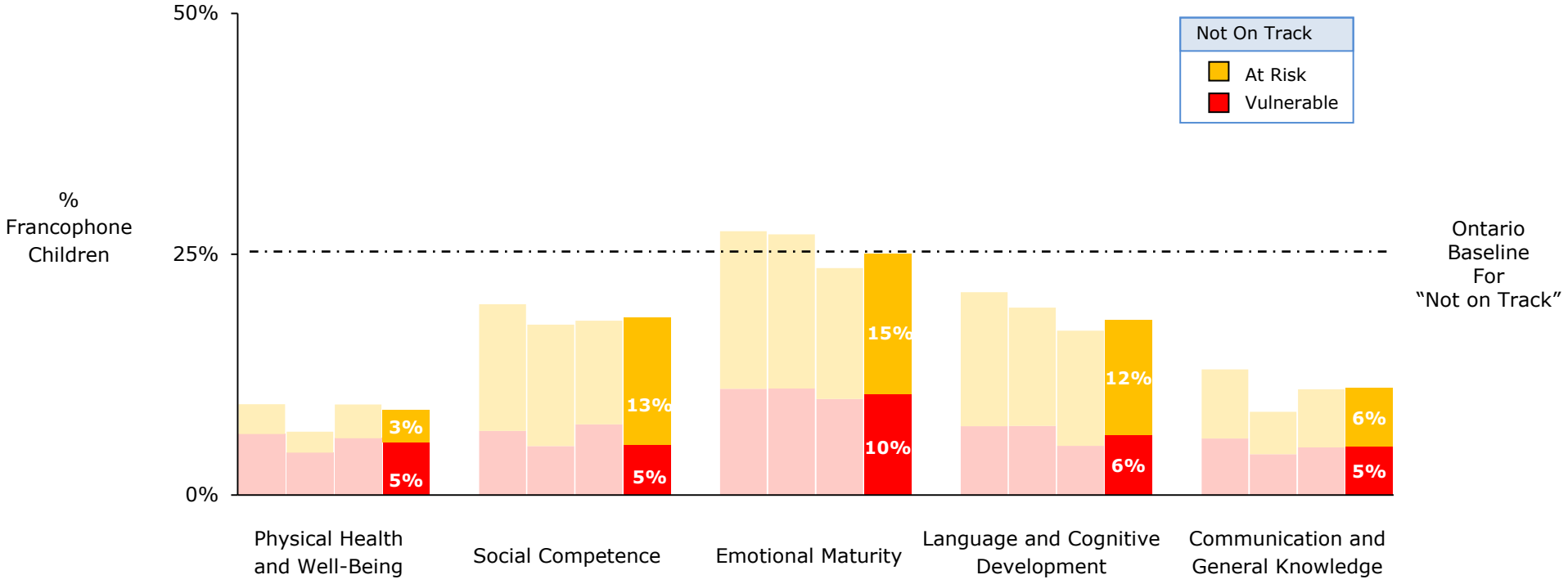


FIGURE 10

FRANCOPHONE CHILDREN NOT ON TRACK BY EDI DOMAIN IN CYCLES 1 TO 4 (LEFT TO RIGHT)



THE 16 DEVELOPMENTAL SUB-DOMAINS

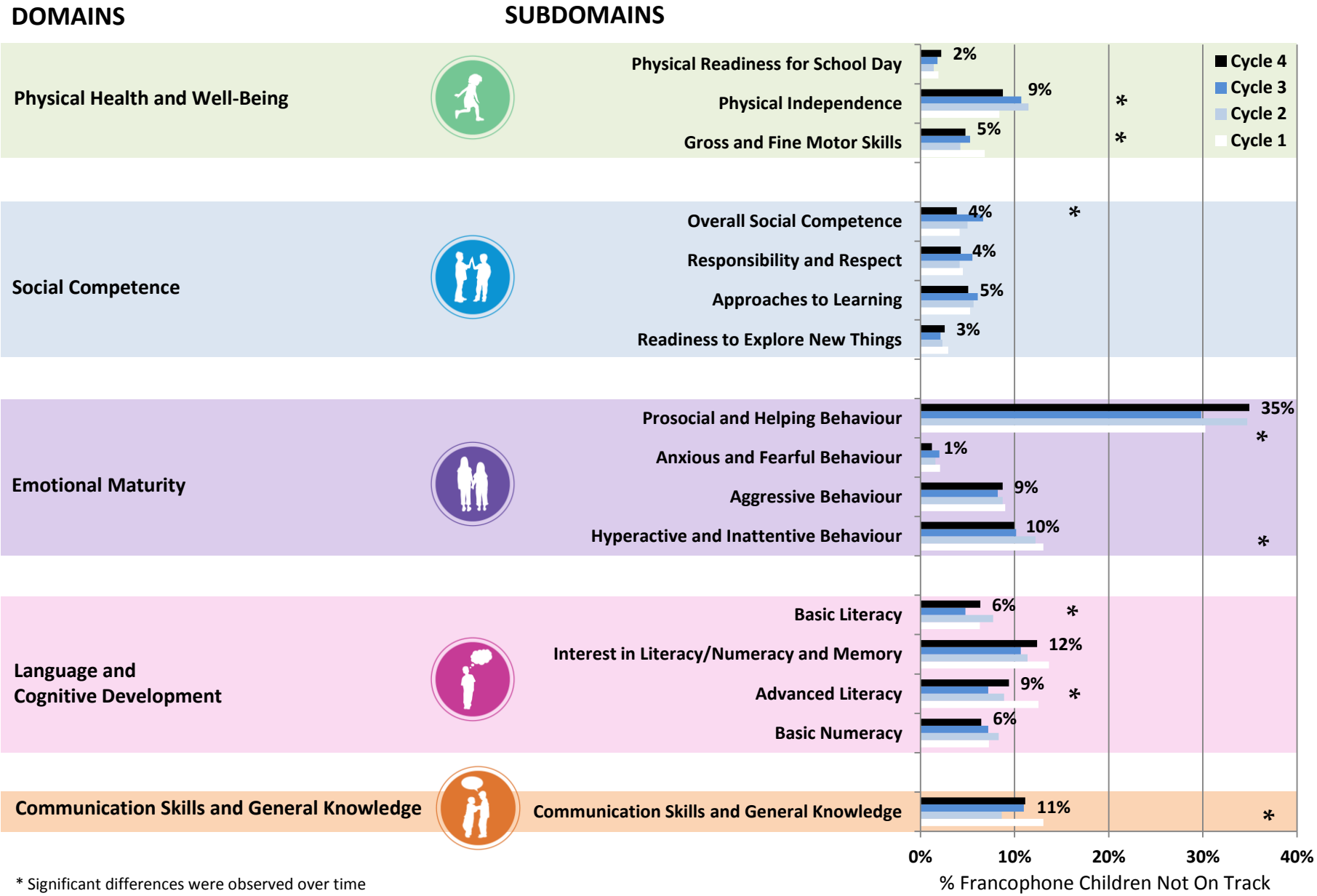
Over the past four cycles, there were significant changes in 8 of the 16 EDI sub-domains (Figure 11; Appendix I - Table 6). Showing signs of improvement, the percentage of Francophone children not on track has decreased significantly in *Hyperactive and Inattentive Behaviour* and *Advanced Literacy* (Figure 11; Appendix I - Table 6).

TRENDS IN VULNERABILITY (C1-C4)

- No Trend -

FIGURE 11

FRANCOPHONE CHILDREN NOT ON TRACK BY EDI SUB-DOMAIN IN CYCLES 1 TO 4 (BOTTOM TO TOP)



* Significant differences were observed over time

CYCLE 4

898

CHILDREN LEARNING IN A 2ND LANGUAGE

58%

DEVELOPMENTALLY ON TRACK AT SCHOOL ENTRY

1:1

RATIO OF GIRLS TO BOYS

Image courtesy of Freepik.com/Asierromero

CHILDREN LEARNING IN A 2ND LANGUAGE RESULTS

Overall, slightly more than half of children who do not speak FR or EN as a first language (FL-Other) in Ottawa were on track developmentally at school entry in 2015 (58.1%).

VULNERABLE IN ONE OR MORE (1+) DOMAINS

The percentage of FL-Other children in Ottawa vulnerable in 1+ domains has changed significantly over time, although there is no clear trend (Appendix I - Table 8). When comparing results to the provincial baseline from 2004-06, Ottawa's FL-Other children fared considerably worse across all cycles, with a higher percentage vulnerable in 1+ domains (Figure 12).

THE 5 EDI DOMAINS

The percentage of not on track FL-Other children in Ottawa was higher than the provincial baseline in all but one EDI domain, *Physical Health and Well-Being* (Figure 13, page 25). The largest differences in vulnerability were in *Communication and General Knowledge*.

When examining change over time, the percentage of vulnerable FL-Other children increased significantly in *Physical Health and Well-Being* and decreased significantly in *Communication and General Knowledge* (Appendix I - Table 8).

FIGURE 12
FL-OTHER CHILDREN VULNERABLE IN 1+ DOMAINS OVER TIME

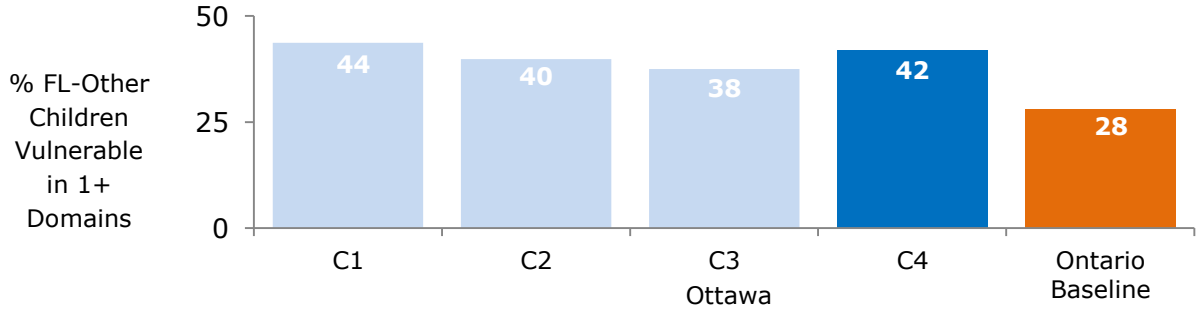
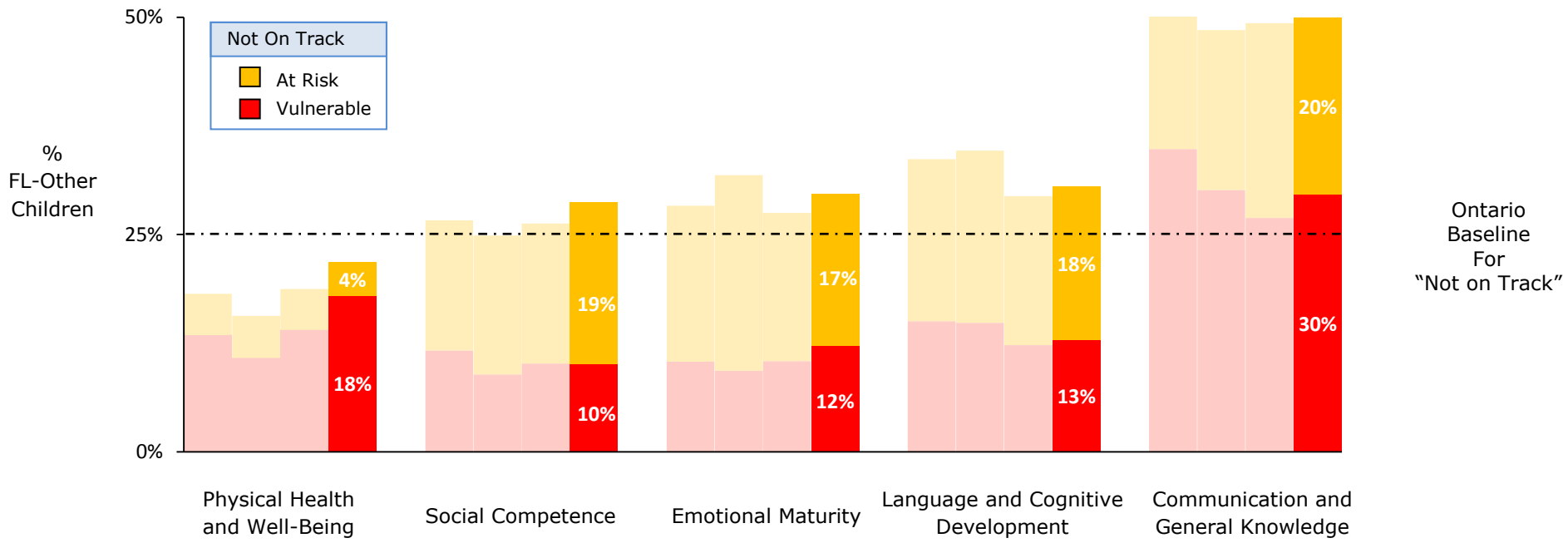


FIGURE 13

FL-OTHER CHILDREN NOT ON TRACK BY EDI DOMAIN IN CYCLES 1 TO 4 (LEFT TO RIGHT)



THE 16 DEVELOPMENTAL SUB-DOMAINS

Over the past four cycles, there were significant changes in 4 of the 16 EDI sub-domains (Figure 14; Appendix I - Table 9). Showing signs of improvement, the percentage of FL-Other children not on track has decreased significantly in *Basic Literacy*. On the other hand, the percentage of children not on track has increased significantly over time in *Prosocial and Helping Behaviour* and *Aggressive Behaviour* (Figure 14; Appendix I - Table 9).

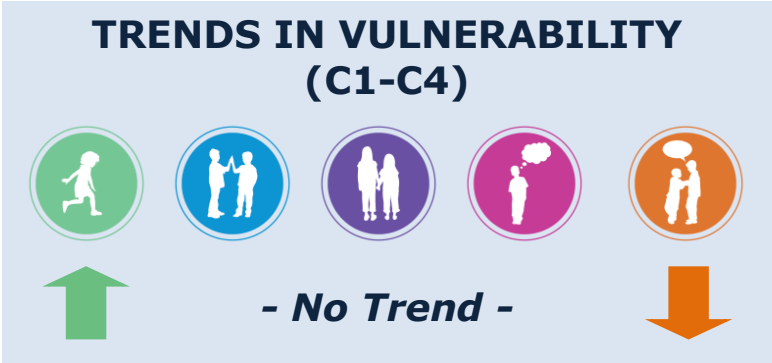
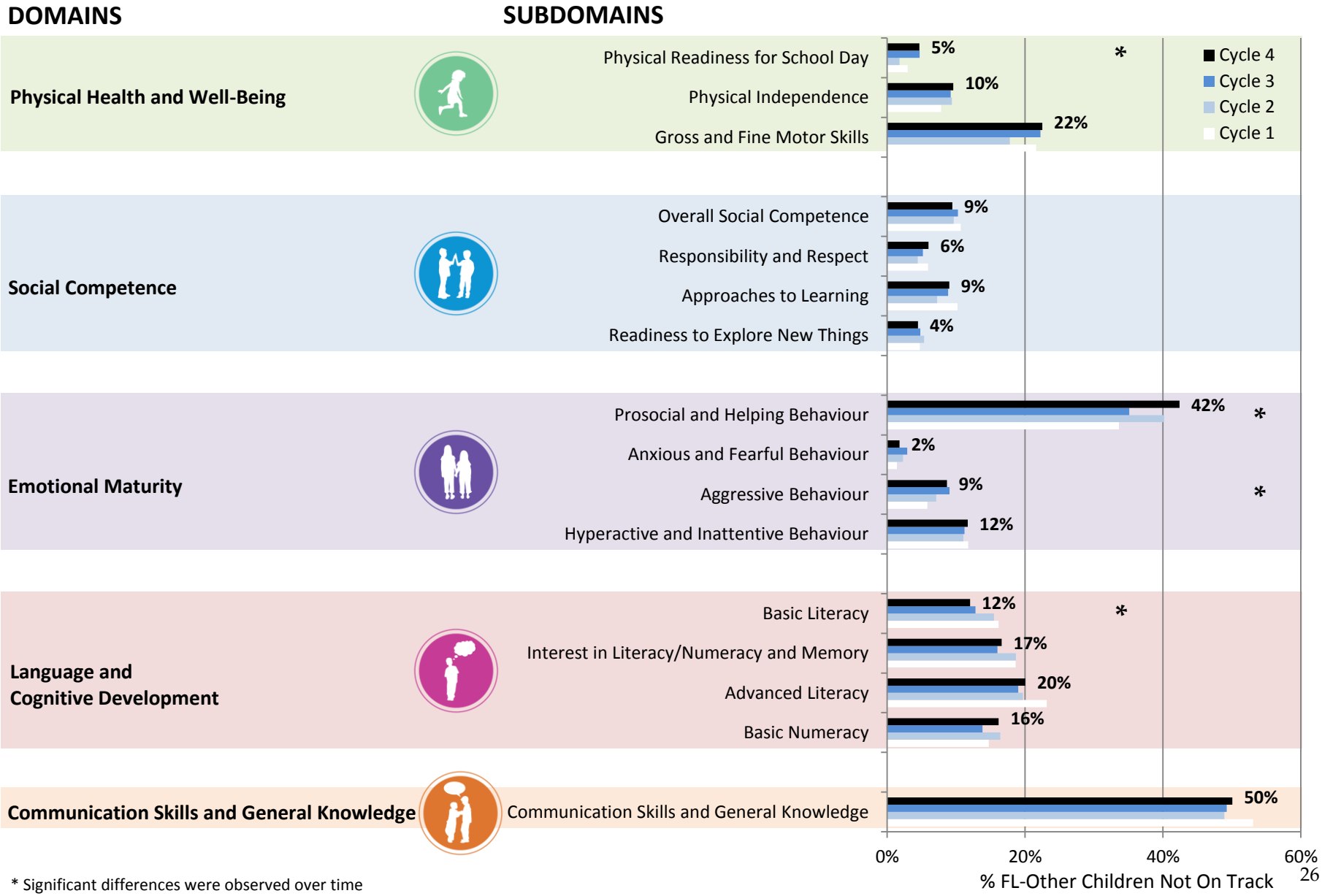


FIGURE 14

FL-OTHER CHILDREN NOT ON TRACK BY EDI SUB-DOMAIN IN CYCLES 1 TO 4 (BOTTOM TO TOP)



* Significant differences were observed over time

CYCLE 4

44%

NEIGHBOURHOODS HAD A HIGHER % OF CHILDREN VULENRABLE THAN ONTARIO

7%- 48%

MIN-MAX % OF CHILDREN VULNERABLE IN NEIGHBOURHOODS

Image courtesy of Freepik.com/Kstudio

NEIGHBOURHOODS

In Ottawa, EDI results have been linked to such local factors as prenatal health, nutrition, education, employment, income, mobility, neighbourhood cohesion, and family structure.

Generally, developmental vulnerability followed a gradient such that as one went from lower social risk (SES=1) to the higher social risk (SES=5) neighbourhoods, the percentage of children who were vulnerable on at least one dimension of the EDI rose (Figure 15). This same trend has been documented in communities across Canada.[15, 18, 19]

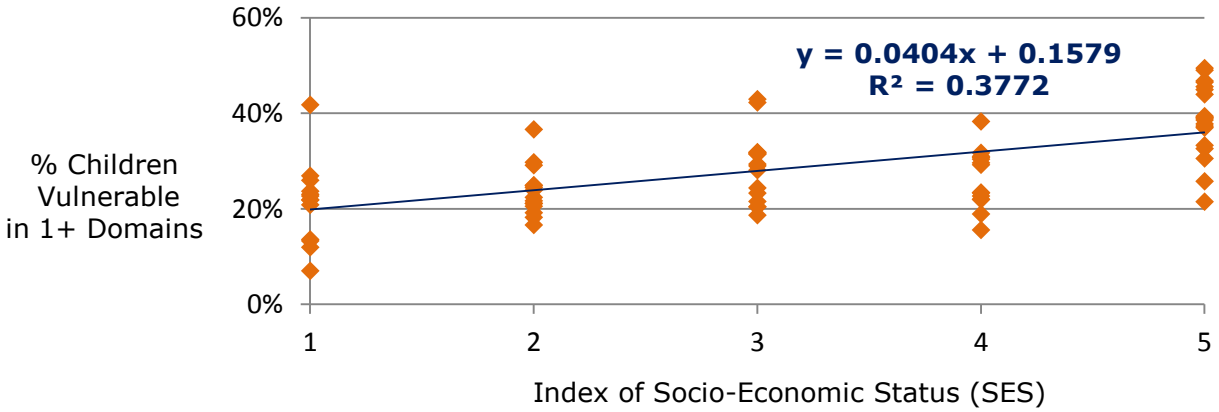
VULNERABLE IN ONE OR MORE (1+) DOMAINS

In Cycle 4, almost half (44%) of the 50 Ottawa neighbourhoods had a higher percentage of children vulnerable in 1+ domains as compared to the 2004-06 Ontario baseline (Table 2, page 30).

Neighbourhood vulnerability is colour coded in Table 2 (page 30) from dark green to bright red, representing the lowest and highest overall vulnerability in the region.

FIGURE 15

NEIGHBOURHOOD EDI VULNERABILITY BY SOCIO-ECONOMIC STATUS (OTTAWA NEIGHBOURHOOD STUDY, 2016)



In 2001, organizations across Ottawa working with children 0-6 years of age came together to form the Ottawa Best Start Network.

Their aim is to create a system of services that seamlessly support families and children from birth through their transition into grade one - right in their own communities.

To support their planning efforts, the neighbourhood sub-domain results are provided in colourful maps, according to the seven geography-based planning tables in Ottawa:

- Ottawa-Centre
- Ottawa-Vanier
- Ottawa-Orleans
- Ottawa South
- Nepean-Carleton
- Kanata, West Carleton, & Stittsville
- Ottawa-West-Nepean

EDI DOMAINS AND SUB-DOMAINS

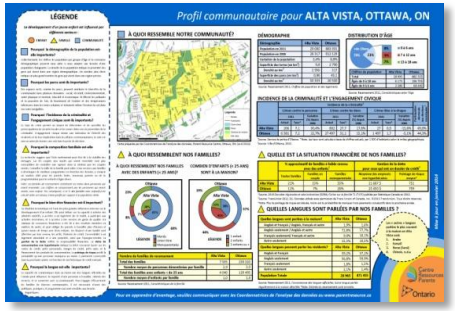
Even in the less vulnerable neighbourhoods, particular EDI domains and sub-domains appear to present regular challenges. It is therefore important that neighbourhood-specific difficulties experienced by Ottawa children are identified, understood and, if possible, addressed at a local level.

In order to identify and address specific neighbourhood difficulties, it is necessary to examine the individual conditions and forces that exist within each neighbourhood. For these reasons, EDI results are often contextualized with other child and youth indicators, such as the social determinants of health. Together, the social determinants define the conditions in which people are born, grow, live, work and age.[26]

CHECK OUT *YOUR* COMMUNITY PROFILES!

Community profiles featuring socio-demographic, health, and EDI results for Cycles 1 to 4 are available on the Parent Resource Centre's website for all 50 Best Start neighbourhoods in Ottawa.

To preserve student anonymity, the EDI results for neighbourhoods with less than 40 SK students were suppressed.



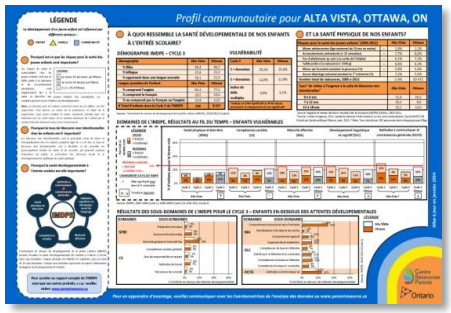
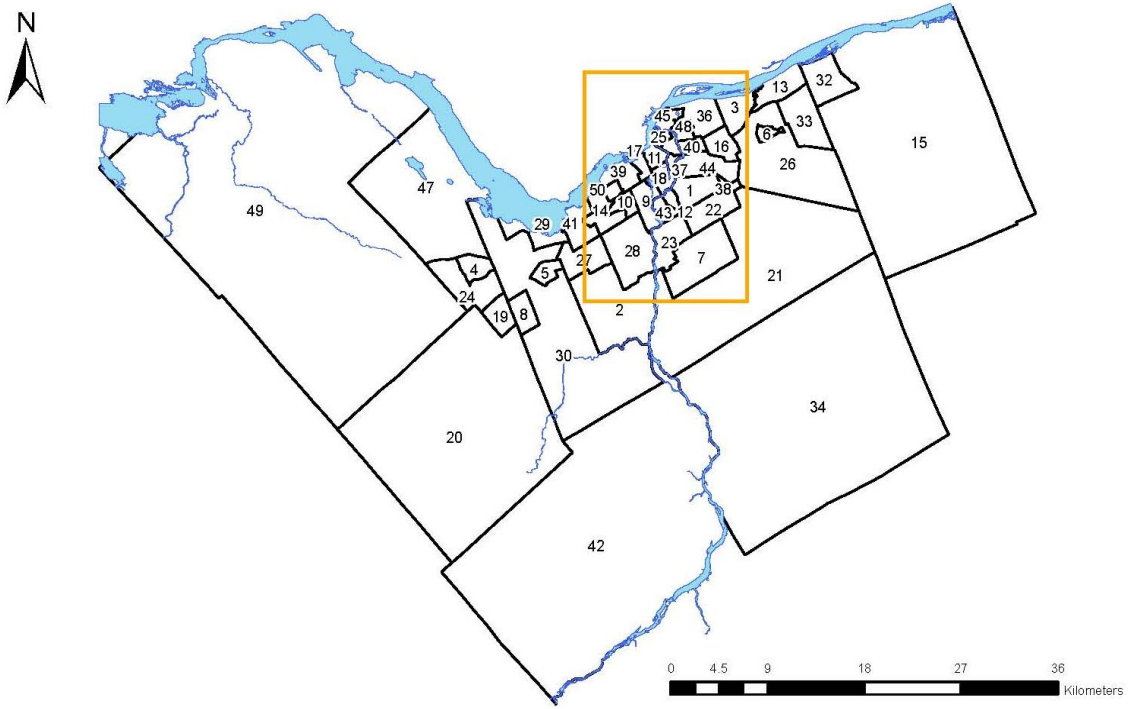
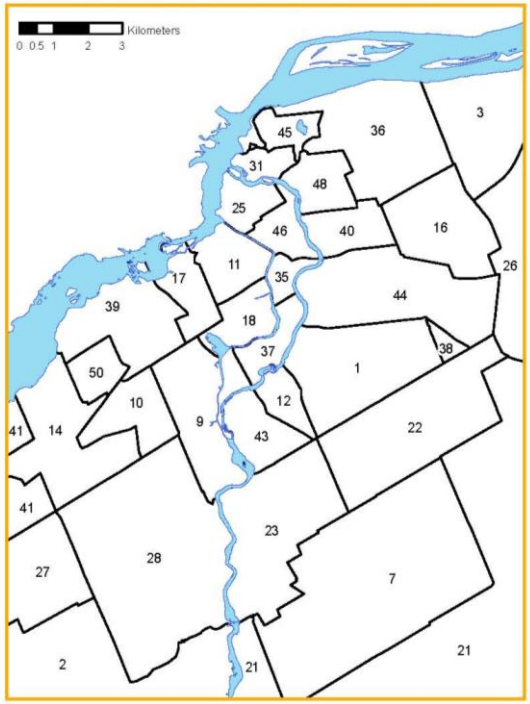


FIGURE 16

OTTAWA BEST START NEIGHBOURHOOD BOUNDARIES





OTTAWA BEST START NEIGHBOURHOODS

1. Alta Vista
2. Barrhaven/Longfields
3. Beaconhill
4. Beaverbrook/Marchwood
5. Bells Corners
6. Blackburn Hamlet
7. Blossom Park/Windsor Park
8. Bridlewood
9. Carleton Heights
10. Carlington
11. Centre Town
12. Clementine
13. Convent Glen
14. Copeland
15. Cumberland
16. Cyrville
17. Dalhousie
18. Glebe
19. Glencairn
20. Goulburn
21. Hawthorne
22. Hunt Club East
23. Hunt Club West
24. Katimavik/Hazeldean
25. Lowertown
26. Mer Bleue
27. Nepean Central
28. Nepean East
29. Nepean North
30. Nepean West
31. New Edingburg
32. Orleans East
33. Orleans South
34. Osgoode
35. Ottawa East
36. Ottawa North East
37. Ottawa South
38. Ottawa South East
39. Ottawa West
40. Overbrooke
41. Pinecrest/Queensway
42. Rideau
43. Riverside Park
44. Riverview/Hawthorne
45. Rockcliffe Park
46. Sandy Hill
47. South March
48. Vanier
49. West Carleton
50. Westboro

TABLE 2

PERCENTAGE OF CHILDREN IN OTTAWA, AND ITS 50 NEIGHBOURHOODS, THAT WERE VULNERABLE IN 1+ DOMAINS IN CYCLES 1 TO 4.

	COHORT	VULNERABLE 1+ DOMAINS C1	C2	C3	C4	Change Over Time
	Ontario Baseline	28.0*				
	Ottawa	25.7	25.0	25.6	26.1	*n.s.*
1	Alta Vista	23.5	22.4	25.5	29.6	*n.s.*
2	Barrhaven/ Longfields	19.8	18.6	20.7	21.7	*n.s.*
3	Beaconhill	34.4	34.3	33.6	25.4	*n.s.*
4	Beaverbrook/ Marchwood	16.4	17.5	13.8	18.8	*n.s.*
5	Bells Corners	33.3	20.0	21.4	24.7	*n.s.*
6	Blackburn Hamlet	19.1	26.5	22.1	28.1	*n.s.*
7	Blossom Park/ Windsor Park	35.9	33.5	39.8	21.1	*Sig.* ↓
8	Bridlewood	23.4	19.2	26.1	23.9	*n.s.*
9	Carleton Heights	23.6	24.6	13.6	46.2	*Sig.*↑
10	Carlington	48.6	29.9	38.5	37.2	*Sig.* --
11	Centre Town	49.2	59.3	46.3	29.7	*Sig.* ↓
12	Clementine	n/a	n/a	n/a	n/a	
13	Convent Glen	28.6	17.8	12.7	21.2	*Sig.* --
14	Copeland	13.5	24.6	29.4	26.7	*Sig.*↑
15	Cumberland	16.3	21.3	18.5	21.7	*n.s.*
16	Cyrville	34.8	35.2	36.6	29.2	*n.s.*
17	Dalhousie	50.0	55.2	35.7	39.4	*n.s.*
18	Glebe	13.2	20.7	15.8	13.3	*n.s.*
19	Glencairn	15.1	46.1	24.0	30.0	*Sig.* --
20	Goulbourn	14.0	12.8	16.2	21.7	*Sig.*↑
21	Hawthorne	24.8	19.0	22.3	22.3	*n.s.*
22	Hunt Club East	29.0	29.6	31.4	32.0	*n.s.*
23	Hunt Club West	22.6	28.1	35.2	40.2	*Sig.*↑
24	Katimavik/ Hazeldean	16.1	23.1	23.1	24.0	*n.s.*
25	Lower Town	45.0	41.2	44.1	39.6	*n.s.*

	COHORT	VULNERABLE 1+ DOMAINS C1	C2	C3	C4	Change Over Time
	Ontario Baseline	28.0*				
	Ottawa	25.7	25.0	25.6	26.1	*n.s.*
26	Mer Bleu	n/a	n/a	n/a	n/a	
27	Nepean Central	27.2	27.0	33.3	31.5	*n.s.*
28	Nepean East	28.3	23.3	36.0	21.6	*Sig.* --
29	Nepean North	35.2	29.5	36.3	34.4	*n.s.*
30	Nepean West	20.4	23.3	16.6	23.0	*n.s.*
31	New Edinburgh	n/a	n/a	n/a	n/a	.
32	Orleans East	31.6	25.2	21.3	20.6	*Sig.* ↓
33	Orleans South	20.0	26.6	23.6	28.5	*n.s.*
34	Osgoode	18.4	16.1	24.7	23.5	*n.s.*
35	Ottawa East	n/a	n/a	n/a	n/a	
36	Ottawa North East	36.3	37.2	33.6	33.1	*n.s.*
37	Ottawa South	12.7	14.9	16.7	7.1	*n.s.*
38	Ottawa South East	33.3	n/a	n/a	30.0	n.s.
39	Ottawa West	25.0	33.1	25.6	18.8	*Sig.* --
40	Overbrook	54.2	58.1	56.1	46.2	*n.s.*
41	Pinecrest/ Queensway	33.2	27.6	28.5	43.0	*Sig.*↑
42	Rideau	18.6	9.8	21.7	19.5	*n.s.*
43	Riverside Park	n/a	n/a	n/a	n/a	
44	Riverview/ Hawthorne	31.1	44.8	22.7	38.7	*Sig.* --
45	Rockcliffe Park	n/a	n/a	n/a	n/a	
46	Sandy Hill	35.1	30.9	28.2	48.1	*n.s.*
47	South March	22.0	18.5	17.0	22.6	*n.s.*
48	Vanier	40.5	41.3	43.4	45.2	*n.s.*
49	West Carleton	21.4	21.6	26.1	21.2	*n.s.*
50	Westboro	18.8	37.0	20.8	28.8	*n.s.*

Legend

Low Vulnerability

High Vulnerability

Neighbourhood results for Cycles 1 to 4 were ranked into five groups. Neighbourhoods in dark green had the lowest percentage of vulnerable students and neighbourhoods in red had the highest percentage of vulnerable students in a particular domain and cycle.

* The provincial baseline data from 2004-06 is used to determine the cut-offs for child vulnerability in each domain in the 50 Ottawa neighbourhoods.
n/a = data not available; to preserve student anonymity, the results of neighbourhoods with less than 40 SK students are not reported.
Sig. = significant effect of cycle ($p < 0.05$). Direction of change indicated by arrow (increasing vulnerability = ↑, decreasing vulnerability = ↓).
n.s. = effect of cycle not significant ($p > 0.05$)

TABLE 3

PERCENTAGE OF VULNERABLE CHILDREN IN OTTAWA AND ITS 50 NEIGHBOURHOODS IN EACH DOMAIN IN CYCLES 1 TO 4.

COHORT		PHYSICAL HEALTH AND WELL-BEING					EMOTIONAL MATURITY					SOCIAL COMPETENCE					LANGUAGE AND COGNITIVE DEVELOPMENT					COMMUNICATION SKILLS AND GENERAL KNOWLEDGE				
		C1	C2	C3	C4	Change Over Time	C1	C2	C3	C4	Change Over Time	C1	C2	C3	C4	Change Over Time	C1	C2	C3	C4	Change Over Time	C1	C2	C3	C4	Change Over Time
Ontario Baseline (2004-06)		10*					10*					10*					10*					10*				
Ottawa		10.9	10.3	12.3	12.6	*Sig.* ↑	9.4	10.6	10.3	11.7	*Sig.* ↑	8.1	6.8	8.3	9.0	*Sig.* ↑	8.7	8.1	6.9	6.6	*Sig.* ↓	12.1	10.4	10.3	9.7	*Sig.* ↓
1	Alta Vista	8.9	6.0	11.2	16.5	*Sig.* ↑	6.9	6.2	11.6	12.0	*n.s.*	8.1	7.0	11.2	10.1	*n.s.*	9.3	8.5	6.6	10.5	*n.s.*	15.8	11.9	8.1	14.2	*n.s.*
2	Barrhaven/ Longfields	6.7	7.7	10.3	9.9	*Sig.* ↑	7.7	8.5	5.0	10.2	*Sig.* --	4.9	5.0	5.0	8.1	*Sig.* ↑	5.2	5.3	5.9	3.5	*n.s.*	10.2	8.3	8.5	9.4	*n.s.*
3	Beaconhill	12.3	13.4	12.7	10.0	*n.s.*	14.7	15.7	14.9	10.9	*n.s.*	12.6	9.7	11.2	7.7	*n.s.*	9.4	6.7	10.4	6.9	*n.s.*	17.0	14.9	16.4	10.8	*n.s.*
4	Beaverbrook/ Marchwood	5.7	5.0	5.7	11.5	*n.s.*	6.6	10.9	5.2	9.4	*n.s.*	4.1	5.8	3.3	4.2	*n.s.*	5.7	5.1	3.3	4.2	*n.s.*	5.7	5.8	5.7	6.3	*n.s.*
5	Bells Corners	23.0	9.3	14.3	16.0	*n.s.*	14.9	12.0	12.5	14.8	*n.s.*	8.0	6.7	3.6	11.1	*n.s.*	8.0	2.7	8.9	4.9	*n.s.*	13.8	4.0	5.4	7.4	*n.s.*
6	Blackburn Hamlet	10.6	10.8	7.8	12.5	*n.s.*	5.3	13.6	14.7	14.6	*n.s.*	4.3	8.4	7.8	14.6	*n.s.*	7.4	9.6	5.3	4.2	*n.s.*	7.4	16.9	6.5	10.4	*n.s.*
7	Blossom Park/ Windsor Park	20.2	11.0	21.1	9.2	*Sig.* ↓	13.3	14.4	13.9	9.7	*n.s.*	8.7	5.5	11.4	8.1	*n.s.*	10.9	10.5	16.3	6.5	*Sig.* --	15.8	16.6	23.0	8.6	*Sig.* --
8	Bridlewood	6.6	10.0	15.2	13.7	*Sig.* ↑	12.8	7.4	7.4	9.9	*n.s.*	6.6	3.7	5.8	8.8	*n.s.*	6.6	3.3	3.9	4.9	*n.s.*	12.6	10.3	8.6	5.3	*Sig.* ↓
9	Carleton Heights	12.7	8.8	8.6	15.4	*n.s.*	7.7	12.5	6.9	21.2	*n.s.*	10.9	7.0	8.5	7.7	*n.s.*	5.5	8.8	5.1	13.5	*n.s.*	7.3	14.0	8.5	13.5	*n.s.*
10	Carlington	30.9	14.4	25.3	20.2	*Sig.* --	9.4	11.3	7.8	13.2	*n.s.*	11.7	5.2	9.9	10.9	*n.s.*	19.8	13.5	16.5	8.6	*n.s.*	25.2	13.4	16.5	10.9	*Sig.* ↓
11	Centre Town	38.3	42.4	23.8	14.4	*Sig.* ↓	11.9	18.6	20.0	12.1	*n.s.*	10.0	18.6	16.3	9.9	*n.s.*	16.4	18.6	8.8	11.0	*n.s.*	23.3	28.8	22.5	15.4	*n.s.*
12	Clementine	*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*	
13	Convent Glen	12.6	7.5	4.8	4.5	*n.s.*	13.4	8.5	6.7	12.1	*n.s.*	6.7	4.7	7.9	5.3	*n.s.*	4.2	5.6	1.6	4.5	*n.s.*	6.7	6.5	4.0	6.8	*n.s.*
14	Copeland	5.8	10.9	16.7	14.3	*Sig.* ↑	5.2	7.7	11.9	10.9	*n.s.*	5.2	4.6	7.7	9.0	*n.s.*	5.8	2.9	4.1	4.5	*n.s.*	8.4	11.4	12.7	7.2	*n.s.*
15	Cumberland	5.1	4.9	4.5	9.4	*Sig.* ↑	5.9	10.9	7.5	9.4	*n.s.*	8.8	6.6	5.2	5.3	*n.s.*	4.2	6.6	4.2	5.8	*n.s.*	4.7	6.3	6.6	8.4	*n.s.*
16	Cyrville	7.7	12.5	17.9	13.1	*n.s.*	15.0	11.9	16.1	11.7	*n.s.*	12.9	8.6	14.3	8.0	*n.s.*	13.6	9.4	13.4	8.0	*n.s.*	18.7	21.1	17.0	19.7	*n.s.*
17	Dalhousie	30.4	28.4	26.1	21.1	*n.s.*	10.9	22.4	14.3	22.5	*n.s.*	8.9	22.4	4.3	16.9	*Sig.* --	16.1	24.2	8.7	14.1	*n.s.*	25.0	31.3	12.9	11.3	*Sig.* ↓
18	Glebe	4.4	11.5	7.4	7.8	*n.s.*	8.8	8.0	5.3	2.2	*n.s.*	4.4	3.4	4.2	4.4	*n.s.*	3.3	2.3	4.3	1.1	*n.s.*	3.3	5.7	0.0	4.4	*n.s.*
19	Glencairn	5.8	29.2	9.3	10.7	*Sig.* --	5.9	13.5	9.3	16.4	*n.s.*	3.5	9.0	13.3	10.0	*n.s.*	4.7	16.9	9.3	9.3	*n.s.*	4.7	14.6	12.0	7.9	*n.s.*
20	Goulbourn	6.3	5.5	8.2	10.3	*Sig.* ↑	6.1	4.5	4.0	9.9	*Sig.* ↑	4.5	2.3	5.3	8.5	*Sig.* ↑	3.3	3.5	3.3	3.5	*n.s.*	5.1	3.3	3.5	7.6	*Sig.* ↑
21	Hawthorne	13.9	6.8	12.0	10.3	*n.s.*	10.6	9.3	9.0	10.0	*n.s.*	6.1	6.7	7.7	10.3	*n.s.*	5.5	6.5	3.3	5.6	*n.s.*	5.5	8.0	9.0	8.6	*n.s.*
22	Hunt Club East	10.0	12.2	12.5	11.4	*n.s.*	10.4	10.6	11.0	16.9	*Sig.* ↑	10.0	6.4	9.8	12.9	*Sig.* --	10.9	8.0	10.7	11.7	*n.s.*	16.6	14.9	17.4	13.2	*n.s.*
23	Hunt Club West	5.8	11.4	11.2	22.8	*Sig.* ↑	3.7	14.0	12.8	10.2	*Sig.* --	5.1	11.4	14.4	15.7	*Sig.* ↑	8.8	11.5	12.8	15.0	*n.s.*	16.1	12.3	12.0	7.1	*n.s.*
24	Katimavik/ Hazeldean	7.0	7.7	9.4	11.3	*n.s.*	5.4	12.3	13.0	11.8	*n.s.*	3.8	5.1	8.0	5.4	*n.s.*	4.3	5.1	2.4	3.6	*n.s.*	7.5	9.2	5.7	7.7	*n.s.*
25	Lower Town	26.7	8.0	18.6	20.8	*n.s.*	15.3	8.2	18.9	22.9	*n.s.*	16.7	15.7	20.3	12.5	*n.s.*	20.0	29.4	18.6	18.8	*n.s.*	23.3	23.5	22.0	18.8	*n.s.*

* The provincial baseline data from 2004-06 is used to determine the cut-offs for child vulnerability in each domain in the 50 Ottawa neighbourhoods. By definition, 10% of students in Ontario are rated as vulnerable in each domain.

n/a = data not available; to preserve student anonymity, the results of neighbourhoods with less than 40 SK students are not reported.

Sig. = significant effect of cycle ($p < 0.05$). Direction of change indicated by arrow (increasing vulnerability = ↑, decreasing vulnerability = ↓).

n.s. = effect of cycle not significant ($p > 0.05$)

RESULTS AND DISCUSSION

EMERGING TRENDS – NEIGHBOURHOODS

COHORT		PHYSICAL HEALTH AND WELL-BEING					EMOTIONAL MATURITY					SOCIAL COMPETENCE					LANGUAGE AND COGNITIVE DEVELOPMENT					COMMUNICATION SKILLS AND GENERAL KNOWLEDGE				
		C1	C2	C3	C4	Change Over Time	C1	C2	C3	C4	Change Over Time	C1	C2	C3	C4	Change Over Time	C1	C2	C3	C4	Change Over Time	C1	C2	C3	C4	Change Over Time
Ontario Baseline (2004-06)		10*					10*					10*					10*					10*				
Ottawa		10.9	10.3	12.3	12.6	*Sig.* ↑	9.4	10.6	10.3	11.7	*Sig.* ↑	8.1	6.8	8.3	9.0	*Sig.* ↑	8.7	8.1	6.9	6.6	*Sig.* ↓	12.1	10.4	10.3	9.7	*Sig.* ↓
26	Mer Bleu	*n/a.*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*	
27	Nepean Central	9.9	11.6	14.7	18.3	*n.s.*	9.5	10.7	16.4	14.1	*n.s.*	7.0	7.4	13.6	13.6	*Sig.* ↑	10.3	10.3	7.4	7.0	*n.s.*	9.9	13.0	13.0	7.5	*n.s.*
28	Nepean East	12.1	9.9	23.1	10.8	*Sig.* --	7.1	10.8	17.4	9.7	*Sig.* --	11.3	7.2	14.9	8.2	*Sig.* --	10.8	8.1	9.0	7.8	*n.s.*	16.7	5.8	16.2	11.2	*Sig.* --
29	Nepean North	9.8	6.2	21.2	18.0	*Sig.* ↑	9.0	6.2	15.8	12.3	*n.s.*	7.4	6.2	11.6	6.6	*n.s.*	9.0	11.0	9.6	5.7	*n.s.*	27.0	21.2	16.4	18.9	*n.s.*
30	Nepean West	9.3	8.6	7.7	12.2	*n.s.*	3.8	10.9	6.9	10.4	*n.s.*	5.6	3.9	4.7	8.2	*n.s.*	7.4	4.7	1.7	4.4	*n.s.*	3.7	10.9	8.1	7.7	*n.s.*
31	New Edinburgh	*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*	
32	Orleans East	9.7	8.9	5.8	7.4	*n.s.*	10.1	11.7	11.2	11.1	*n.s.*	11.2	7.3	8.1	7.7	*n.s.*	13.0	7.0	6.1	6.1	*Sig.* ↓	10.0	6.8	6.6	5.5	*n.s.*
33	Orleans South	9.6	10.0	8.9	12.9	*n.s.*	13.8	16.4	14.5	16.9	*n.s.*	8.9	8.9	8.1	12.6	*n.s.*	4.3	8.5	5.3	8.3	*n.s.*	6.8	7.7	5.7	9.3	*n.s.*
34	Osgoode	5.7	8.4	12.1	14.1	*Sig.* ↑	5.7	7.7	8.2	6.0	*n.s.*	3.7	5.4	7.4	6.8	*n.s.*	6.7	3.4	3.0	6.0	*n.s.*	8.6	3.4	10.4	8.5	*Sig.* --
35	Ottawa East	*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*	
36	Ottawa North East	11.3	16.0	19.7	9.1	*Sig.* ↓	14.5	13.5	13.1	15.6	*n.s.*	12.0	8.3	7.9	10.4	*n.s.*	17.3	17.3	9.5	6.5	*Sig.* ↓	20.2	19.2	18.4	12.3	*n.s.*
37	Ottawa South	11.3	3.2	6.0	2.0	*Sig.* ↓	1.5	10.9	7.1	3.1	*Sig.* --	1.4	4.3	2.4	1.0	*n.s.*	1.4	4.3	4.8	1.0	*n.s.*	4.2	2.1	1.2	1.0	*n.s.*
38	Ottawa South East	11.9	*n/a*	*n/a*	12.5	*n.s.*	0.0	*n/a*	*n/a*	10.3	*Sig.* ↑	0.0	*n/a*	*n/a*	12.5	*Sig.* ↑	16.7	n/a	n/a	15.0	*n.s.*	16.7	*n/a*	*n/a*	15.4	*n.s.*
39	Ottawa West	13.9	10.7	12.7	9.4	*n.s.*	9.9	19.0	12.6	8.9	*Sig.* --	7.6	8.3	6.8	5.2	*n.s.*	8.3	10.7	6.3	6.3	*n.s.*	11.1	11.8	8.7	5.2	*n.s.*
40	Overbrook	29.2	38.7	32.7	24.7	*n.s.*	23.2	24.2	23.5	14.0	*n.s.*	20.8	20.4	22.4	12.9	*n.s.*	34.0	34.4	28.7	12.9	*Sig.* ↓	30.2	41.9	34.7	18.3	*Sig.* ↓
41	Pinecrest/ Queensway	15.0	11.2	17.6	22.9	*Sig.* ↑	9.4	6.2	10.4	20.6	*Sig.* ↑	13.0	5.6	9.0	14.3	*Sig.* --	15.8	14.6	9.0	11.3	*n.s.*	15.4	9.2	11.2	16.7	*Sig.* --
42	Rideau	6.8	5.4	9.6	5.7	*n.s.*	8.5	4.5	11.3	13.0	*n.s.*	7.6	1.8	10.4	6.5	*n.s.*	6.8	2.7	1.7	0.8	*Sig.* ↓	6.8	2.7	3.5	3.3	*n.s.*
43	Riverside Park	*n/a*	*n/a*	*n/a*	n/a		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*	
44	Riverview/ Hawthorne	9.8	23.0	9.1	19.8	*Sig.* --	15.2	23.3	3.6	20.4	*Sig.* --	11.7	20.7	12.7	13.2	*n.s.*	6.9	19.5	8.2	12.3	*Sig.* --	13.6	19.5	15.5	23.6	*n.s.*
45	Rockcliffe Park	*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	*n/a*	
46	Sandy Hill	17.5	7.3	15.5	31.5	*Sig.* ↑	7.0	10.9	7.0	16.7	*n.s.*	12.3	14.5	8.5	11.1	*n.s.*	14.0	10.9	4.3	11.1	*n.s.*	21.1	12.7	14.3	27.8	*n.s.*
47	South March	10.7	6.1	6.6	9.6	*n.s.*	6.7	9.1	6.0	7.5	*n.s.*	4.0	5.2	4.7	7.9	*n.s.*	2.7	3.9	2.5	6.2	*n.s.*	10.7	5.6	7.6	9.6	*n.s.*
48	Vanier	17.9	19.0	22.6	24.7	*n.s.*	20.7	14.5	23.6	17.2	*n.s.*	10.7	7.9	13.2	15.1	*n.s.*	15.9	14.3	22.7	18.5	*n.s.*	16.7	16.1	14.2	20.4	*n.s.*
49	West Carleton	15.2	11.3	11.1	12.7	*n.s.*	5.5	6.9	11.9	9.0	*n.s.*	9.3	6.9	9.7	7.5	*n.s.*	5.1	5.9	8.9	5.2	*n.s.*	8.6	4.9	8.4	7.5	*n.s.*
50	Westboro	4.2	17.4	7.8	23.3	*Sig.* ↑	10.4	19.6	10.4	15.1	*n.s.*	10.4	13.0	3.9	11.0	*n.s.*	8.3	6.5	2.6	1.4	*n.s.*	8.3	8.7	3.9	4.1	*n.s.*

* The provincial baseline data from 2004-06 is used to determine the cut-offs for child vulnerability in each domain in the 50 Ottawa neighbourhoods. By definition, 10% of students in Ontario are rated as vulnerable in each domain.

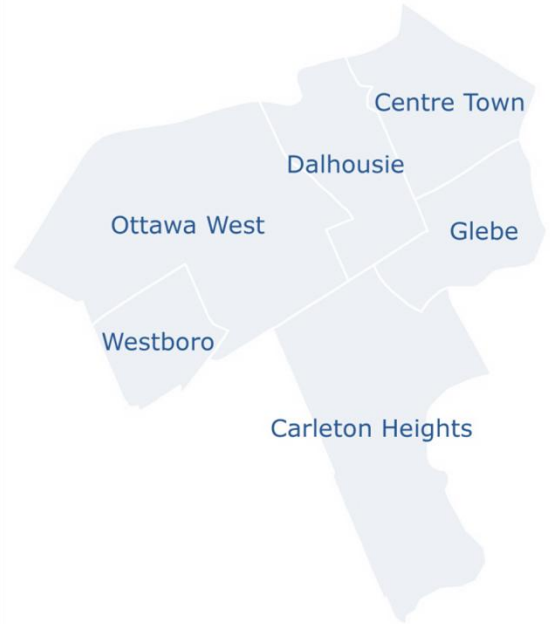
n/a = data not available; to preserve student anonymity, the results of neighbourhoods with less than 40 SK students are not reported.

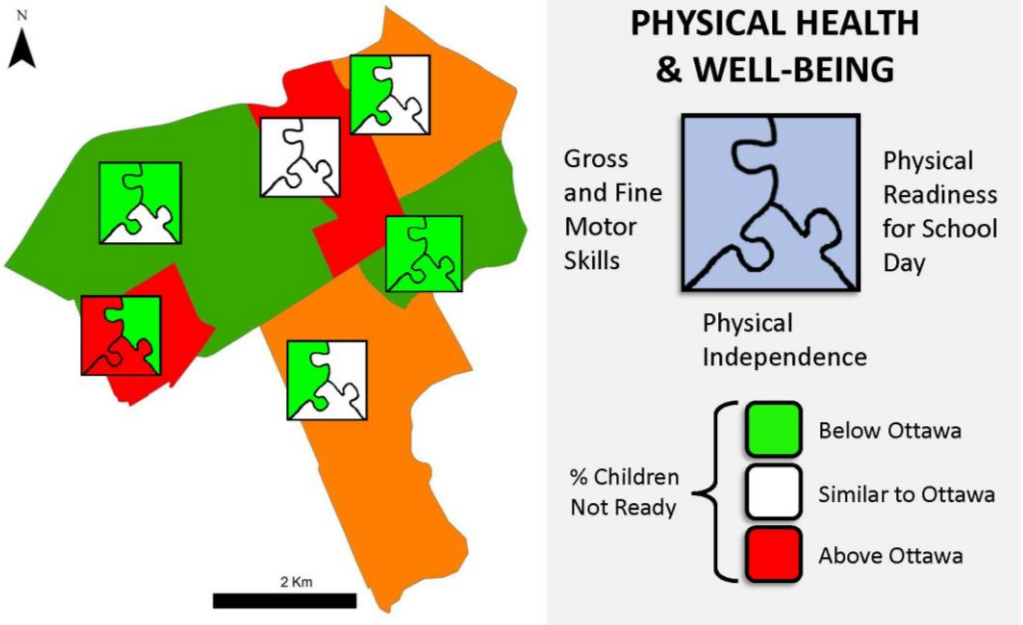
Sig. = significant effect of cycle ($p < 0.05$). Direction of change indicated by arrow (increasing vulnerability = ↑, decreasing vulnerability = ↓).

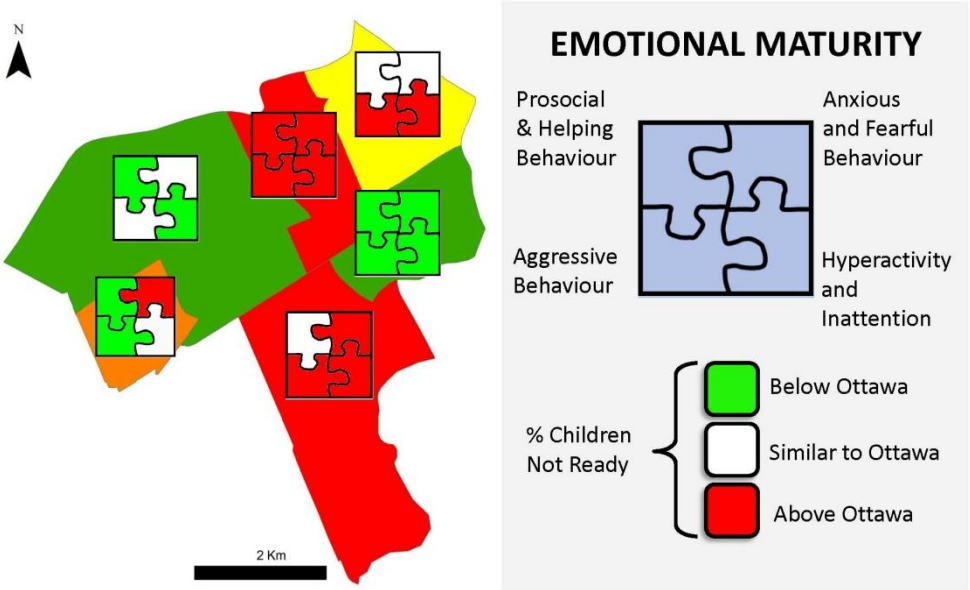
n.s. = effect of cycle not significant ($p > 0.05$)

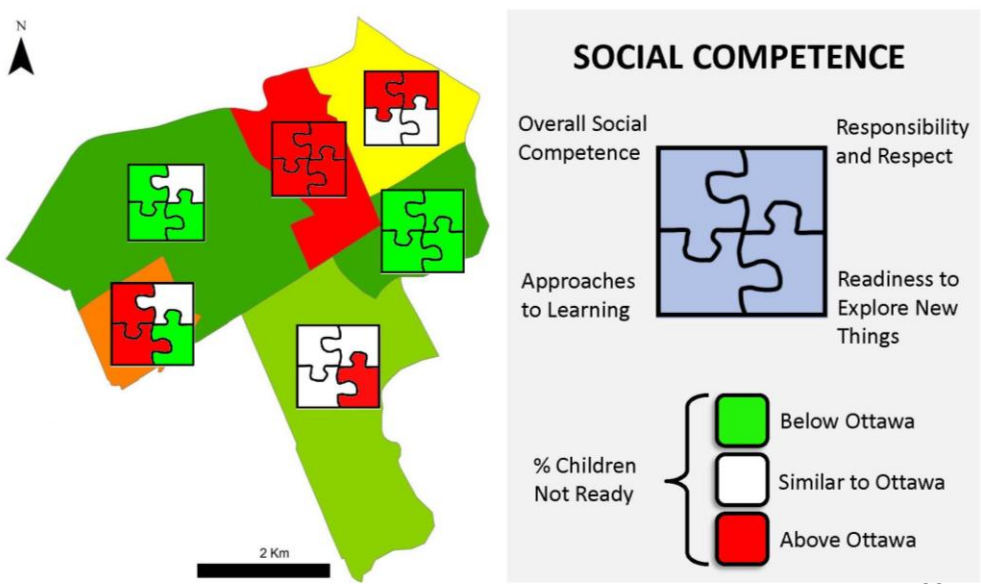
FIGURE 17

PERCENTAGE OF CHILDREN NOT READY IN EACH SUB-DOMAIN IN CYCLE 4 IN OTTAWA-CENTRE.

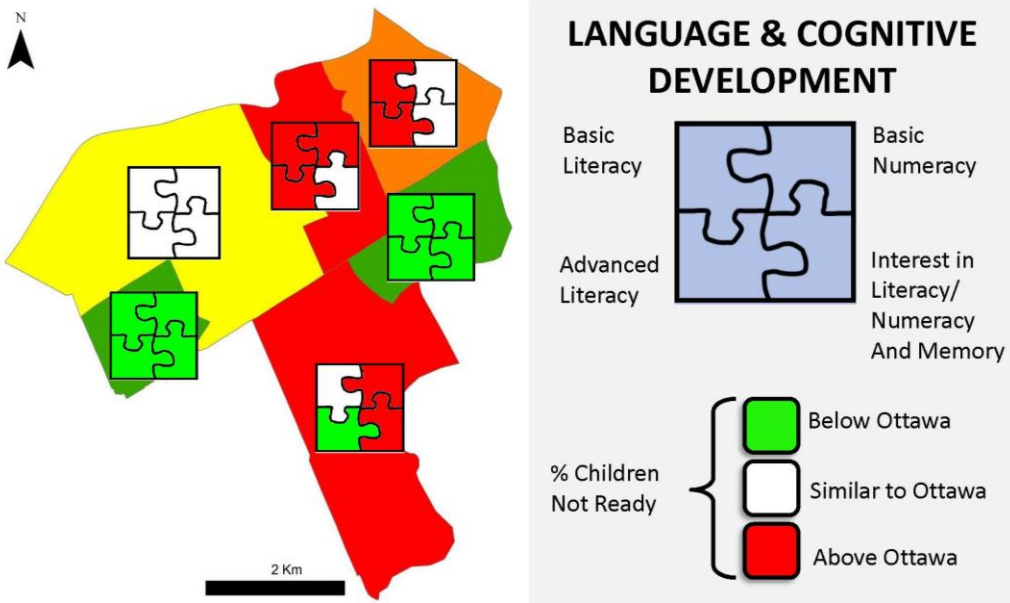








EMERGING TRENDS – NEIGHBOURHOODS



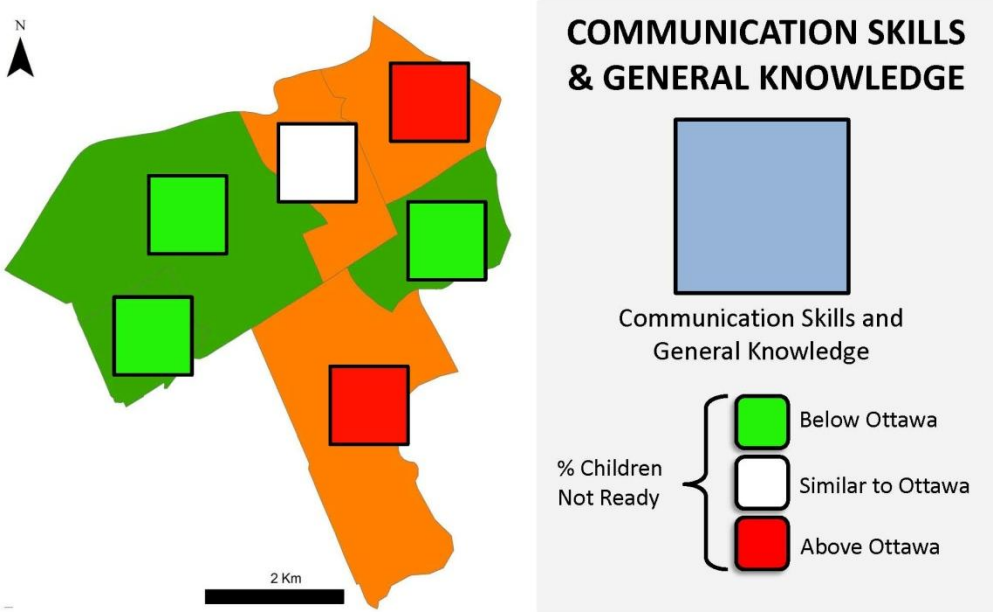
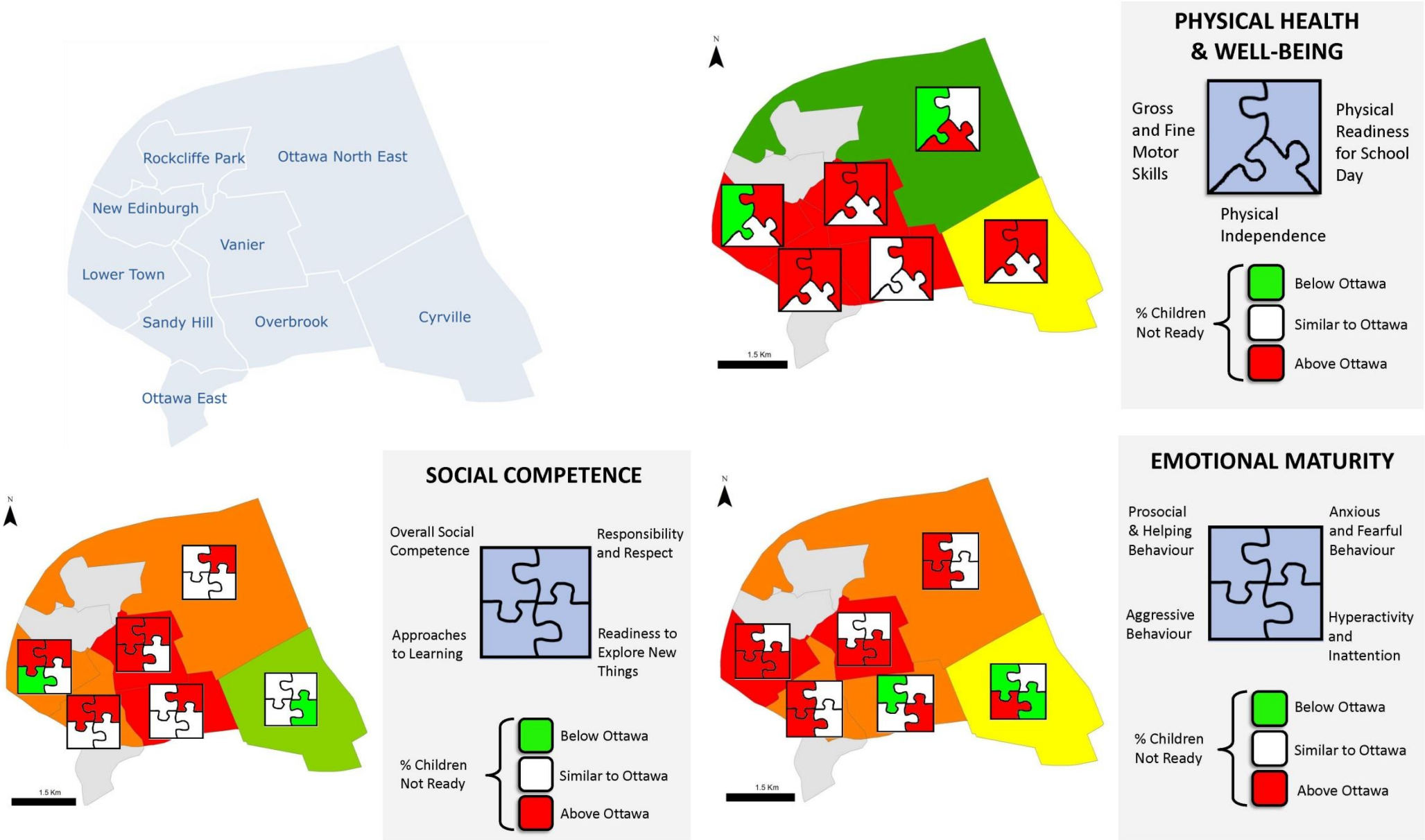


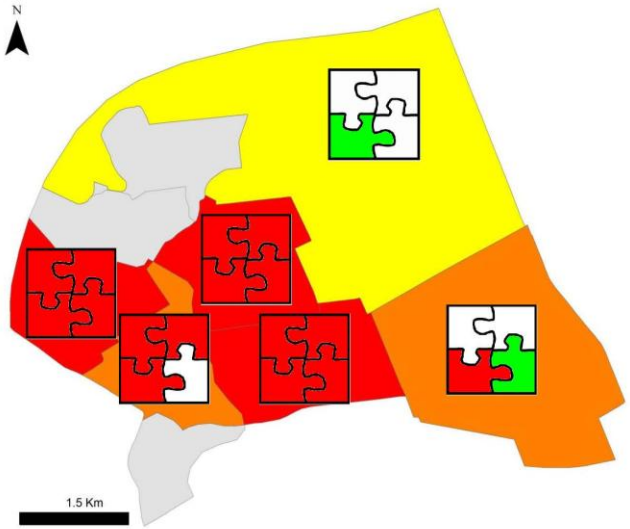
FIGURE 18

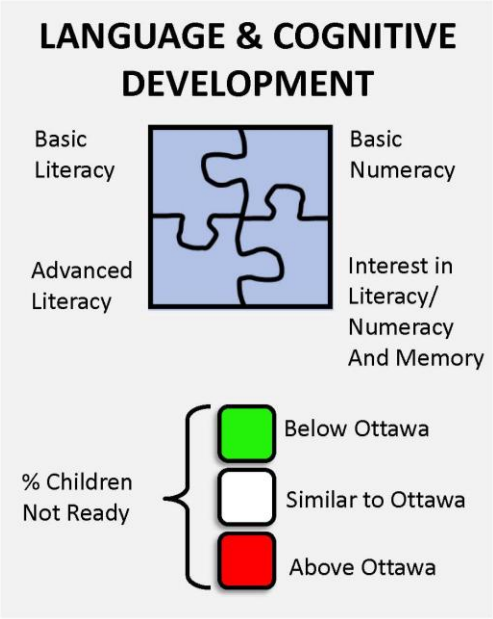
PERCENTAGE OF CHILDREN NOT READY IN EACH SUB-DOMAIN IN CYCLE 4 IN OTTAWA-VANIER.

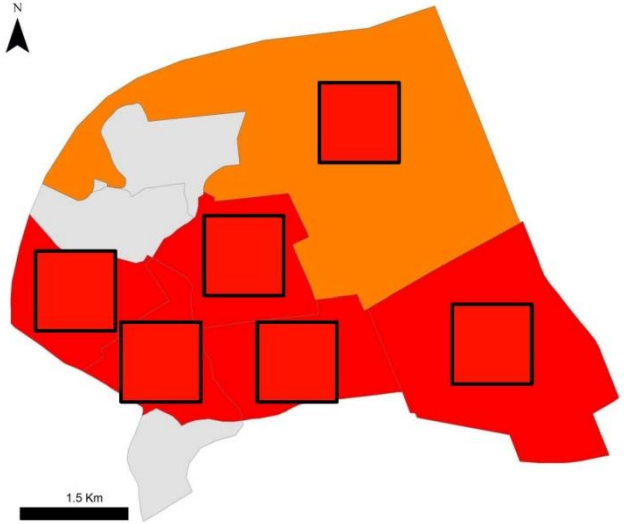


RESULTS AND DISCUSSION

EMERGING TRENDS – NEIGHBOURHOODS







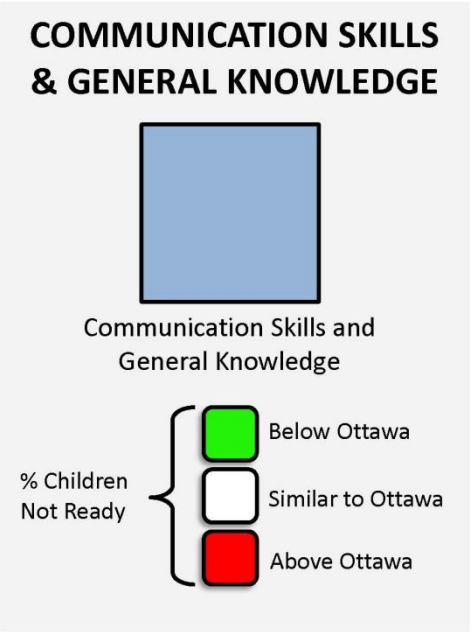
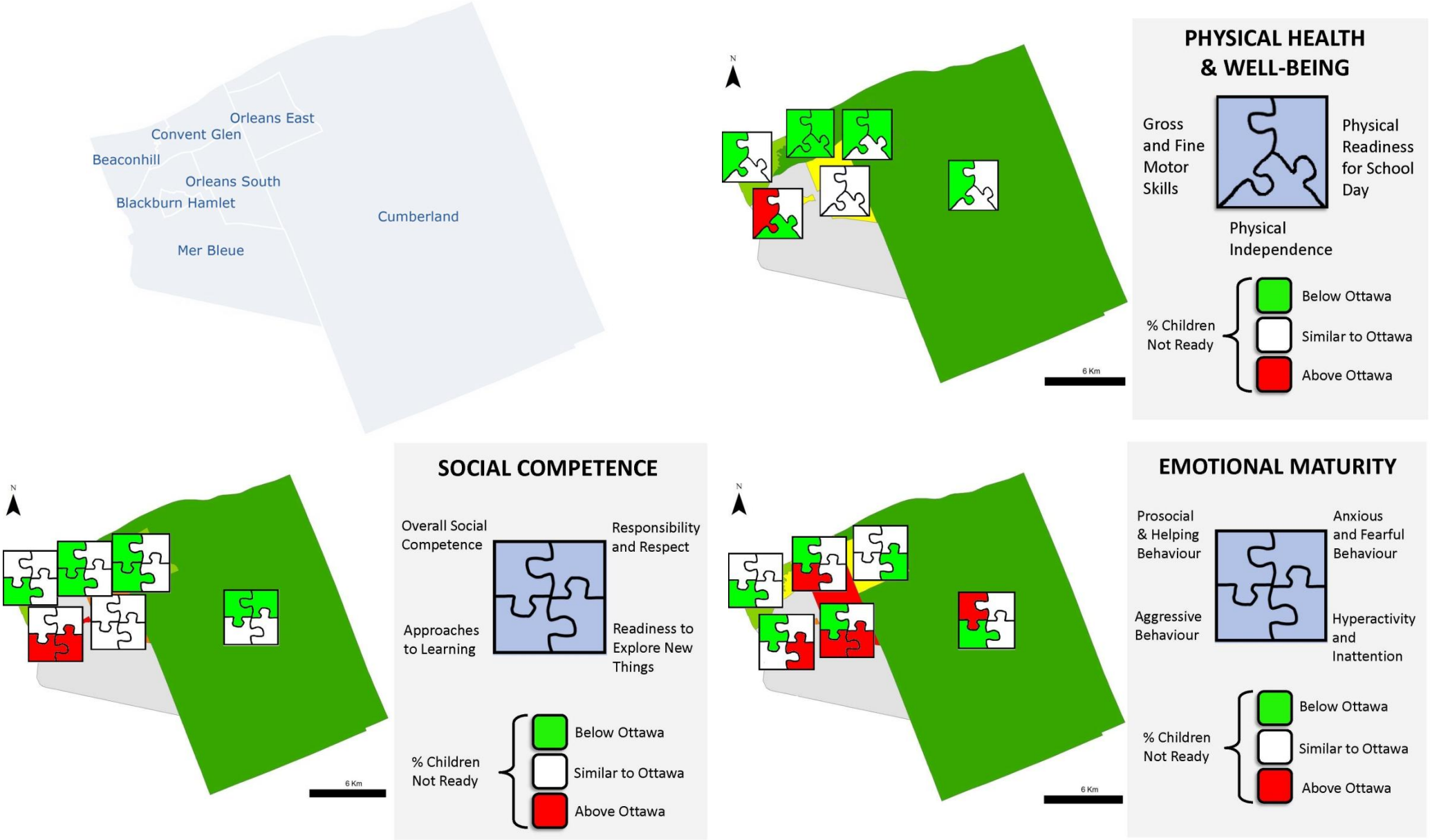
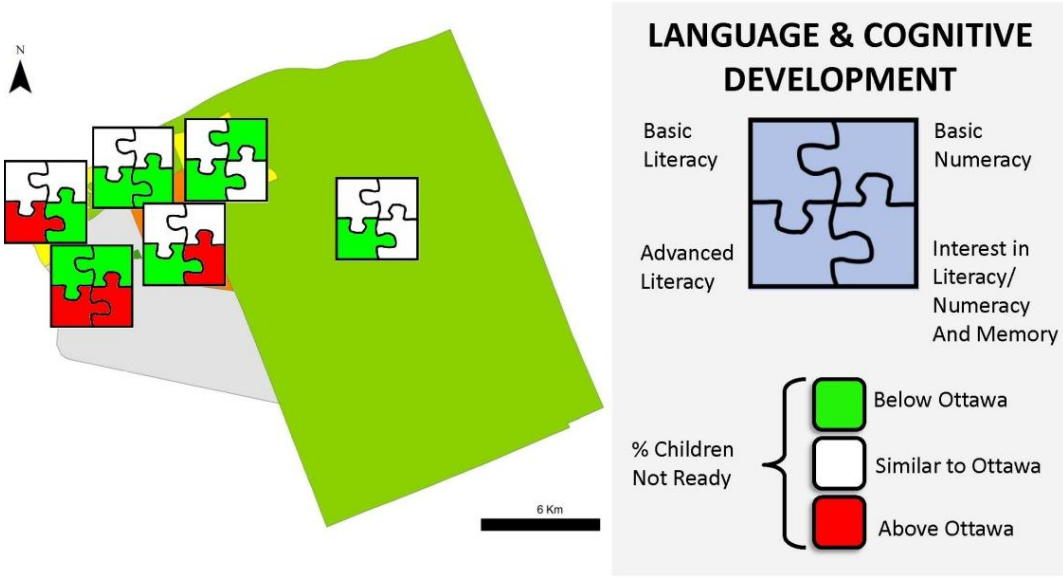


FIGURE 19

PERCENTAGE OF CHILDREN NOT READY IN EACH SUB-DOMAIN IN CYCLE 4 IN OTTAWA-ORLEANS.




N
6 Km
LANGUAGE & COGNITIVE DEVELOPMENT
Basic Literacy
Basic Numeracy
Advanced Literacy
Interest in Literacy/ Numeracy And Memory
% Children Not Ready
Below Ottawa
Similar to Ottawa
Above Ottawa

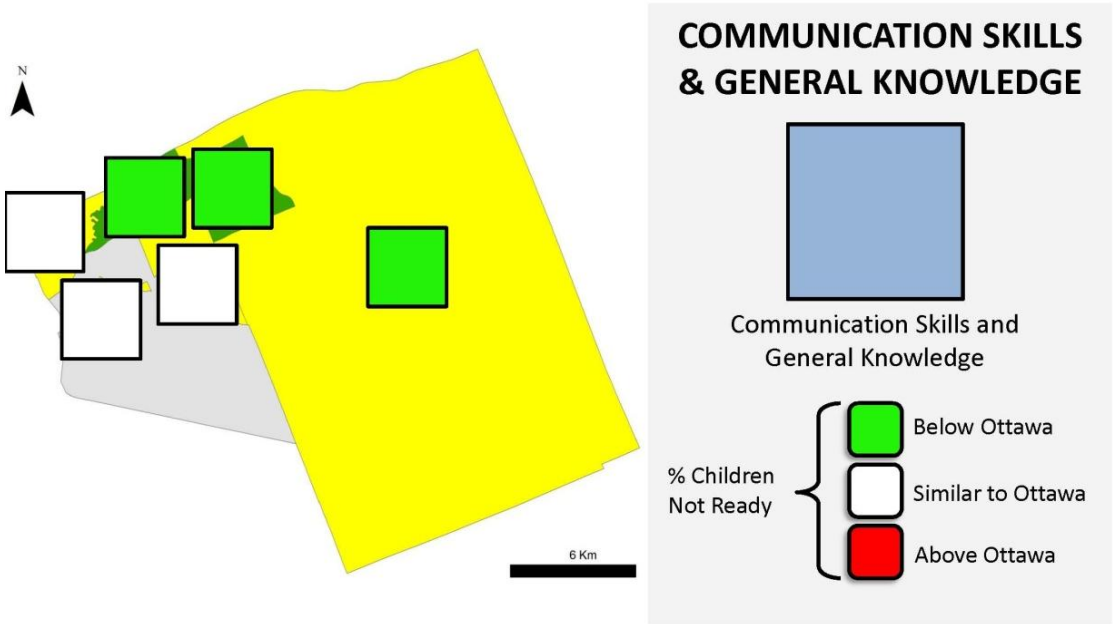
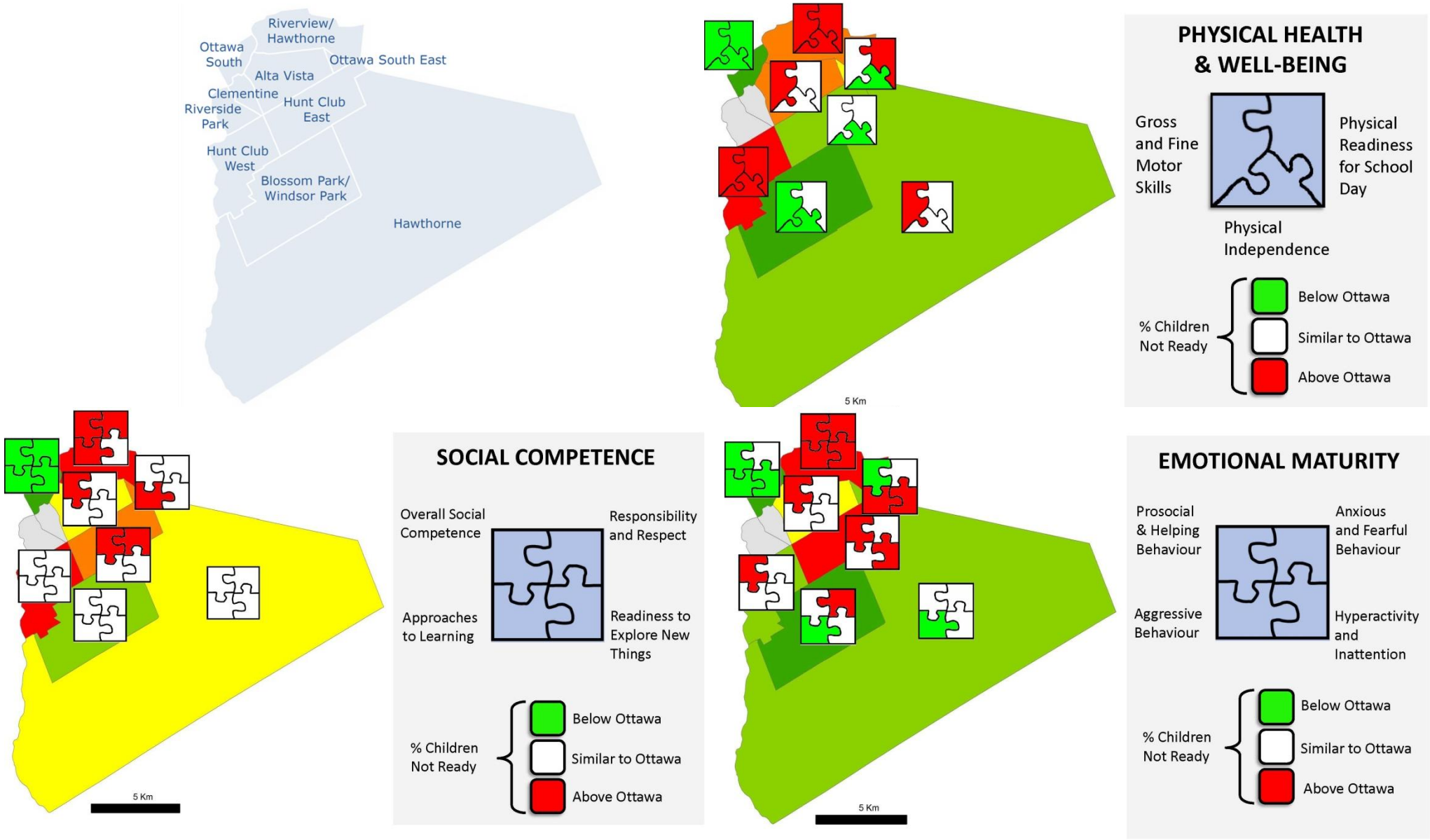

N
6 Km
COMMUNICATION SKILLS & GENERAL KNOWLEDGE
Communication Skills and General Knowledge
% Children Not Ready
Below Ottawa
Similar to Ottawa
Above Ottawa

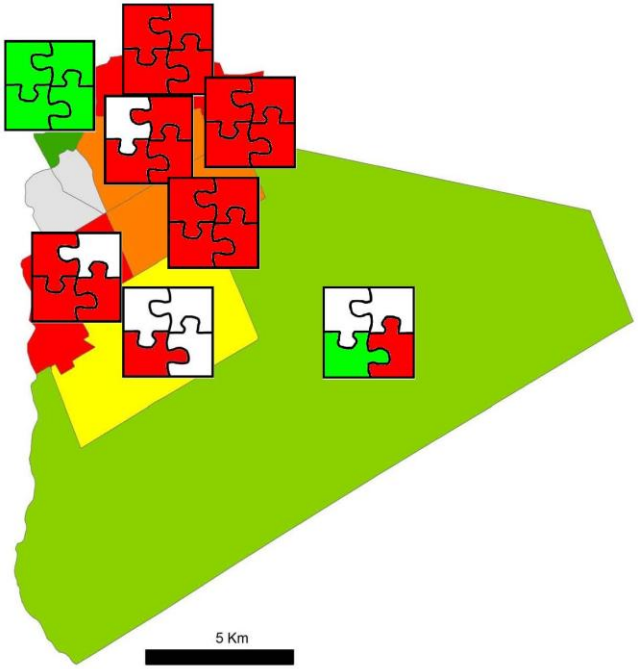
FIGURE 20

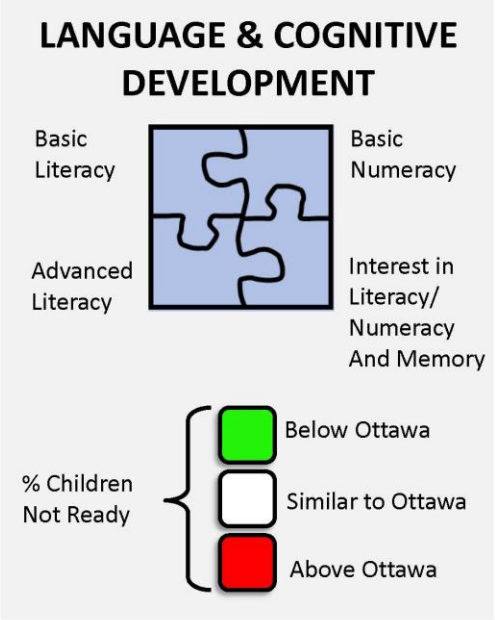
PERCENTAGE OF CHILDREN NOT READY IN EACH SUB-DOMAIN IN CYCLE 4 IN OTTAWA-SOUTH.

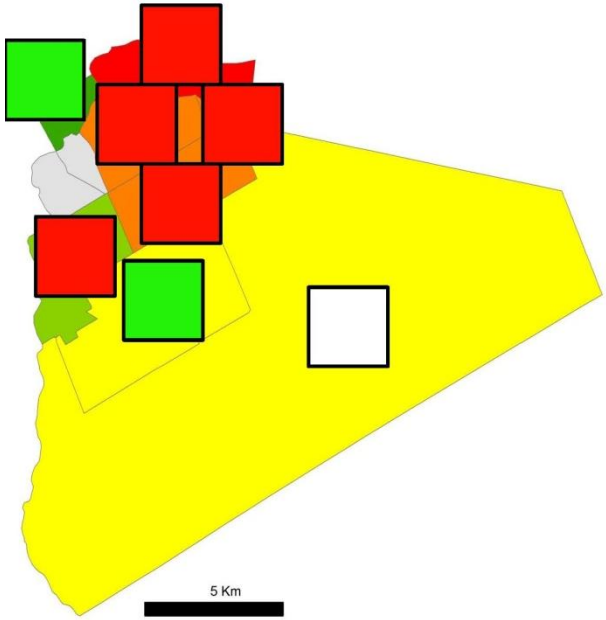


RESULTS AND DISCUSSION

EMERGING TRENDS – NEIGHBOURHOODS







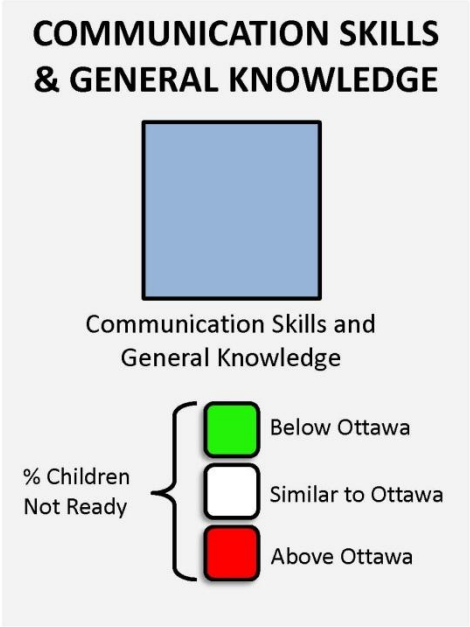
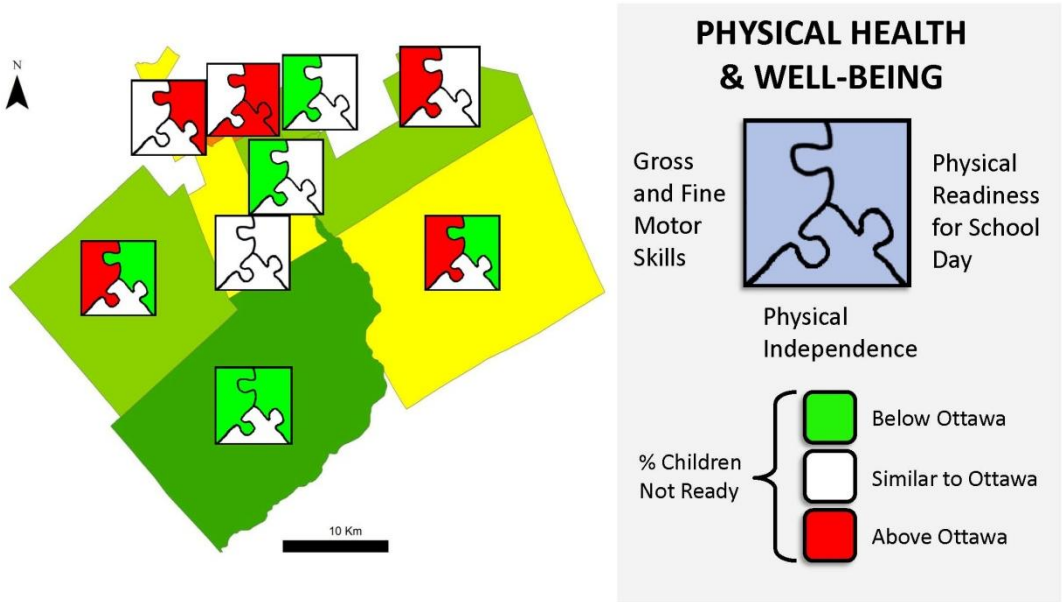
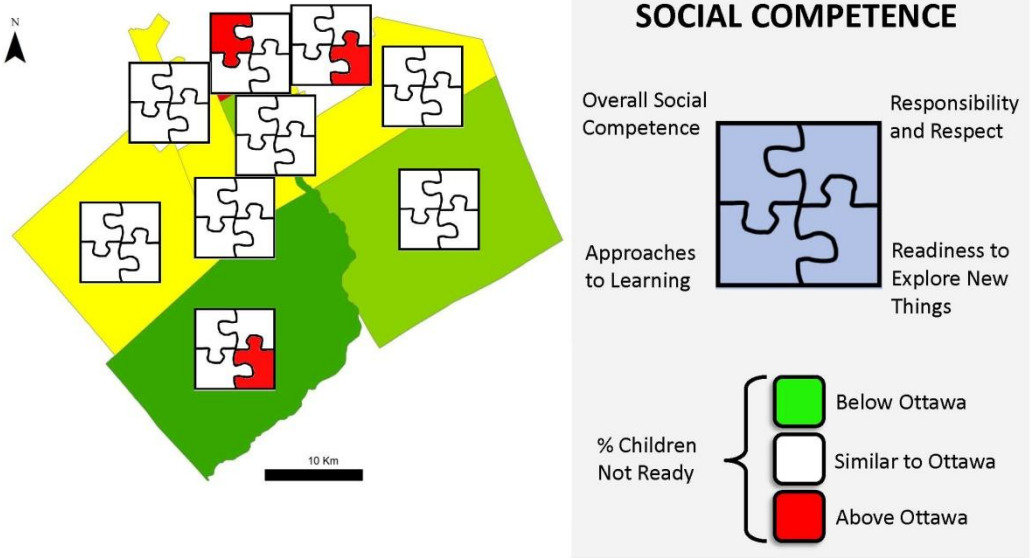
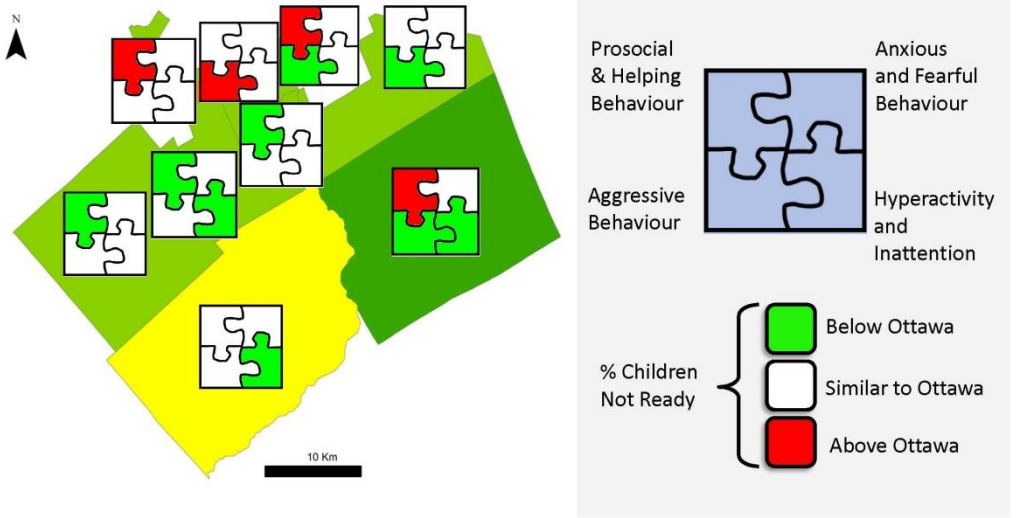


FIGURE 21

PERCENTAGE OF CHILDREN NOT READY IN EACH SUB-DOMAIN IN CYCLE 4 IN NEPEAN-CARLETON.

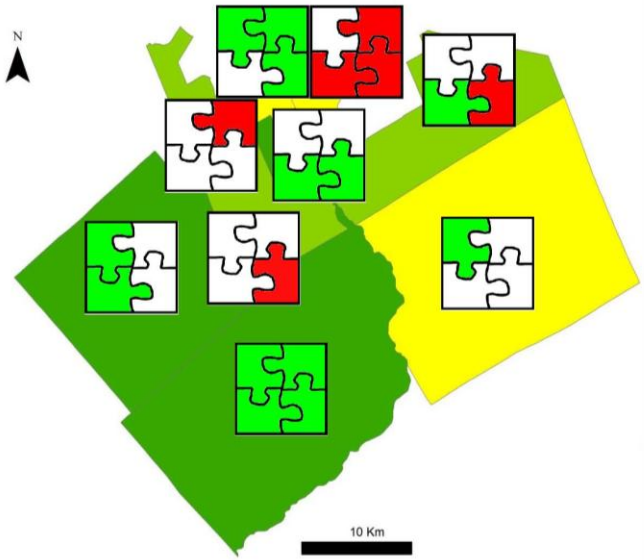


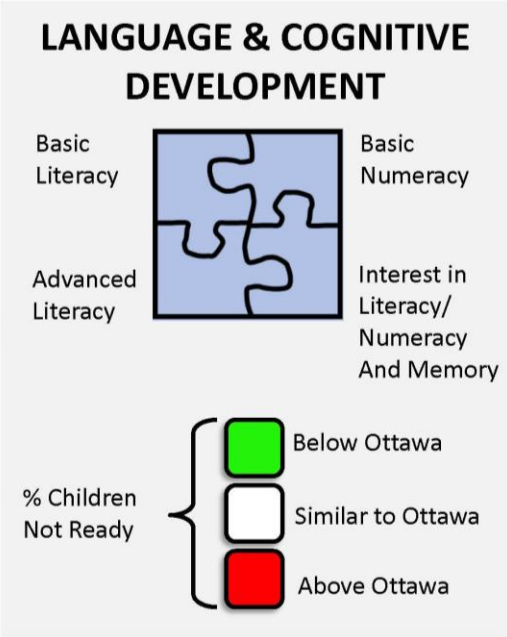


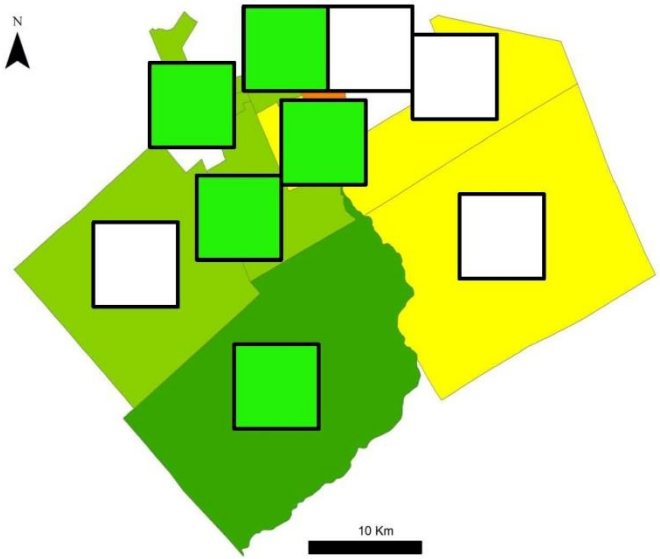


RESULTS AND DISCUSSION

EMERGING TRENDS – NEIGHBOURHOODS







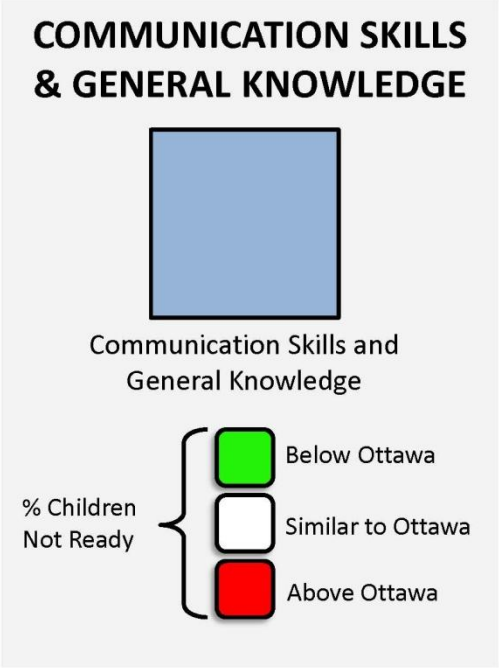
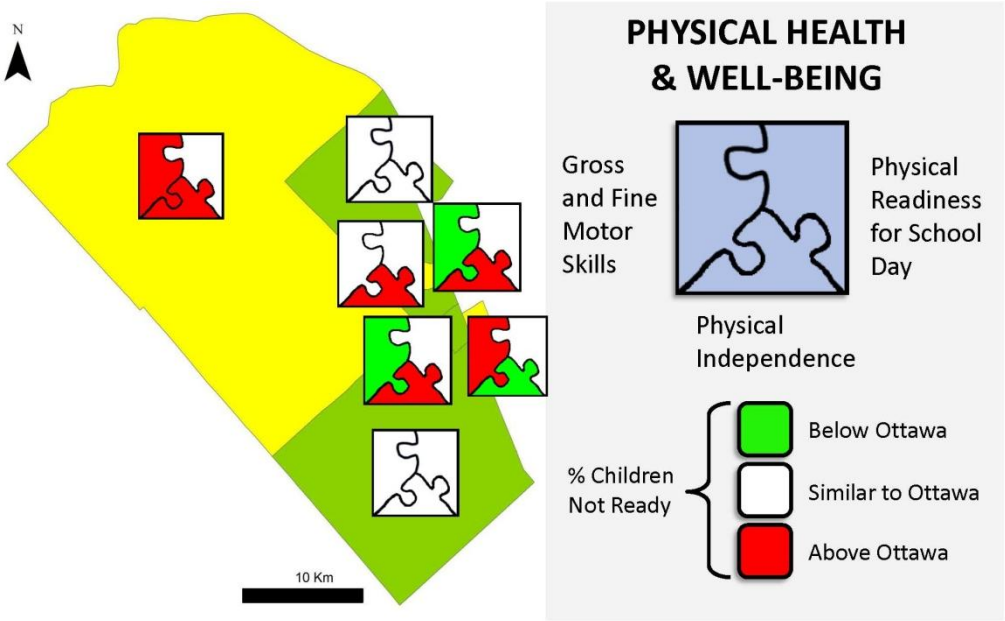
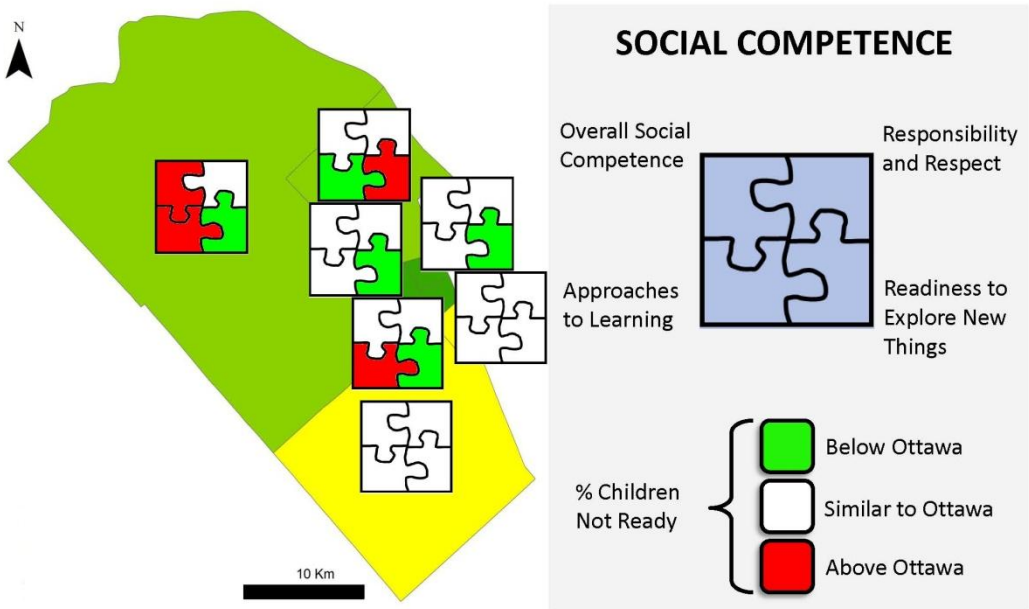
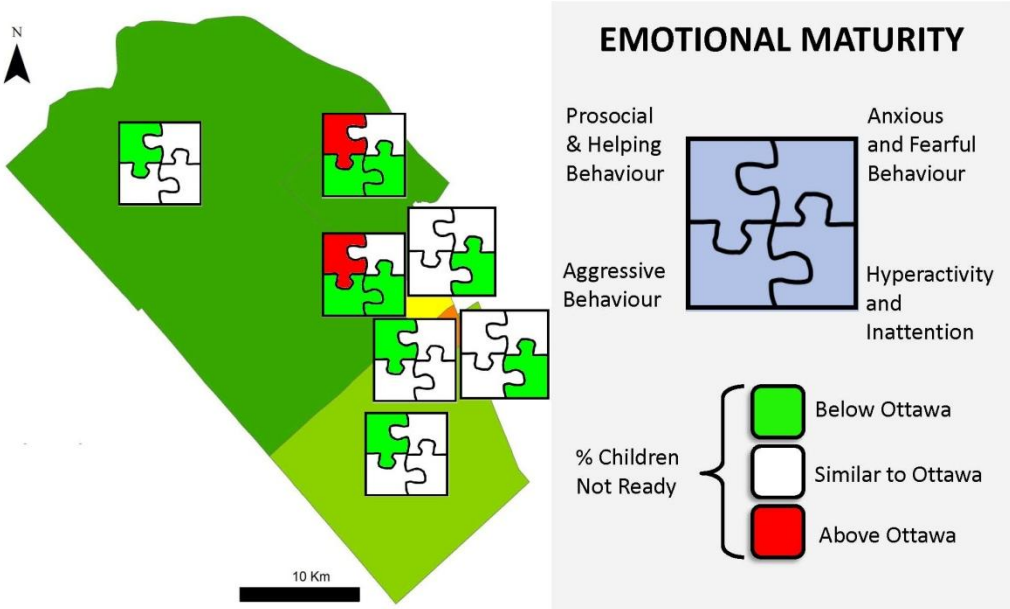


FIGURE 22

PERCENTAGE OF CHILDREN NOT READY IN EACH SUB-DOMAIN IN CYCLE 4 IN KANATA, WEST CARLETON & STITTSVILLE.

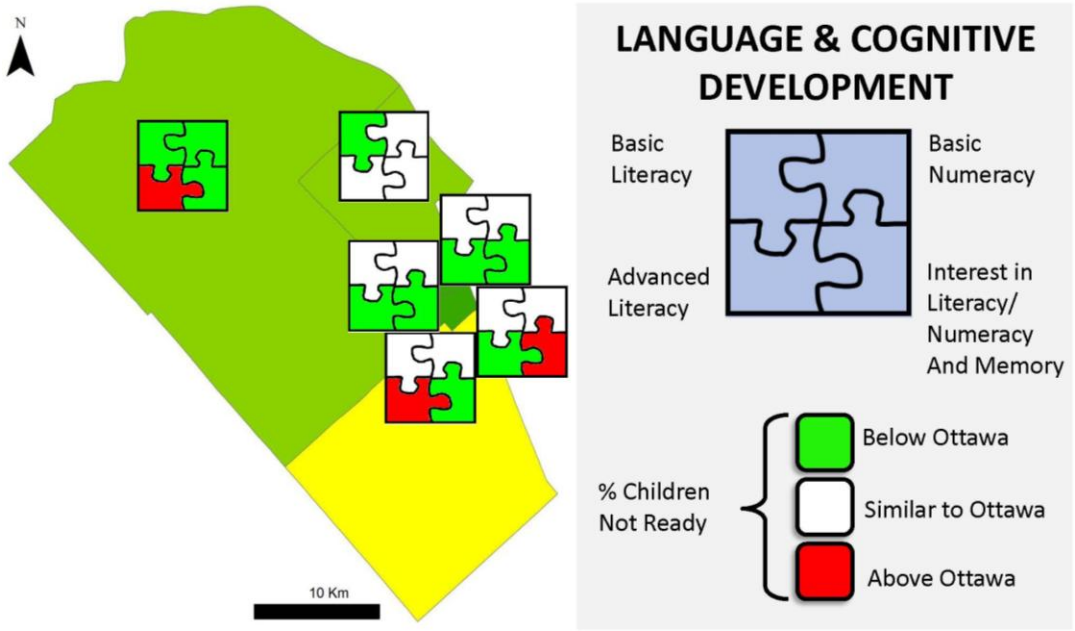






RESULTS AND DISCUSSION

EMERGING TRENDS – NEIGHBOURHOODS



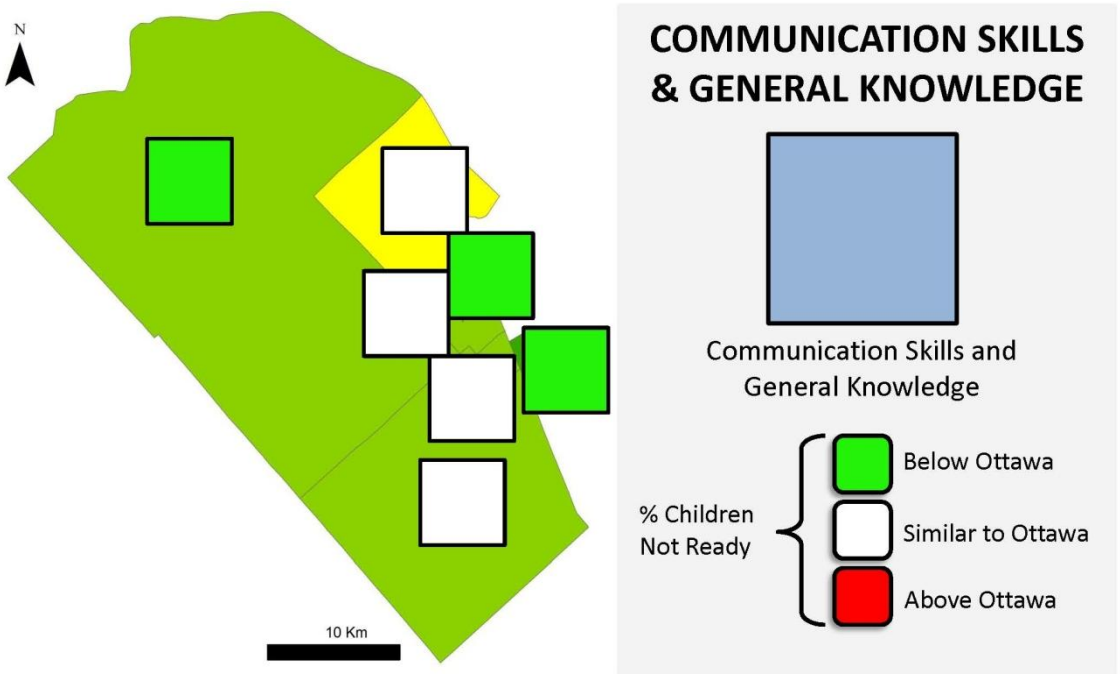
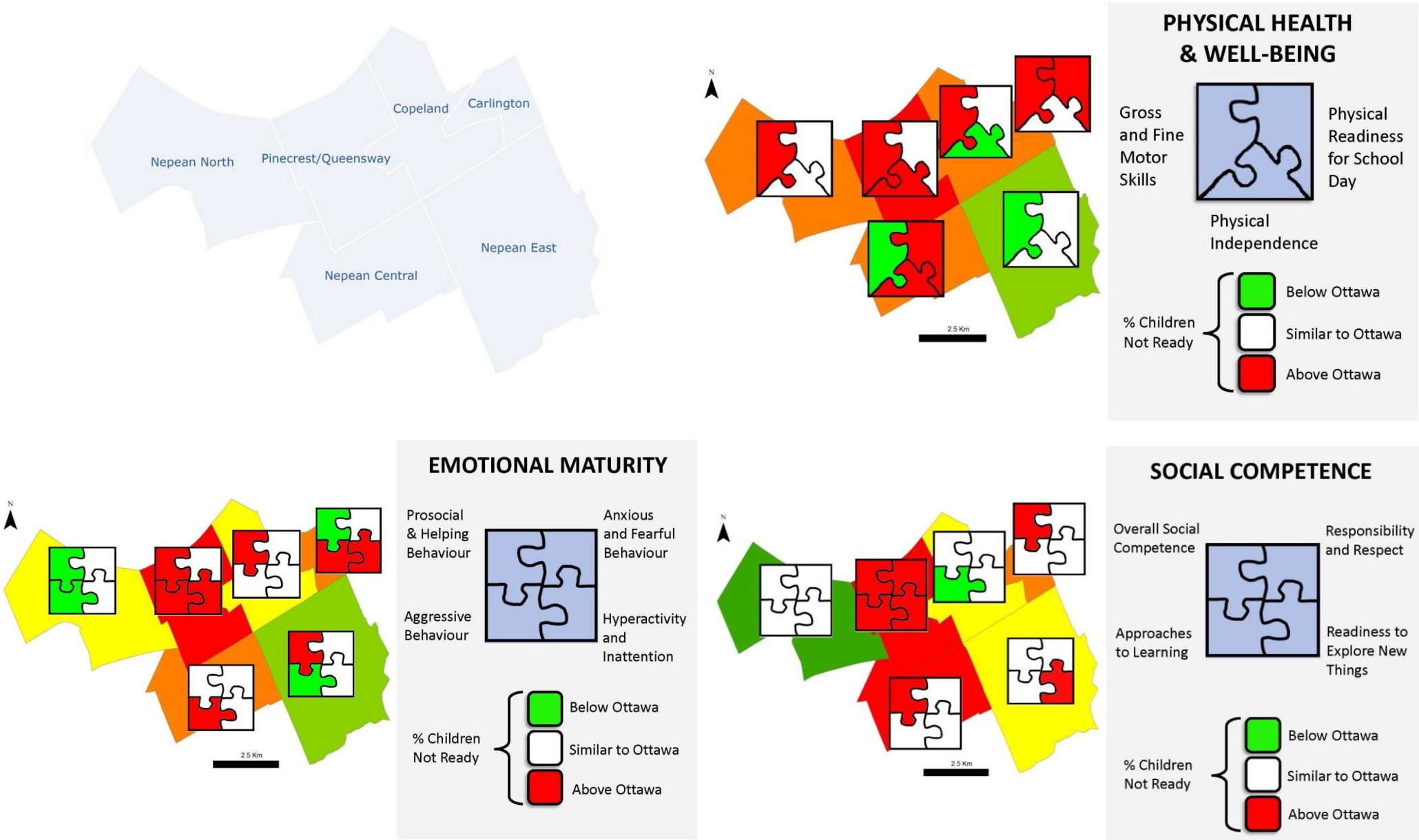
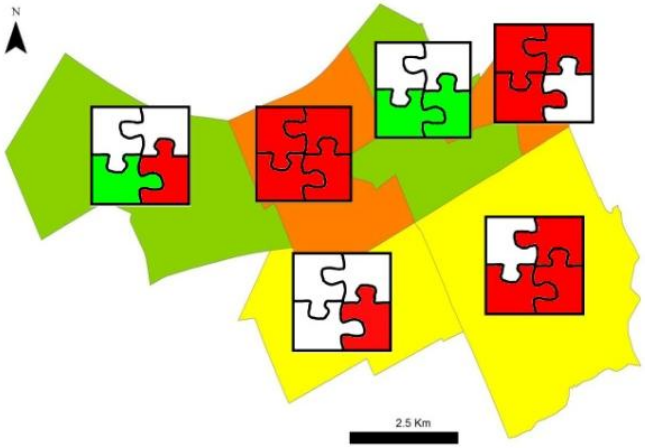
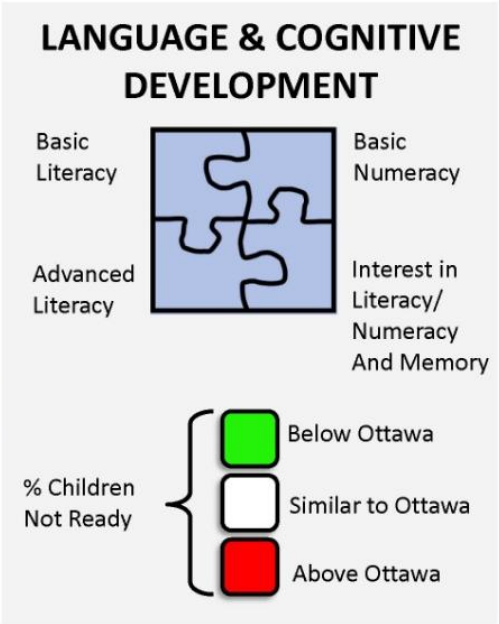


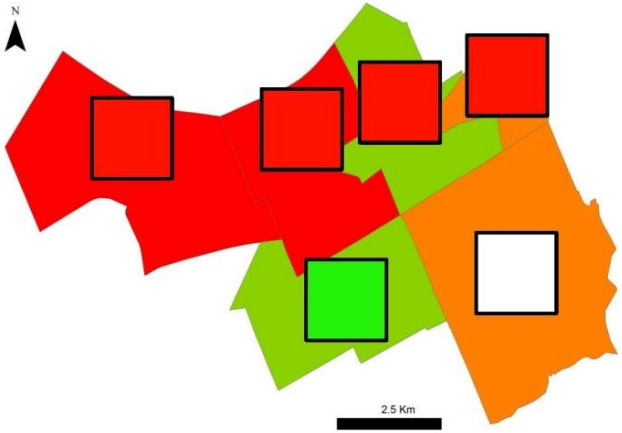
FIGURE 23

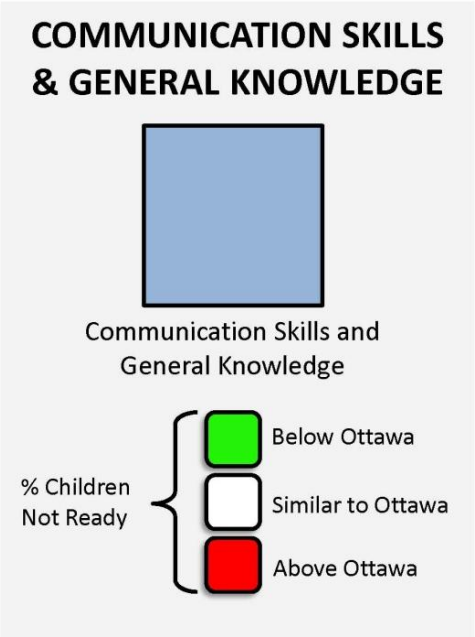
PERCENTAGE OF CHILDREN NOT READY IN EACH SUB-DOMAIN IN CYCLE 4 IN OTTAWA-WEST NEPEAN.




N
2.5 Km


LANGUAGE & COGNITIVE DEVELOPMENT
Basic Literacy
Basic Numeracy
Advanced Literacy
Interest in Literacy/ Numeracy And Memory
% Children Not Ready
Below Ottawa
Similar to Ottawa
Above Ottawa


N
2.5 Km


COMMUNICATION SKILLS & GENERAL KNOWLEDGE
Communication Skills and General Knowledge
% Children Not Ready
Below Ottawa
Similar to Ottawa
Above Ottawa

WORKING TOGETHER AS A COMMUNITY

The EDI offers us a glimpse into the developmental health and early experiences of children in our community; the challenge becomes translating this knowledge into action. This responsibility lies with all of us: parents, child care providers, early years researchers, educators, service agencies, policy makers, and members of the community alike. By both recognizing and attempting to address children's developmental health needs early and as a community, we can help to ensure the best possible outcomes for our children.

By subsequently adding other local socio-economic, health, and program/service information to EDI data, it becomes possible to paint a more comprehensive picture of children's lives in our communities. This can facilitate the identification of challenges and the planning of personalized and targeted programs to be delivered locally. It is hoped that this report provides agencies and initiatives, at both the regional and neighbourhood level, with data that will help to inform policy and programming, and foster engagement.

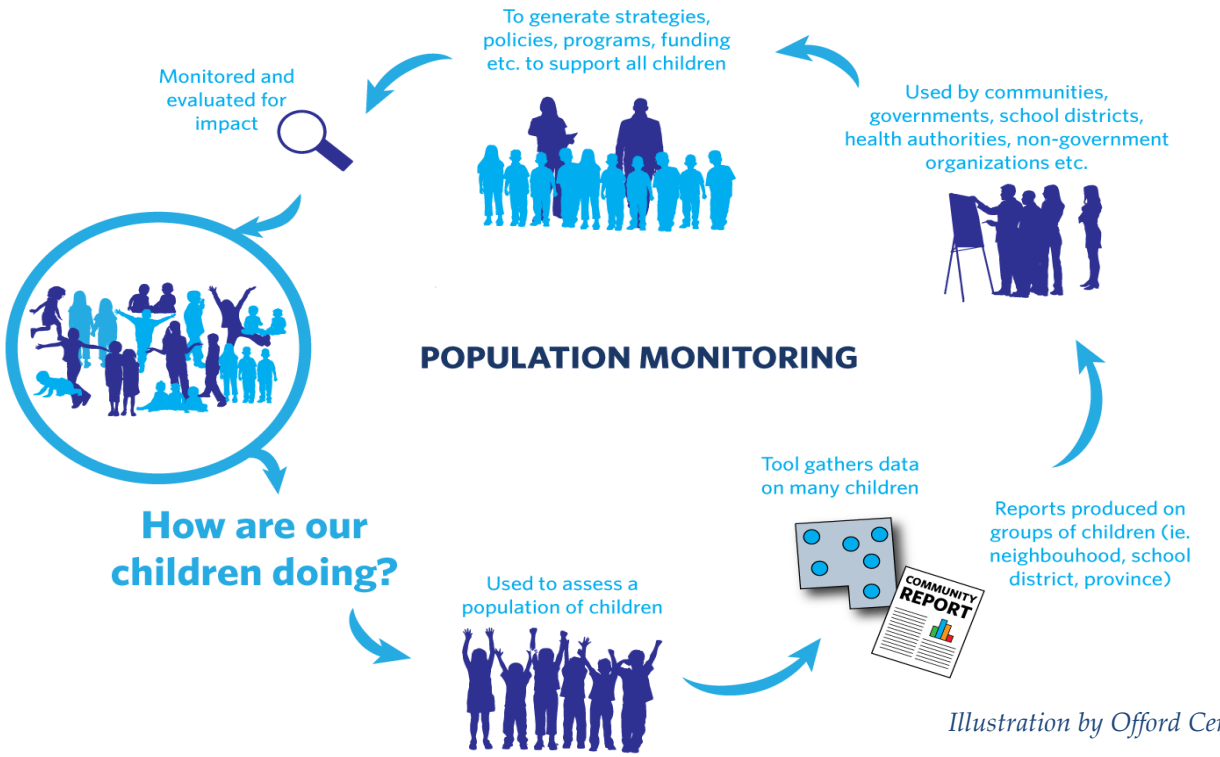


Illustration by Offord Centre for Child Studies, 2015.

REFERENCES

1. McCain, M.N., & Mustard, J.F. 1999. Reversing the Real Brain Drain. Early Years Study. Final Report. Toronto, ON: Ontario Ministry of Children and Youth Services. 194pp.
2. McCain, M.N., Mustard, J.F., & Shanker, S. 2007. Early Years Study 2. Putting Science into Action. Toronto, ON: Council for Early Child Development. 186pp.
3. Doherty, G. 1997. Zero to six: The basis for school readiness. Canada, Ottawa, ON: R-97-8E, Applied Research Branch, Strategic Policy, Human Resources Development. 115pp.
4. Janus, M., Brinkaman, S., Duku, E., Hertzman, C., Santos, R., Sayers, M. & Schroeder, J. 2007. The Early Development Instrument: A Population-based measure for communities. A handbook on development, properties, and use. Hamilton, ON: Offord Centre for Child Studies. 46pp.
5. Janus, M. 2007. The Early Development Instrument: A Tool for Monitoring Children's Development and Readiness for School. In: M.E. Young & L.M. Richardson (Eds.) Early Child Development From Measurement to Action: A Priority for Growth and Equity (pp. 141-155). Washington, DC, USA: World Bank Publications.
6. Janus, M., & Offord, D. 2007. Psychometric properties of the Early Development Instrument (EDI): A teacher-completed measure of children's readiness to learn at school entry. Canadian Journal of Behavioural Science, 39, 1-22.
7. Best Start Expert Panel on Early Learning (BSEPEL). 2007. Early learning for every child today: A framework for Ontario early childhood settings. Best Start Expert Panel on Early Learning, Ministry of Children and Youth Services, Toronto, ON. 182pp. Available online: http://www.children.gov.on.ca/htdocs/English/topics/earlychildhood/early_learning_for_every_child_today.aspx [accessed September 21 2012].
8. Brownell, M.D., Ekuma, O., Nickel, N.C., Chartier, M., Koseva, I., & Santos, R.G.. (2016). A population-based analysis of factors that predict early language and cognitive development. Early Childhood Research Quarterly, 35, 6-18.
9. Greenspan, S., & Shanker, S. 2004. The First Idea: How Symbols, Language and Intelligence Evolved from Our Primate Ancestors to Modern Humans. Cambridge, MA: Da Capo Press. 504pp.
10. Guhn, M., Milbrath, C., & Hertzman, C. 2016. Associations between child home language, gender, bilingualism and school readiness: A population-based study. Early Childhood Research Quarterly, 35, 95-110.
11. National Scientific Council on the Developing Child 2005. Excessive Stress Disrupts the Architecture of the Developing Brain (2005). Working Paper No.3. http://www.developing child.net/reports.shtml [accessed September 21 2012].
12. Ontario Ministry of Education (2014). How Does Learning Happen? Ontario's Pedagogy for the Early Years. Toronto: Author. 50pp.
13. Offord Centre for Child Studies. 2012. 2010-2012 Early Development Instrument Results for Ottawa. Report 1: EDI Descriptive Report. Offord Centre for Child Studies, McMaster University, Hamilton, ON. 7pp.
14. Offord Centre for Child Studies. 2006. School readiness to learn Ontario SK cohort results: Based on the Early Development Instrument data collection for senior kindergarten students in Ontario. Offord Centre for Child Studies, McMaster University, Hamilton, ON, 15pp.
15. Hertzman, C., McLean, S., Kohen, D., Dum, J., & Evans, T. 2002. Early Development in Vancouver: A Report of the Community Asset Mapping Project. Vancouver, BC: Human

Early Learning Partnership. 43pp.
16. Chittleborough, C.R., Searle, A.K., Smithers, L.G., Brinkman, S., & Lynch, J.W. 2016. How well can poor child development be predicted from early life characteristics? Early Childhood Research Quarterly, 35, 19-30.
17. Connor, S., & Brink, S. 1999. Understanding the Early Years– Community Impacts on Child Development. Working Paper No. W-99-6E. Ottawa: Applied Research Branch, Strategic Policy, Human Resources Development Canada. 54pp.
18. Diamond, E. 2007. Ready for School? Ready for School! Results from the 2005-06 Early Development Instrument in Durham Region. Ontario Early Years, Durham, ON. 46pp.
19. Janus, M., Walsh, C., Viveiros, H., Duku, E., Offord, D. 2003. School readiness to learn and neighbourhood characteristics. Poster Presentation: SRCD Biennial Meeting, Tampa, FL, USA.
20. Janus, M. & Duku, E. 2007. The school entry gap: Socioeconomic, family, and health factors associated with children's school readiness to learn. Early Education and Development, 183, 375-404.
21. Kagan, S.L. 1992. Readiness past, present and future: Shaping the agenda. Young Children, 48, 48-53.
22. Davies, S., Janus, Magdalena., Duku, Eric., and Gaskin, Ashley. (2016). Using the Early Development Instrument to examine cognitive and non-cognitive school readiness and elementary student achievement. *Early Childhoos Research Quarterly, 35,* 63-75.
23. Jubenville, K., Lafreniere, A., Millar, C., deQuimper, C., and Woods, K. (2013). Developmental Health at School Entry in Ottawa – Results from the 2010-12 implementation of the Early Development Instrument and Kindergarten Parent Survey in Ottawa. Program Effectiveness Data Analysis Coordinators, Parent Resource Centre, Ottawa, ON. 74pp + 95pp (Appendices).
24. Millar, C., Lafreniere, A., Jubenville, K., Woods, K., DeQuimper, C. (2012). Understanding Senior Kindergarten Readiness to Learn In Ottawa – Results from the 2008-09 (Cycle 2) Early Development Instrument in Ottawa. Eastern Ontario Program Effectiveness Data Analysis Coordinators, Parent Resource Centre, Ottawa, ON. 51pp + 94 pp (Appendices).
25. Thomas, E.M. 2006. Readiness to learn at school among five-year-old children in Canada. Statistics Canada: Children and Youth Research Paper Series. 153pp.
26. World Health Organization. (2015) Social Determinants of Health. Retrieved from: ww.who.int