

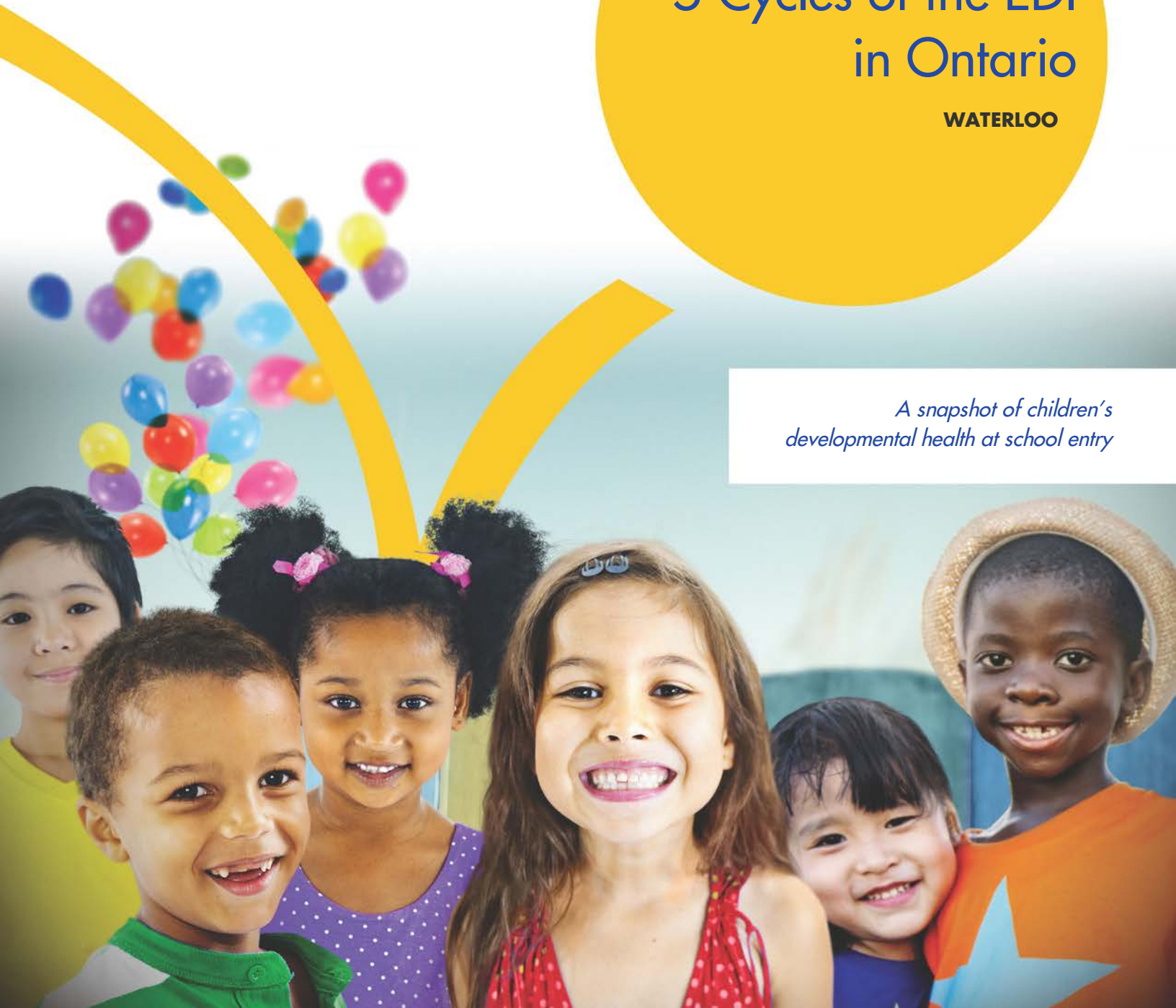


**EARLY DEVELOPMENT INSTRUMENT**  
a population-based measure for communities

# 5 Cycles of the EDI in Ontario

**WATERLOO**

*A snapshot of children's  
developmental health at school entry*





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a population-based measure for communities

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## About the EDI in Ontario

The Early Development Instrument (EDI) has a long history in the province of Ontario. Between 2003/2004 and 2011/2012 the Ministry of Children and Youth Services (MCYS) sponsored three full provincial collections of the EDI, completed over three-year cycles. Most publicly funded school boards participated in each full provincial collection. Some school boards completed their EDI collection across all three years of a cycle, whereas others completed the entire school board in a single year.

The Ministry of Education sponsored the EDI collections in 2014/2015 and 2017/2018. In contrast to previous cycles, the fourth and fifth provincial collections took place entirely in a single year.



In Ontario, the first province-wide implementation of the EDI was completed between 2004-2006. These data constitute the Ontario "Baseline" or Cycle I, and are used to determine the 10th percentile cut-offs for subsequent reporting for all cycles.

Thanks to all of our partners for their hard work and commitment to the EDI. A very special thanks to all of the teachers who have committed their time and energy to filling out EDI questionnaires over the years. Without you, none of this would have been possible.

All analyses in this report include children that are in senior kindergarten, have not been identified by teachers as having special needs, have been in class for more than one month and have a minimum number of items completed on the EDI questionnaire.



## Why look at EDI data over time?

The information collected through the EDI helps us to understand the state of children's developmental health by connecting the conditions of early childhood experiences to learning outcomes and future successes.

Examining how children are doing over time is important for mobilizing stakeholders towards change. Focusing on strengthening the areas in which children are vulnerable allows schools, communities, and governments to make decisions on how to best support early development. Investigating how children's developmental health is changing over time can also allow for evaluation and strategic planning around what is currently being done to support children and their families.

We hope the 5 Cycles of EDI in Ontario report will assist you in your invaluable work in the early years sector, aid in informing planning and resource allocation, but most of all, help to build, strengthen, and enhance your connections with community partners.

## WATERLOO

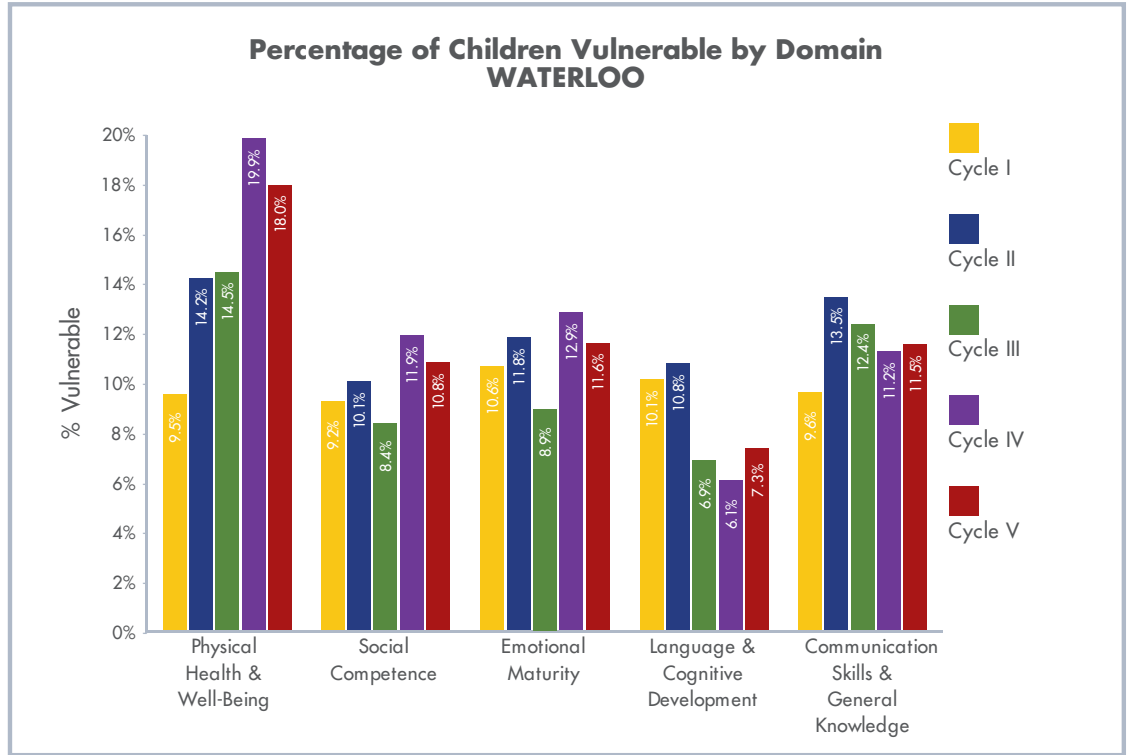
	Cycle I	Cycle II	Cycle III	Cycle IV	Cycle V
Children included in this report	5213	5216	4947	5464	5456
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Girls	2576 (49.4%)	2586 (49.6%)	2503 (50.6%)	2725 (49.9%)	2709 (49.7%)
Boys	2632 (50.5%)	2630 (50.4%)	2444 (49.4%)	2739 (50.1%)	2747 (50.3%)
Language Status (ELL, ALF, PANA, FSL)	422 (8.1%)	544 (10.4%)	712 (14.4%)	503 (9.2%)	535 (9.8%)
Children requiring further assessment	519 (10.0%)	499 (9.6%)	487 (9.8%)	763 (14.0%)	675 (12.4%)
Average age (in years)	5.6	5.6	5.7	5.7	5.7
Average days absent	4.0	3.7	3.5	6.7	8.2

Note: Numbers may not exactly match previously released reports as the EDI now requires children to have been in class for more than one month to be included in any analyses. This change was made as part of improving EDI methodology and creating consistency across provinces.

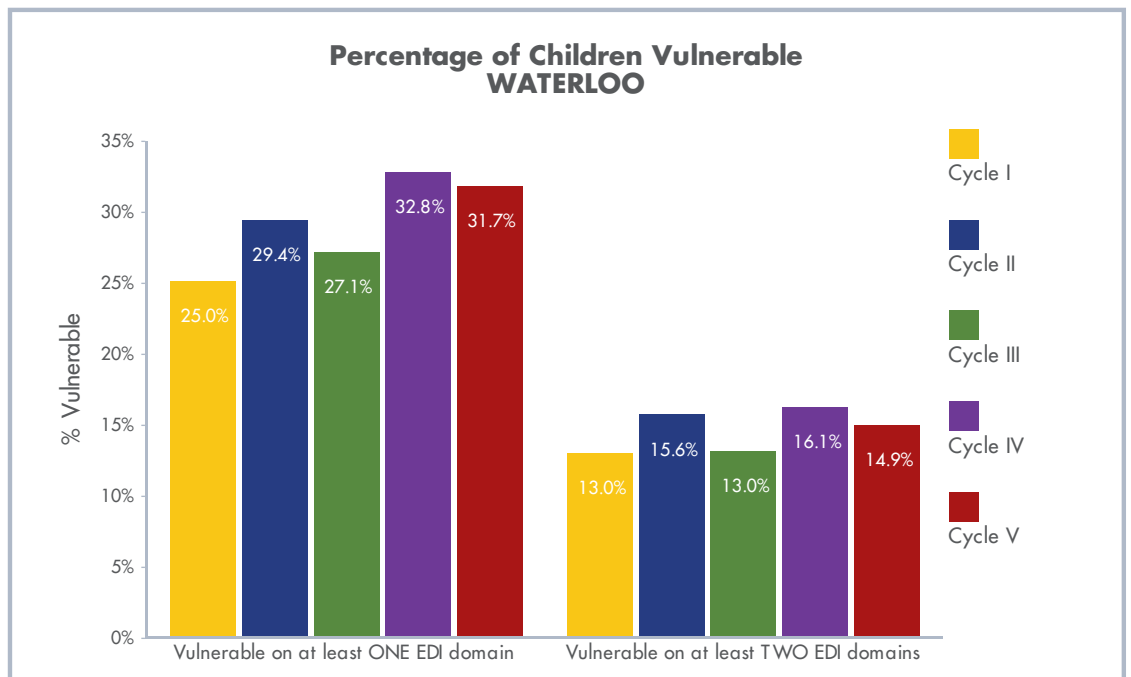


The EDI uses the 10th percentile for vulnerability in a domain because it captures all the children who are struggling, even those whose struggles may not be apparent.

"Vulnerable" describes the children who score below the 10th percentile cut-off of the Ontario Baseline population on any of the five domains. Higher vulnerability indicates that a greater percentage of children are struggling in comparison to the Ontario data. As a comparison we have included the results from all five cycles for Ontario on the next page. This will allow you to compare your site's results to those for the entire province.



The graphs below illustrate the percentage of children vulnerable on at least one and at least two domains.

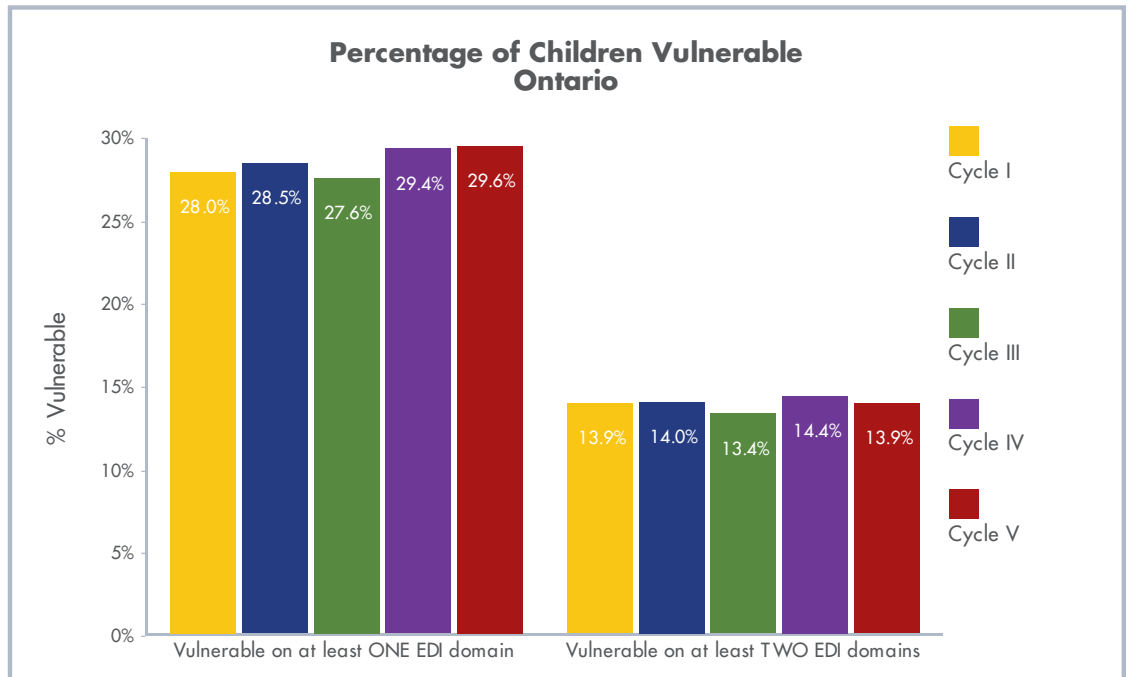
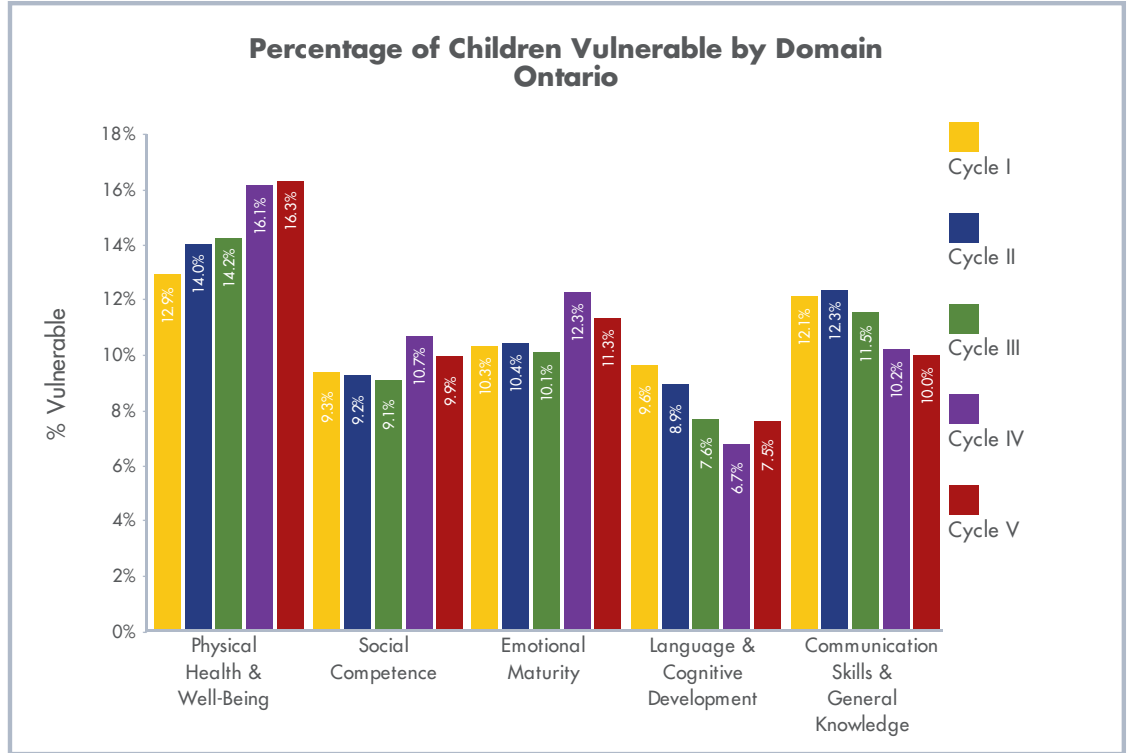




Research linking EDI findings to later educational data demonstrate that, on average, kindergarten vulnerability predicts ongoing vulnerability in the school system. Numerous studies have shown that early vulnerability predicts a child's lifelong health, learning, and behaviour.



Below are graphs of the percentages of children vulnerable in each domain, and of children vulnerable in one or more, or two or more domains in each of the cycles in the whole province of Ontario.





For more information on critical difference or to calculate critical difference in your area, please visit [earlylearning.ubc.ca/supporting-research/critical-difference/](http://earlylearning.ubc.ca/supporting-research/critical-difference/)

HELP also has a webinar for communities looking to better understand critical difference

[youtu.be/pEG8YWmcoq8](https://youtu.be/pEG8YWmcoq8)



## How do we know if children's developmental health is changing over time?

When exploring trends in children's development over time, what we want to know is whether children are doing better, worse, or about the same as in the past. Although the vulnerability rate in an area may have changed over time, we want to know whether or not that change is large enough to be *meaningful*. If we establish that a change in vulnerability rate is meaningful, that means that we are confident that it is real, rather than a result of uncertainty due to sampling or measurement issues.

Our colleagues from the Human Early Learning Partnership (HELP) at the University of British Columbia developed a method to help communities and stakeholders make informed judgements about meaningful change in EDI vulnerability over time. The method is called critical difference.

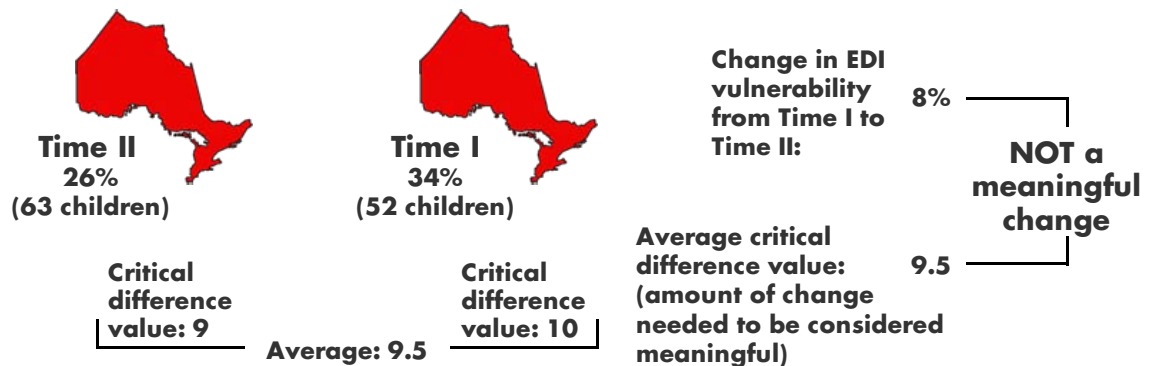
Critical difference is the amount of change over two time points in an area's EDI vulnerability rate that is large enough to be statistically meaningful.

### How to use critical difference: An example

Neighbourhood 'A' has a vulnerability rate on 'one or more domains' of 26% in Time II, based on scores for 63 children. In Time I, the vulnerability rate was 34%, based on scores for 52 children. This means vulnerability has dropped 8 percentage points.

To find out whether this is big enough to be meaningful we must calculate the critical difference percentage for our population size (see next page for your site's calculations). The critical difference for 63 children is 9 percentage points in Time II; the critical difference for 52 children is 10 percentage points in Time I. The average critical difference between both cycles is 9.5 percentage points.

Since the average critical difference is larger than the observed drop in vulnerability of 8 percentage points (34% to 26%), the vulnerability rate has not changed enough to be considered a meaningful difference.



A comparison of Cycle IV vs. Cycle V data is provided for your site. We encourage comparisons with other cycles. To do so please use the online calculator available through the HELP website

<http://earlylearning.ubc.ca/supporting-research/critical-difference/>

**Note** Research on critical difference values has not been produced for Vulnerable on 2 or more domains, which is why it is not included in the tables.



Domain	WATERLOO Vulnerability									
	Cycle I		Cycle II		Cycle III		Cycle IV		Cycle V	
	# of children	% vul.	# of children	% vul.	# of children	% vul.	# of children	% vul.	# of children	% vul.
Physical Health & Well-Being	5200	9.5%	5192	14.2%	4939	14.5%	5464	19.9%	5455	18.0%
Social Competence	5213	9.2%	5214	10.1%	4947	8.4%	5464	11.9%	5456	10.8%
Emotional Maturity	5185	10.6%	5195	11.8%	4943	8.9%	5459	12.9%	5452	11.6%
Language & Cognitive Development	5195	10.1%	5200	10.8%	4947	6.9%	5463	6.1%	5456	7.3%
Communication Skills & General Knowledge	5209	9.6%	5214	13.5%	4944	12.4%	5462	11.2%	5456	11.5%
Vulnerable on at least ONE EDI domain	5213	25.0%	5216	29.4%	4947	27.1%	5464	32.8%	5456	31.7%

Domain	Cycle IV vs Cycle V		
	Change in Vulnerability	Increase / Decrease	Critical Difference Value
Physical Health & Well-Being	1.9%*	↓	1.0
Social Competence	1.1%*	↓	0.7
Emotional Maturity	1.3%*	↓	0.7
Language & Cognitive Development	1.3%*	↑	0.6
Communication Skills & General Knowledge	0.3%	↑	0.8
Vulnerable on at least ONE EDI domain	1.1%*	↓	0.9

This table provides the change in vulnerability from Cycle IV to Cycle V. An increase in vulnerability is represented by an upwards arrow, indicating there were more vulnerable children in Cycle V than Cycle IV. A decrease in vulnerability is represented by a downward arrow, indicating there were less vulnerable children in Cycle V than Cycle IV. Please note that less vulnerability is the more favourable outcome. The required critical difference value for meaningful change is provided as a reference.

\*denotes a meaningful difference in vulnerability between cycles