

# Kindergarten children with special health needs and functional impairments before and after the introduction of full-day learning in Ontario, Canada

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## Introduction

- A health disorder early in life can have a tremendous impact on the developmental trajectory of a child.
- Sub-optimal health in early childhood is a consistent risk factor for poor academic and behavioural outcomes.
- Disorders accompanied by functional impairments have a greater impact on middle-school outcomes than those without.
- In the Canadian province of Ontario, full-day kindergarten (FDK) was recently introduced on a universal basis. This universal program is meant to increase learning opportunities for all children, not specifically those with special needs.
- The aims of the present study were to investigate whether the introduction of FDK was associated with a change in:
  - 1) the prevalence of children with special needs
  - 2) the frequency of teacher-observed functional impairments, and
  - 3) developmental outcomes for children with those special needs and impairments

## Methods

### Sample:

- Kindergarten children attending 437 schools, before and after the introduction of FDK in Ontario, Canada.
- Number of children in schools pre-FDK: 11,373
- Number of children in schools post-FDK: 12,233

### Measures:

- **The Early Development Instrument (EDI; Janus & Offord, 2007)** is a 103-item, teacher-completed, population-level checklist that assesses children's developmental health at school entry. The EDI measures children's developmental health in five domains:

- Physical Health & Well-Being
- Social Competence
- Emotional Maturity
- Language & Cognitive Development
- General Knowledge & Communication Skills

### Statistical analyses:

- Frequencies were conducted to compare children in schools before and after the introduction of FDK on the prevalence of special needs and any reported functional impairments.
- Children in schools pre- and post-FDK were also compared on their mean scores in each of the five domains of the EDI.

## Results

### • Descriptives

Table 1. Demographic information for schools pre- and post-FDK

	Pre-FDK	Post-FDK
Mean age (SD)	5.68 (0.30)	5.69 (0.97)
% male	52.4%	51.3%
% E/FSL	9.6%	10.2%

### • Frequencies of Special Needs

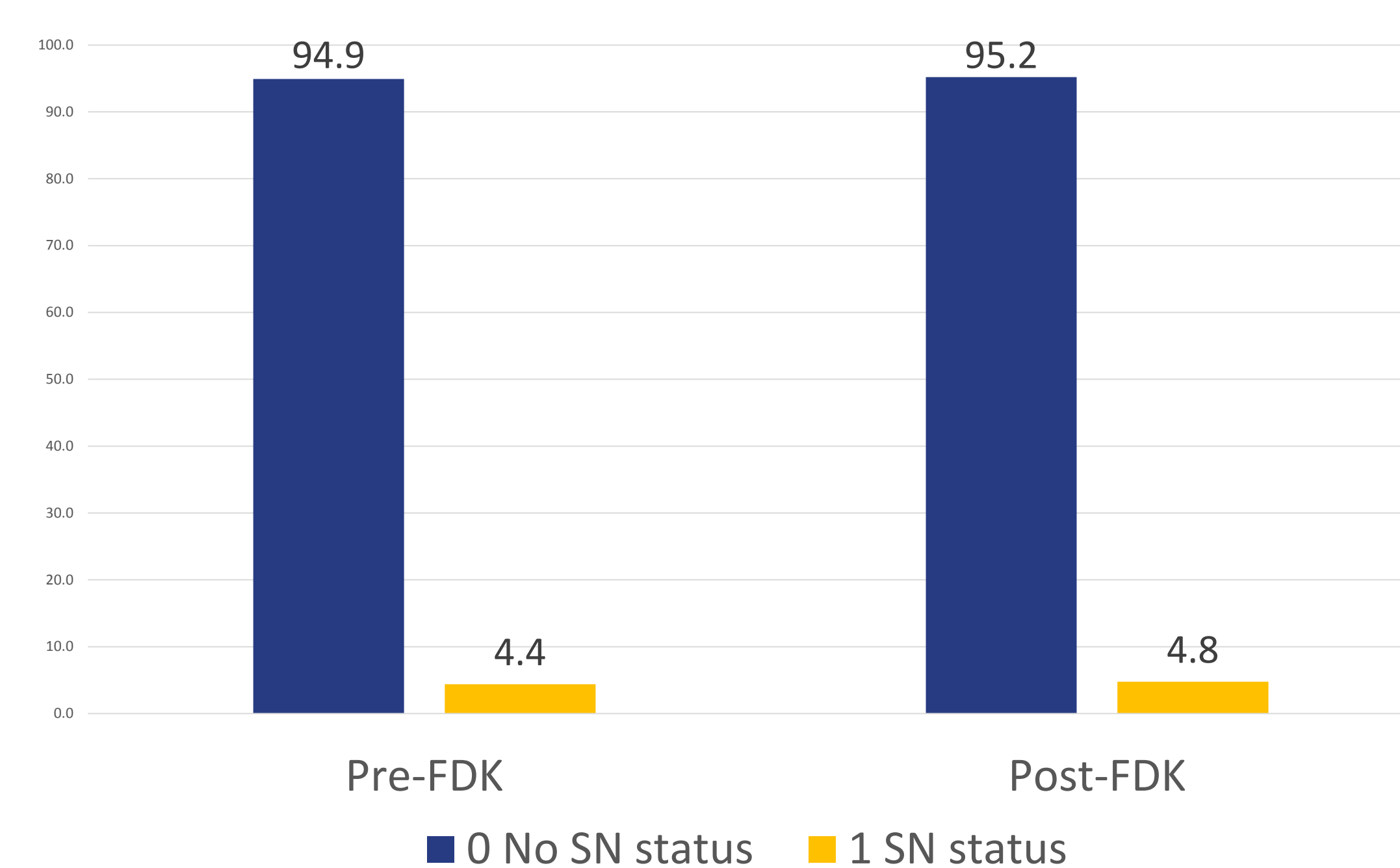


Figure 1. Percentages of children with an identified special need, pre- and post-FDK

### • Frequencies of Functional Impairments

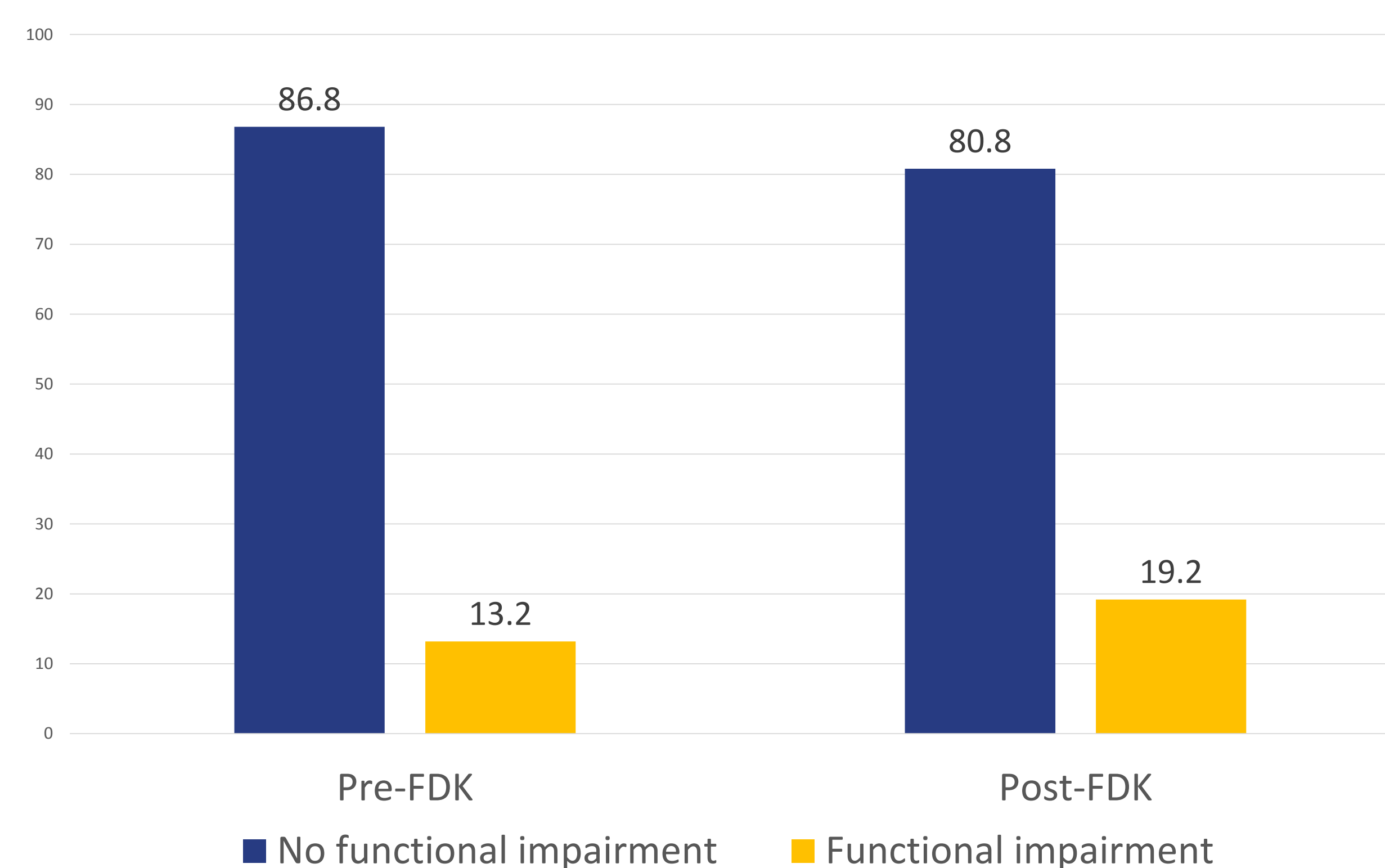


Figure 2. Percentages of children with at least 1 functional impairment, pre- and post-FDK

#### Functional impairments listed on the EDI

- Physical disability
- Visual, hearing, or speech impairment
- Learning disability
- Emotional or behavioural problem
- Home environment/problems at home
- Chronic medical/health problems
- Unaddressed dental needs
- Other

## Results

### • Domain Scores

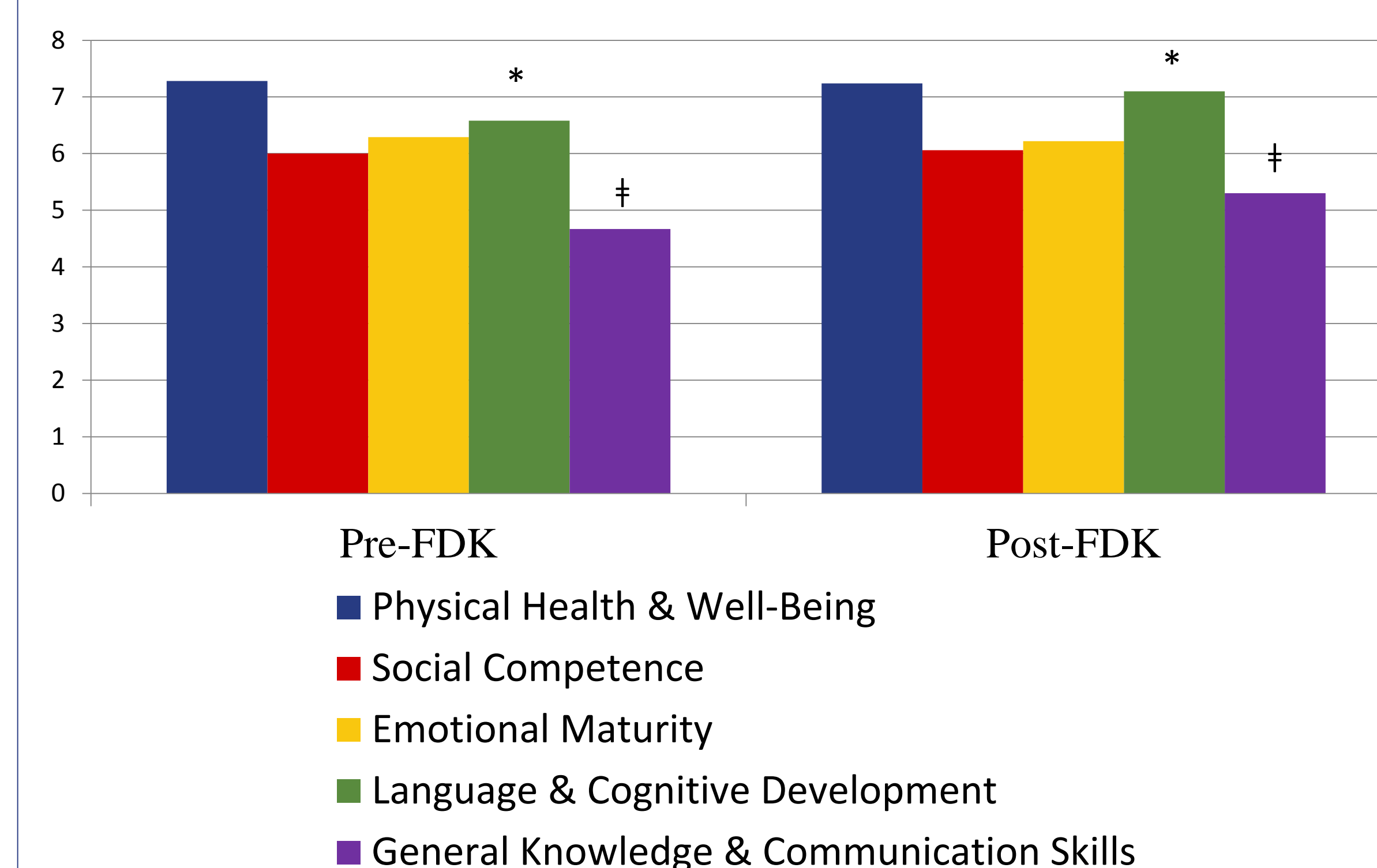


Figure 3. Mean scores on the 5 domains of the EDI, pre- and post-FDK

Children with a special need or functional impairment in schools post-FDK had higher scores on 2 of the 5 domains.

## Discussion

- Results of the study indicated a similar percentage of children identified as having a special need before and after the implementation of FDK.
- The prevalence of children with at least one functional impairment increased after implementation of FDK.
- Children with a diagnosed special need or observed functional impairment who attended FDK had higher scores on the language and cognitive development and communication skills and general knowledge EDI domains than those who did not.
- Our findings support the expectation that FDK increases the opportunity for teachers to identify issues affecting children's learning, and that it enhances the learning experience of children with special health needs at least in language, cognitive, and communication areas.
- Full-day learning may be having a positive impact on children who need it the most.

## References

- Janus, M. & Offord, D. (2007). Development and psychometric properties of the Early Development Instrument (EDI): A measure of children's school readiness. *Canadian Journal of Behavioral Science*, 39(1), 1-22.