

Marilia J. Carvalho<sup>1</sup>, Adrienne Perry<sup>1</sup>, Patricia M. Minnes<sup>2</sup>, & James M. Bebko<sup>1</sup>

York University<sup>1</sup>, Queen's University<sup>2</sup>

## Background

• **Broad definition of Social Inclusion:** The participation in "normal" activities of society (Davies, Davis, Cook & Waters, 2007; Knight, Petrie, Zuurmond & Potts, 2009).

• The United Nations advocates **all children** should be included (regardless of sex, age, ethnicity, economic status or disability). (UNICEF Innocenti Research Centre, 2007).

• **Benefits of Inclusion:**

- Provides opportunities to develop peer relations
- Fosters overall development, including psychological well-being (Locke, Ishijima, Kasari & London, 2010).
- Serves as a buffer for the stresses of daily life.
- Improves involvement in school (Berk & Roberts, 2009).

• Research shows that children with developmental disabilities (DD) have a higher risk of being socially excluded compared to their typically developing (TD) peers (Harrower, 1999; Ison et al., 2010; Solish, Perry & Minnes, 2010).

• Even when physically present in integrated settings, DD children may not have quality social interaction (Solish et al., 2010).

## Purpose and Research Questions

• To replicate, extend and find novel information about the social inclusion (SI) of children with developmental disabilities in community settings.

This current study was intended to:

- 1) Describe the social and play interactions of children with developmental disabilities in community settings.
- 2) Examine child characteristics and contextual variables in relation to overall social exclusion.



Great Outcomes for Kids Impacted by Severe Developmental Disabilities (GO4KIDDS) is a research initiative that studies the health, wellbeing, and social inclusion of children with severe DDs. This current study uses a subset of data from the Social Inclusion (SI) study of GO4KIDDS. The larger SI study included several types of data collection: direct observations in school and community settings, interviews with teachers, parents & community leaders and child assessments.

## Participants

- Sample consisted of 27 children, aged 7-18 (63% were boys).
- 48% had intellectual disabilities, 43% autism with intellectual disability and 9% autism without intellectual disability.
- Assessment data were not available for all children (see Table 1).

**Table 1: Child Characteristics**

| Standardized Test Results   | n  | M      | SD    |
|-----------------------------|----|--------|-------|
| Age (years)                 | 27 | 10.48  | 2.74  |
| Mental Age (months)         | 24 | 44.29  | 32.82 |
| Receptive Age               | 19 | 66.47  | 41.10 |
| Expressive Age              | 15 | 74.60  | 36.43 |
| Social Age                  | 22 | 37.34  | 33.38 |
| Adaptive Age                | 22 | 48.64  | 33.33 |
| Maladaptive Behaviour Index | 19 | -11.47 | 11.84 |

## Method

### Measures

*Post Observation Comments Form:*

- Completed by coders after community observations.
  - Overall social inclusion rating on 5-point scale
  - Nature of setting (segregated, mixed and Integrated)
  - Types of play with other children (6 types)

*Child Characteristics Taken from Standardized Assessments:*

- Vineland Adaptive Behaviour Scales- 2<sup>nd</sup> Edition (Sparrow, Cicchetti & Balla, 2005)
- Mullen Scales of Early Learning (MSEL) (Mullen, 1995) or Stanford-Binet 5<sup>th</sup> Edition (SB5) (Roid, 2003)
- Receptive and Expressive One-word Picture Vocabulary Tests- 4<sup>th</sup> Edition (Martin & Brownell, 2010)
- Scales of Independent Behavior-Revised Adaptive and Maladaptive (Bruininks, Woodcock, Weatherman & Hill 1996)

## Results

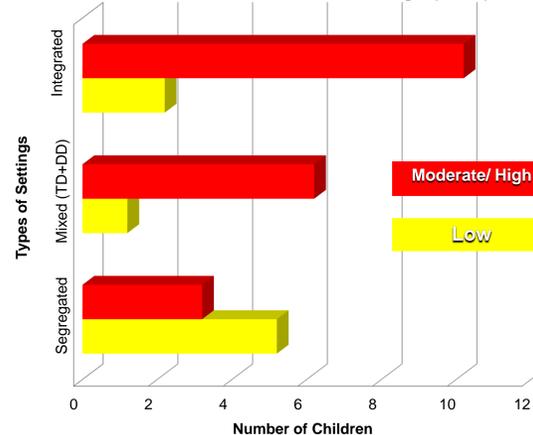
**Dichotomized Overall SI Scale**

| Overall SI on Scale of 1-5 | n |
|----------------------------|---|
| 1                          | 1 |
| Not at all                 |   |
| 2                          | 6 |
| 3                          | 6 |
| Somewhat                   |   |
| 4                          | 6 |
| 5                          | 7 |
| Completely                 |   |

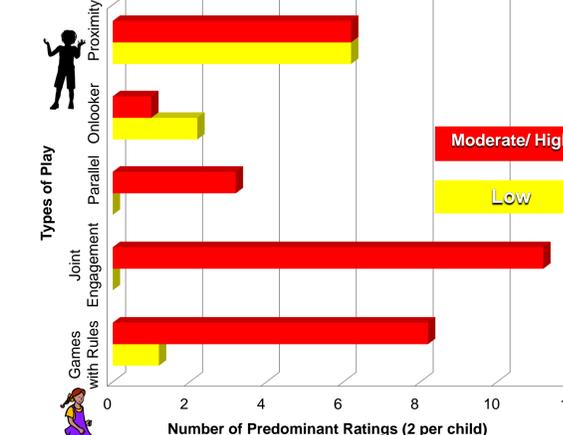
**Low**  
n=7

**Moderate/High**  
n=19

**Low and Moderate/High Social Inclusion within Different Settings (n=27)**



**Low and Moderate/High Social Inclusion in Predominant Types of Play (n=27)**



Contextual Variables

Child Characteristic Variables

**Table 2: Correlations of Child Characteristics with Overall Social Inclusion Rating**

| Child Characteristics | Spearman | p    |
|-----------------------|----------|------|
| Child Age             | -.04     | n.s. |
| Mental Age            | .39*     | .058 |
| Receptive Age         | .17      | n.s. |
| Expressive Age        | .19      | n.s. |
| Social Age            | .54*     | .01  |
| Adaptive Age          | .52*     | .012 |
| Maladaptive Behaviour | -.16     | n.s. |

\*p<.05, n varies

**Magnitude**

- Strong (Red)
- Moderate (Yellow)
- No Relationship (Blue)

## Discussion

- Most children (75%) observed in community settings were rated as being moderately to highly socially included.
- Children observed in settings with typically developing peers (integrated and mixed settings) were more likely to be rated as having higher social inclusion.
  - Children observed in segregated settings tended to be older and have lower skill levels.
- Of 6 types of play, the most common types of social play were: Joint Engagement and Games with Rules.
  - However, Joint Engagement and Games with Rules were demonstrated by less than half the sample.
- Proximity to other children (although not necessarily interacting) was also common.
- Furthermore, engaging only with adults was also very common during our observation.

### Limitations

- Small sample size (may not be representative of all DD children).
- Measure of social inclusion was unstandardized and somewhat rudimentary.
- Higher ratings of inclusion may be due to adult mediators in settings rather than peers.
- Period of time spent in each type of play not examined.
- No inter-rater reliability information available for observers.

*"A socially inclusive society is defined as one where all people feel valued, their differences are respected, and their basic needs are met so they can live in dignity."*

-The Social Inclusion Act, Canada

## Acknowledgments

An extension of gratitude to the families, and community leaders who participated in the GO4KIDDS Social Inclusion study. Further thanks to the Specific Project Coordinators, Rebecca Shine, Chloe Matheson and Jolie Jagielnik and to the Social Inclusion Coders and Assessors for making this research possible. The primary author would also like to thank Dr. Adrienne Perry for her guidance and support throughout the process of this study.

Data for this study were collected from the broader dataset of the Social Inclusion project as part of the CIHR Team: GO4KIDDS: Great Outcomes for Kids Impacted by Severe Developmental Disabilities, Nominated Principal Investigator: Adrienne Perry, York University. ([www.go4kidds.ca](http://www.go4kidds.ca))