

The Reliability of the Body Language Coding Scale (BLCS) for Children with Autism Spectrum Disorder (ASD)

ID Naiman^{1,2}, L Black^{1,3}, S Martin^{1,3}, N Di Franco^{1,3}, M Dusseault^{1,3},
K Harvey^{1,3}, C Kierulf-Monaghan^{1,3}, and FV Wright^{1,3}

1. Bloorview Research Institute, HBKRH; 2. Rehabilitation Sciences Institute, UofT;
3. Department of Physiotherapy, UofT

Background

- Children with ASD participate in significantly less physical activity than recommended by the Canadian guidelines for daily activity.
- A common barrier to physical activity participation is that instructors of community programs often lack knowledge and awareness about ASD to support full inclusion of the child.
- It is hypothesized that awareness of body language communication can improve the instructors ability to work with children with ASD.
- As part of my doctoral thesis, I developed the Body Language Coding Scale (BLCS), a 19-item observational scale designed to be used by instructors to bring awareness to the specific body language cues that a child with ASD may use during a program.
- Items were assigned to positive (P), negative (N) and neutral (NT) body language categories based on the research teams perceptive of the meaning of the cues as a starting point for interpretation.

Purpose/Hypotheses

- To assess the inter- and intra-rater reliability of the BLCS when used to rate children with ASD aged 6-12 years performing the *Ignite Challenge*, an advanced gross motor skills assessment.

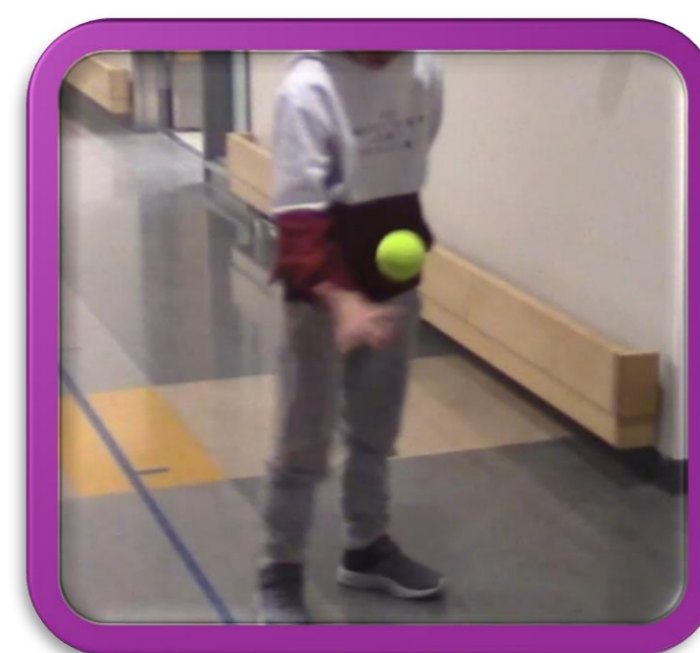


Figure 1: Participant completing item 4 on the Ignite Challenge

What did we learn?

The BLCS showed excellent intra-rater reliability and moderate-to-good inter-rater reliability.

This demonstrates that scoring body language cues from videos of children with ASD can be done consistently and by different raters.

What's next?

We need to find out if we can interpret the meaning of these cues that we now are able to reliably measure.

The next phase of research will interview parents of children with ASD to ask them about the meaning of their child's body language.

Methods

- 26 child participants with ASD (mean age = 9.1 years; 6 female)
- Completed the 13-item *Ignite Challenge* (videotaped), an advanced gross motor skills assessment (Figure 1).
- 4 raters (Masters of Physiotherapy students at UofT)
- Used to BLCS to score children's body language as demonstrated during their *Ignite Challenge* performance (video rating).
- Each rater scored 12-14 videos (inter-rater reliability) and rescored 6-7 videos (intra-rater reliability).
- Koo and Li (2006) magnitudes were used to interpret the Interclass Correlation Coefficient (ICC) results such that:
 - Excellent: $ICC > 0.90$; Good: $0.70 > ICC > 0.90$
 - Moderate: $0.50 > ICC > 0.75$; Poor: $ICC < 0.50$

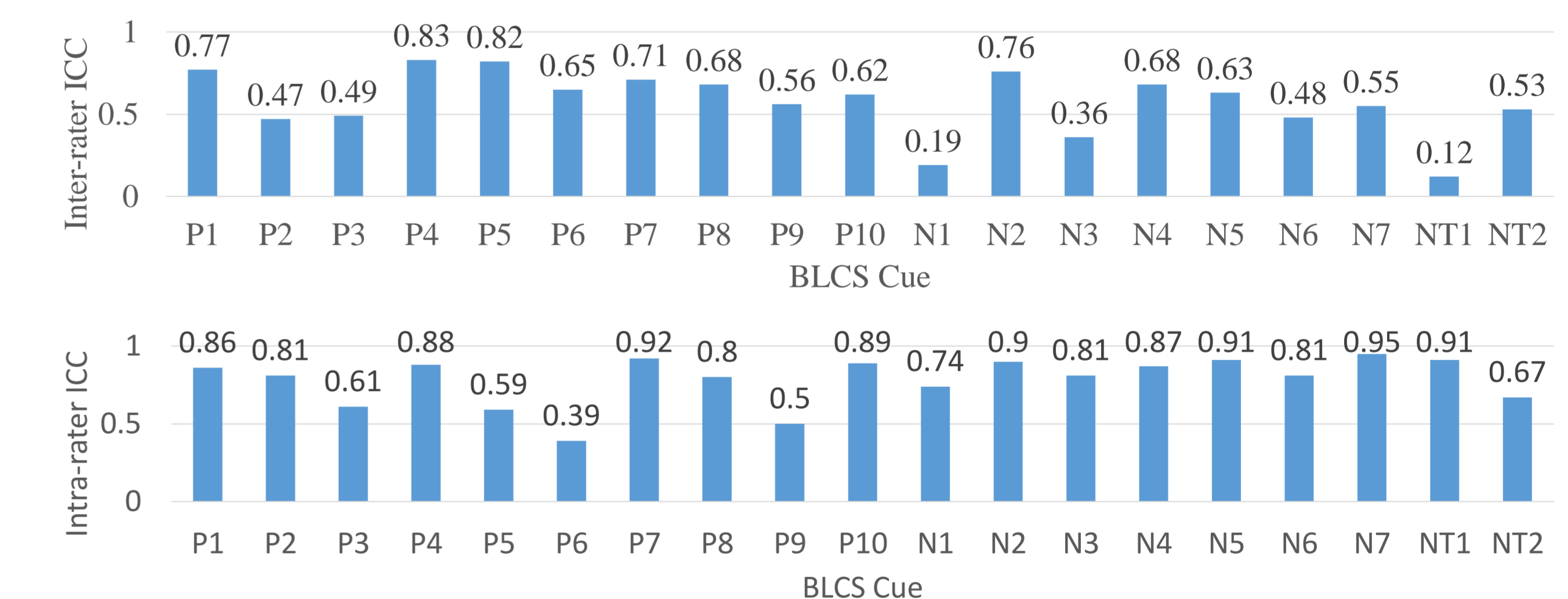


Results

BLCS Total score:

- Intra-rater reliability: $ICC = 0.95$ (Excellent)
 - 95% CI = 0.89, 0.98
- Inter-rater reliability: $ICC = 0.57$ (Moderate)
 - 95% CI = 0.03, 0.68

BLCS Individual Item Reliability:



Inter-rater reliability total score w/o items N1 and NT1:

- $ICC = 0.77$ (Good); 95% CI lower limit of 0.48

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