Joint attention, protoinformative pointing and coping with frustration among Polish infants

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### Introduction

Project is aimed to describe the birth and developmental trajectories of social cognitive abilities in infants and toddlers.

- The first manifestation of these abilities is joint attention (Bakeman and Adamson, 1984, Bruner, 1995, Tomasello, 1995, Carpenter et al., 1998).
- Then the abilities are expressed in protoinformative pointing (Liszowski et al., 2008), when a child probably wants to inform an adult.
- Additionally in situation when a child has to deal with frustration he/she needs to communicate with caregivers (Stifter and Braungart, 1995).

#### Research question

1. What are the relations between these 3 abilities?

2. What are joint attention abilities in Polish infants?

**Early Social Communication Scale, ESCS,** Mundy et al., 2003 was used in Poland for the first time.

### Method

In spring 2012 in Child Development Psychology Laboratory of Jagiellonian University we tested 361 twelve months olds infants (M= 52.28 weeks; SD= 1.33 week) and used:

- ESCS to measure initiating and responding to joint attention (IJA & RJA)
- Protoinformative pointing task called FOLDER
- Frustration task called TOY WITHDRAWING

#### Findings

**1. What are the relations:**

![Diagram showing correlations between IJA, RJA (high and low level), and protoinformative pointing ability.](image)

- **IJA**
  - \( r = 0.3, p = 0.55 \)
  - \( F = 6.3, p < 0.001 \)
  - \( r = 0.26, p < 0.001 \)

- **Protoinformative pointing ability**
  - \( F = 6.2, p = 0.01 \)
  - \( F = 3.9, p = 0.05 \)

- **High-level RJA**
  - \( r = 0.19, p = 0.001 \)
  - \( F = 4.6, p = 0.03 \)

- **Low-level RJA**
  - \( r = 0.19, p = 0.001 \)
  - \( F = 3.9, p = 0.05 \)

More frequent communication through gestures when frustrated

**2. What are joint attention abilities in Polish infants:**

Polish infants scored LOWER than American infants (Mundy et al. 2003) in:

- **Initiating joint attention** (\( p = 0.39 \))
- **Responding to joint attention (high-level)** (\( p < 0.001 \))
- **Initiating social interaction** (\( p < 0.001 \))

They scored HIGHER than American infants in:

- **Responding to social interaction** (\( p < 0.001 \))

### Discussion

Our results confirm the previous finding (Mundy et al., 2007). There is:

1. weak relation between joint attention components in twelve months olds
2. Transsituational consistency of children’s communicative behavior. Children with better joint attention abilities are also more prone to use pointing gesture and ask for help when frustrated.
3. Co-occurrence of protoinformative pointing ability and higher level of joint attention. That result may indirectly confirm the idea that the mechanism responsible for joint attention is sharing knowledge.

### Implications and Future Research

We plan 6 series of data collecting (each 6 months) to describe developmental trajectory of social cognitive abilities: from joint attention abilities in 12 month olds to false belief understanding in 42 months olds.

We also want to answer the question — what are the main factors responsible for these developmental changes: language, executive function, temperamental predispositions, social environment?

### Selected References

- University of Miami.