Infants' non-verbal and verbal communicative abilities

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INTRODUCTION

Research emphasises the contribution of joint attention and different types of gestures to the development of language (Bruner, 1995; Tomasello, 2008). Joint attention is the ability to engage in a triadic interaction and to coordinate attention to an object of mutual interest, which develops at the end of the first year (Bakeman & Adamson, 1984). Pointing and referential gestures, like all the major achievements of the prelinguistic period, are manifestations of intentional communication and support the acquisition of conventional words (Longobardi et al., 2011).

Objective
To identify the developmental relations between the ability of joint attention (JA) and behavioural requests (BR) at 12 months, protoinformative pointing (PI) at 12 and 18 months and parents' reports of their children's communicative skills at 16 months.

MATERIALS & METHODS

In the Child Development Psychology Laboratory we tested 175 infants when they were 12 months old (M= 52.28, SD= 1.33) and when they were 18 months old (M=79, SD =2.0). Parents filled in the questionnaire when their children were 16 months old (M=71, SD= 3.09).

We used:
at 12 months – the ***Early Social Communication Scale*** (Mundy et al., 2003) to measure:
- two levels of initiating joint attention (IJA) and behavioral requests (IBR),
- two levels of responding to joint attention (RJA) and to behavioral requests (RBR).

higher-level IJA (Hi-IJA) - child's pointing at objects or showing them

higher-level RJA (Hi-RJA) – following the line of regard while the tester is pointing to the posters

Protoinformative pointing tasks:
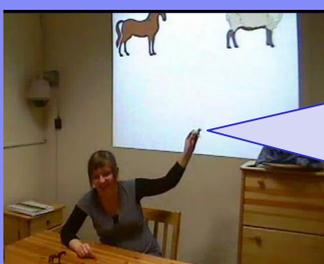
at 12 months – 'folder task'

tester secretly throws down the **folder** which she has just used

child informs about the current location of the folder

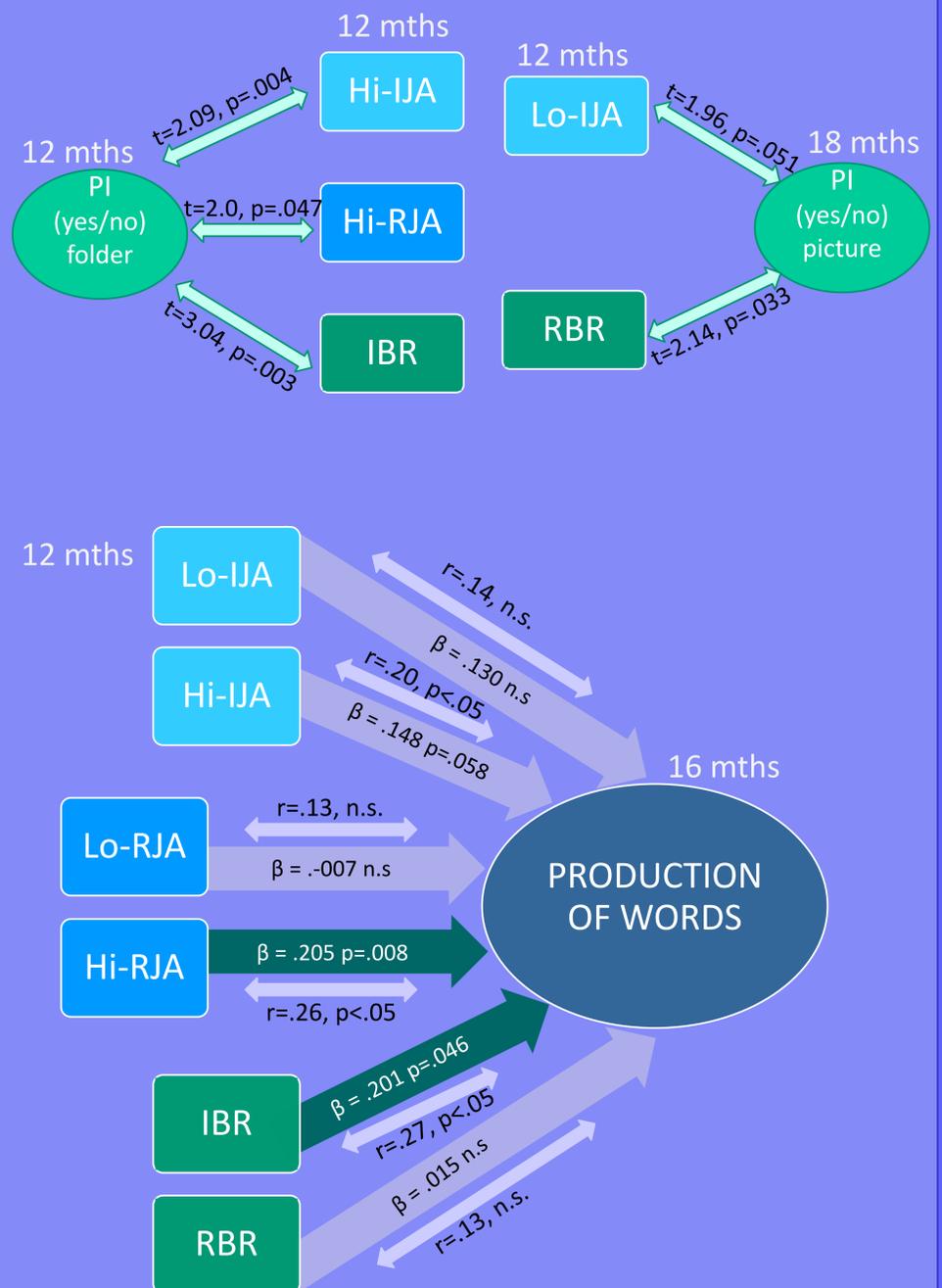**at 18 months – 'picture task'**

tester exposes small toys and **pictures** pertaining to them; she complains about the lack of picture related to one toy

tester secretly activates the missing **picture** and waits for child's reaction

at 16 months – the **Questionnaire for Communication and Early Language** (Camaioni et al., 2008) to measure parents' reports of children's production of words (e.g. mum, ball, grandmother, water)

RESULTS

12 mths Hi-IJA
12 mths PI (yes/no) folder
t=2.09, p=.004
t=2.0, p=.047 Hi-RJA
t=3.04, p=.003 IBR
12 mths Lo-IJA
18 mths PI (yes/no) picture
t=1.96, p=.051
RBR t=2.14, p=.033

12 mths:
Lo-IJA — r=.14, n.s.
Hi-IJA — β = .130 n.s / r=.20, p<.05 / β = .148 p=.058
Lo-RJA — r=.13, n.s. / β = .-007 n.s
Hi-RJA — β = .205 p=.008 / r=.26, p<.05
IBR — β = .201 p=.046 / r=.27, p<.05
RBR — β = .015 n.s / r=.13, n.s.

16 mths PRODUCTION OF WORDS

The overall model fit was R^2=.147; $F_{(6, 164)}$=4.692($p<.001$)

CONCLUSIONS & FUTURE DIRECTIONS

• The co-occurrence (at 12 months) of protoinformative pointing abilities ('folder task') with a higher level of Hi-IJA and Hi-RJA and Hi-IBR.

• Children who produce protoinformative pointing when they are 18 months old ('picture task') manifested a higher level of Lo-IJA and higher level of RBR when they were 12 months old.

• The level of ability of Hi-RJA and level of ability of IBR at 12 months old predicts a child's ability to produce words at 16 months.

• Despite the fact that developmental relations between different kinds of non-verbal communicative abilities and verbal abilities are extremely complex and demand future investigation, the role of following the direction of gaze and pointing gesture of another person in the development of language should be emphasised.

SELECTED REFERENCES

Camaioni, L., Caselli, M. C., Longobardi, E., Volterra, V., Luchenti, S. (2008). Questionnaire on communicative and linguistic development in the second year of life. Firenze: Organizzazioni Speciali.

Mundy, P., Delgado, C., Block, J., Venezia, M., Hogan, A., Seibert, J. (2003). A Manual for the Abridged Early Social Communication Scales (ESCS). Available through the University of Miami Psychology Department, Coral Gables, Florida.