




Evaluating and Training Perspective-Taking Guided by the Multi-Dimensional Multi-Level Framework

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To demonstrate awareness of oneself or others states it's a highly complex behavior known as Perspective Taking.

Before being able to abstract or infer the perspective of another person, someone depends on a previously sufficient trained relational repertoire.

In an analysis employing the MDML framework, at least Level 4 (Relating Relations) was identified as crucial to demonstrate PT skills.

Objective



To draw the fundamental units of AARRing, specifically for deictic repertoire, using the MDML framework and propose a set of tasks to evaluate and train perspective taking

Method

Participants

A 4-year-old girl with typical development (Claire)

A 6-year-old boy with High Functioning Autism (Frank)

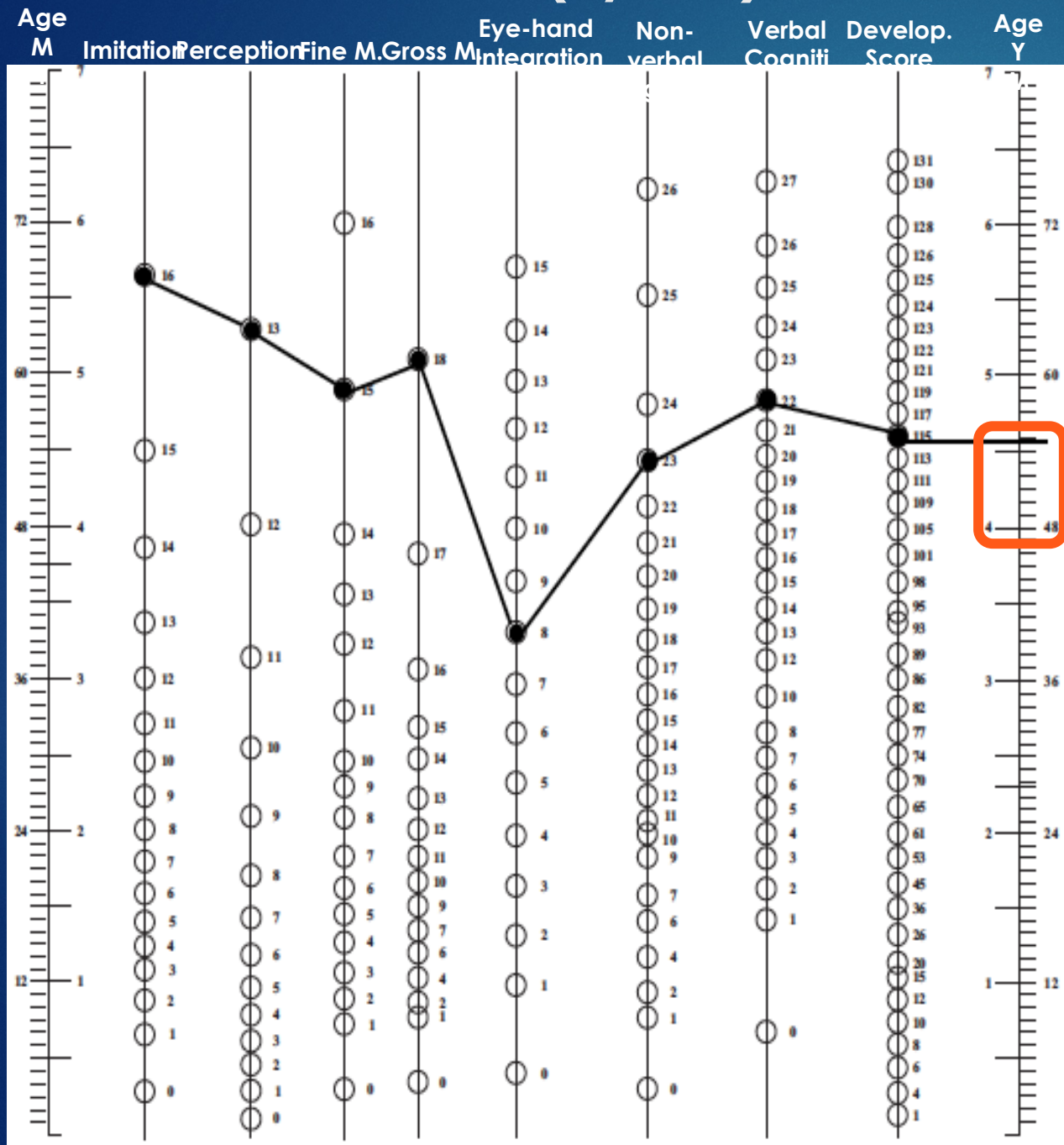
Development assessment

Psychoeducational Profile Revised (PEP-R):

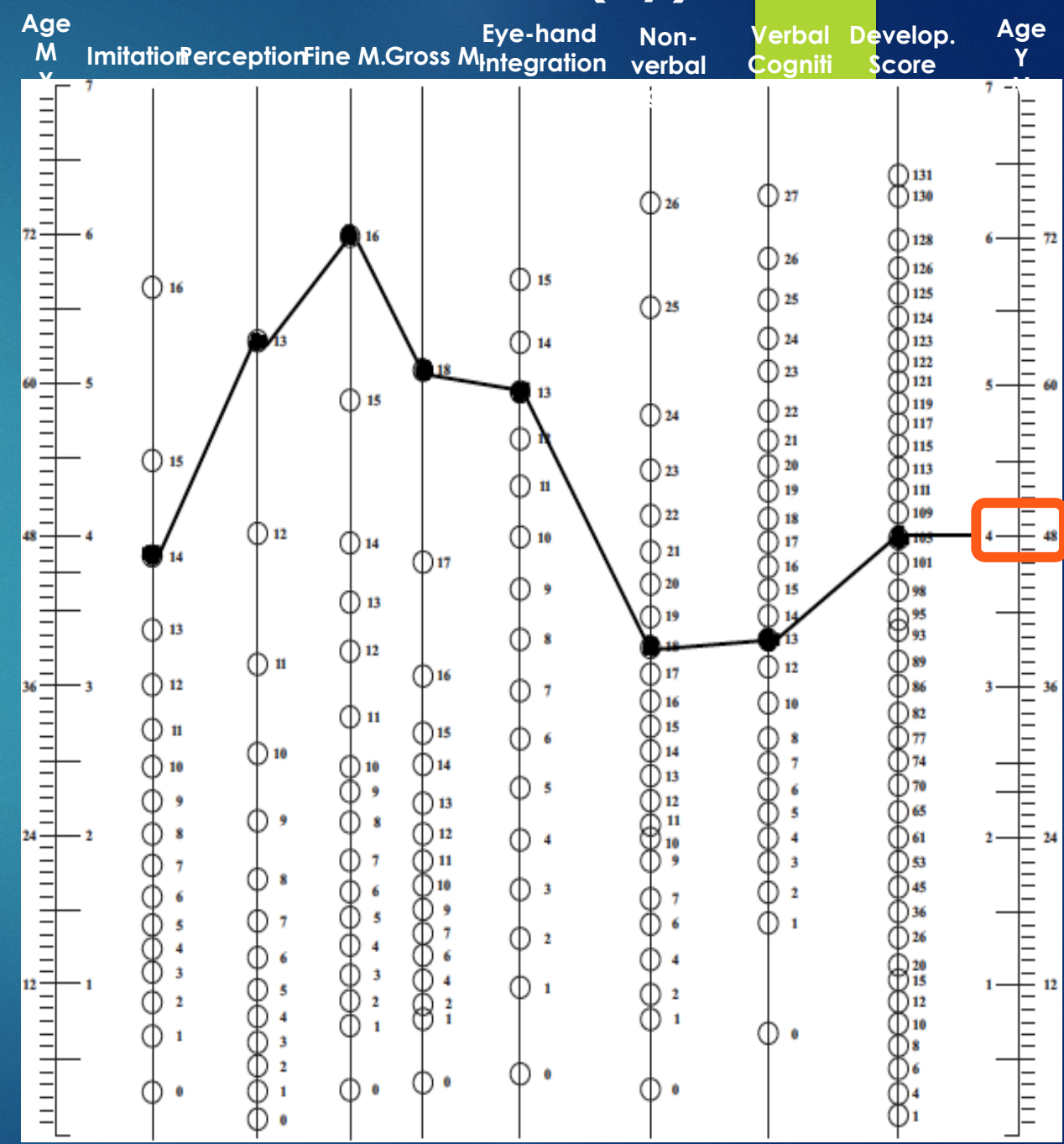
Assess the behaviors of children who function between the ages of 6 months to 7 years

The profile resulting from the *PEP-R* graphically charts an idiosyncratic development

Nina (4y-7m)



Max (4y)



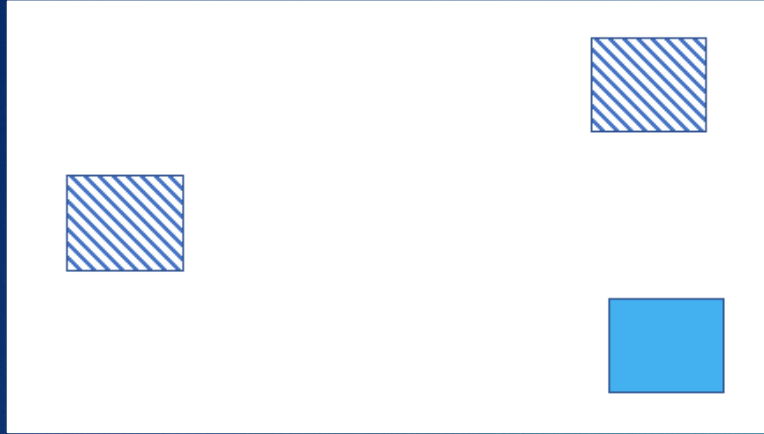
MDML Assessment



A set of **Non-arbitrary** and **Arbitrary** tasks were developed to investigate a full relational repertoire.

Five levels implicated: 1-Mutual entailment, 2-Relational framing, 3-Relational networking, 4-Relating relations, and 5-Relating relational networks.

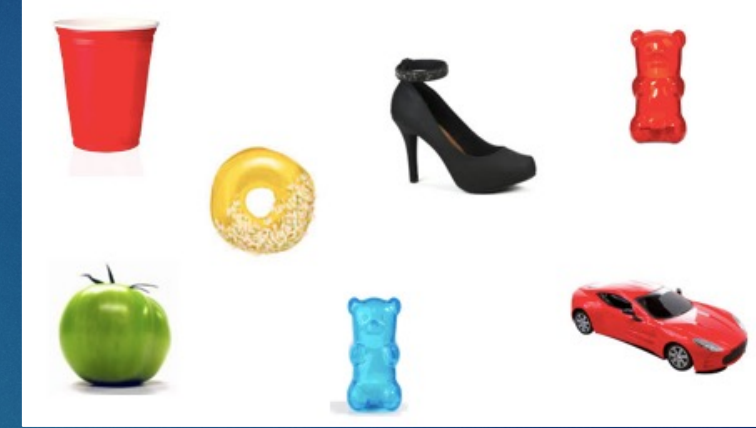
A variety of **frames:** Coordination, Difference, Opposition, Comparison, and Hierarchy.



Level 1



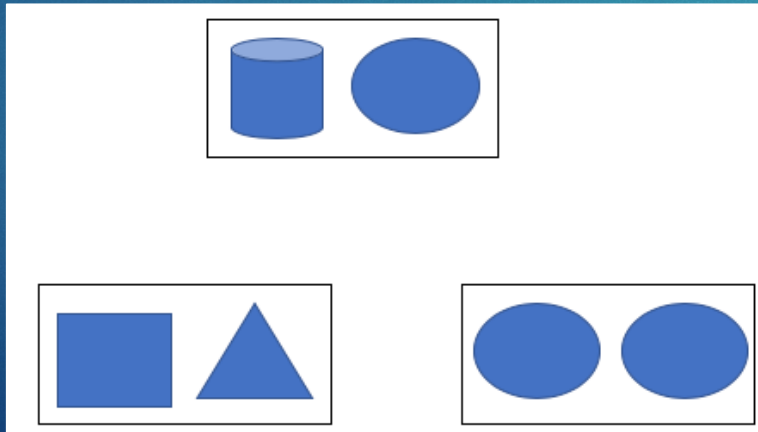
Level 2



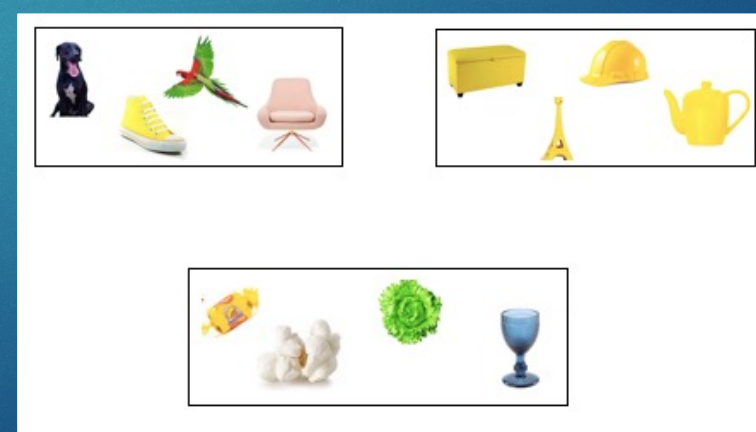
Level 3

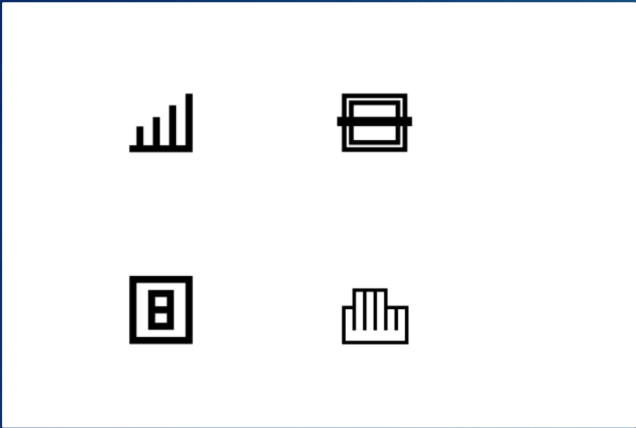
Non-arbitrary (Difference)

Level 4

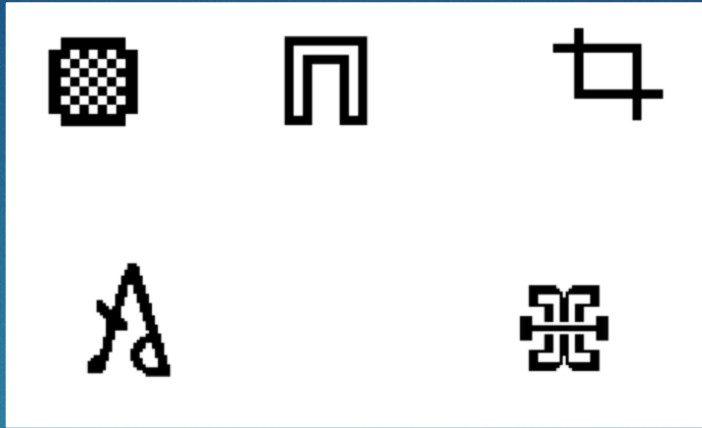


Level 5



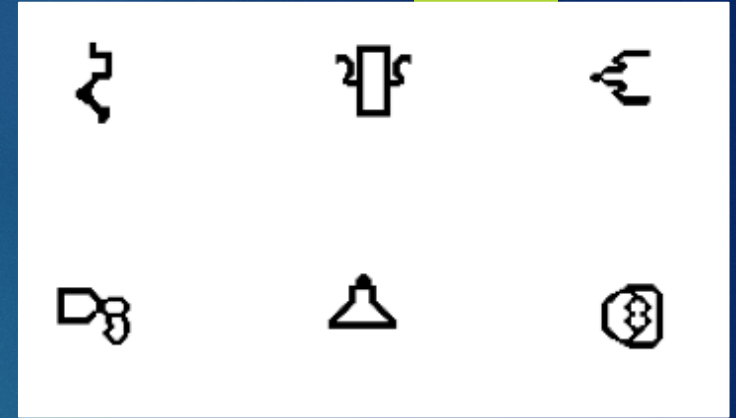


Level 1



Level 2

Level 3



Level 4

Arbitrary (Coordination)

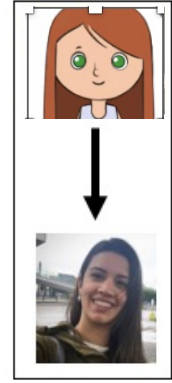
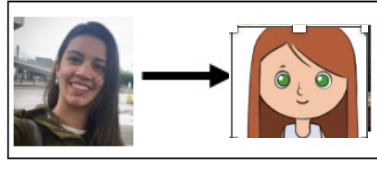
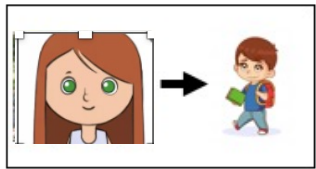
PT Assessment



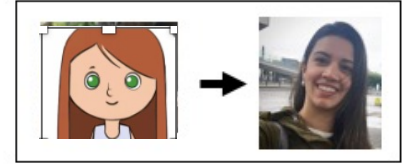
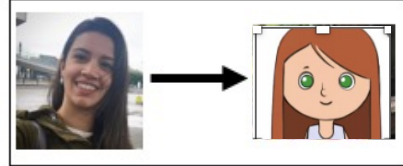
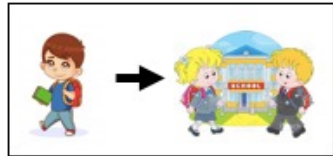
Tasks that include stimuli and relations that were familiar to the participants.

Trials evoked responses containing necessarily the interpersonal deictic frame (I-YOU) reversed.

At this moment, the trials presented, evaluated the deictic responding only at Level 4.



PT TESTs



Results (Claire)

Non arbitrary						
Level	Coordination	Difference	Comparison	Opposition	Hierarchy	
1	10/10	9/10	10/10	0/10	10/10	
2	9/10	9/10	10/10	–	0/10	
3	10/10	10/10	10/10	–	–	
4	10/10	9/10	10/10	–	–	
5	9/10	9/10	10/10	–	–	

Arbitrary							
Level	Coordination	Difference	Comparison	Opposition	Hierarchy	PT (visual)	PT
1	10/10	10/10	2/10	0/10	0/10	–	–
2	10/10	2/10	–	–	–	–	–
3	9/10	–	–	–	–	–	–
4	8/10	–	–	–	–	6/6	3/4
5	–	–	–	–	–	–	–

Results (Frank)

Non arbitrary						
Level	Coordination	Difference	Comparison	Opposition	Hierarchy	
1	8/10	9/10	10/10	0/10	5/10	
2	9/10	10/10	10/10	–	–	
3	8/10	8/10	1/10	–	–	
4	8/10	8/10	–	–	–	
5	8/10	8/10	–	–	–	

Arbitrary							
Level	Coordination	Difference	Comparison	Opposition	Hierarchy	PT (visual)	PT
1	1/10	2/10	1/10	0/10	0/10	–	–
2	–	–	–	–	–	–	–
3	–	–	–	–	–	–	–
4	–	–	–	–	–	1/6	–
5	–	–	–	–	–	–	–

Method - Training Frank



Training Consequences

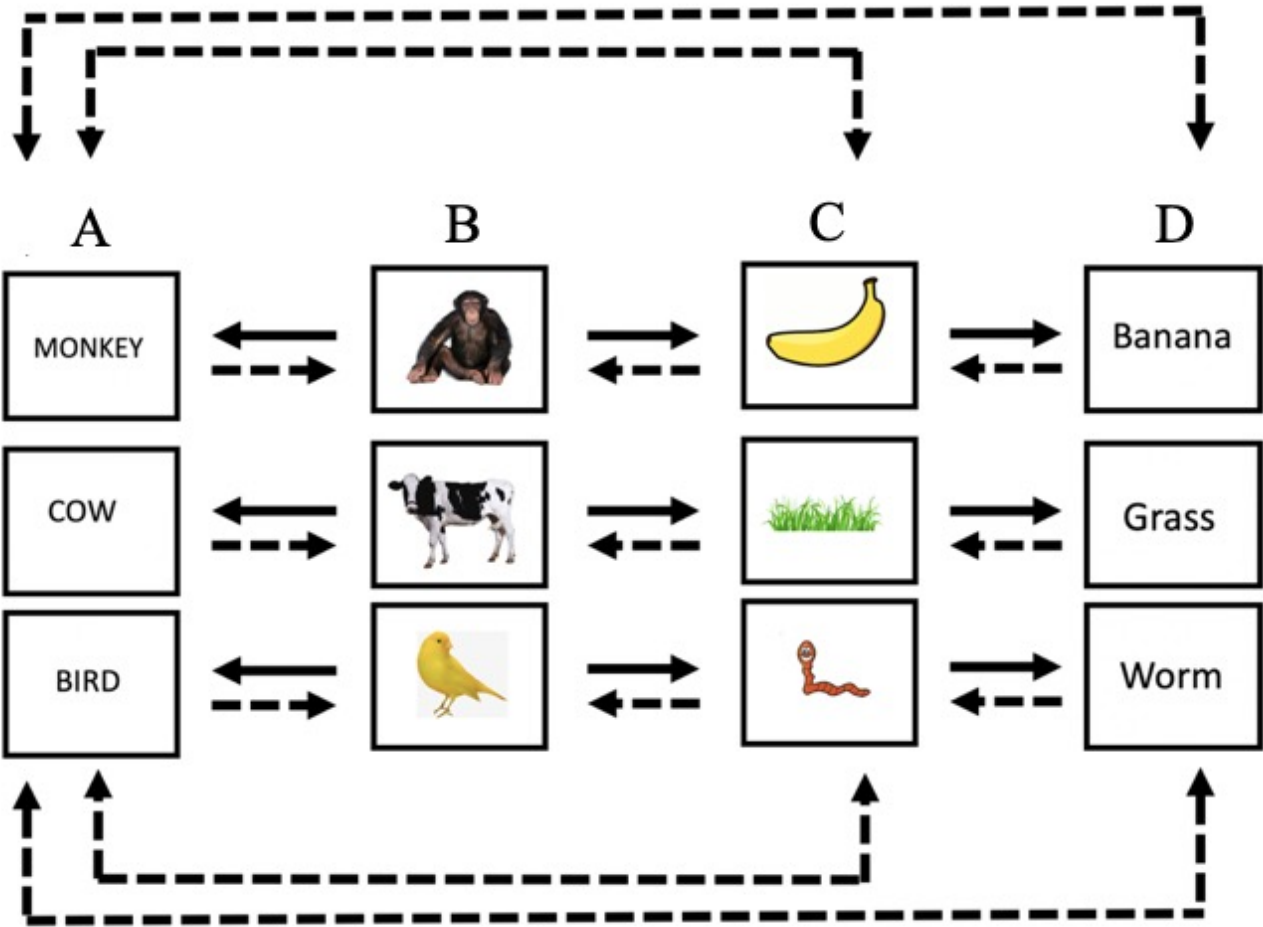


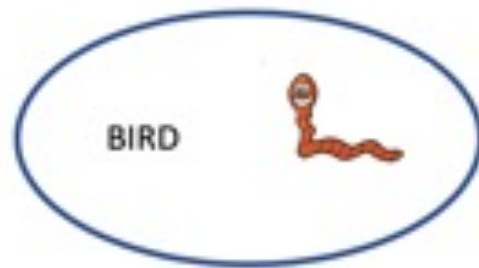
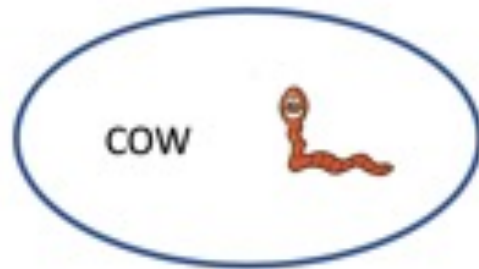
Testing Consequence



Contextual Cues

Method





Method

Results Frank

Level	Coordination	Difference	PT	PT (no support)
1	10/10	10/10	–	–
2	9/10	–	–	–
3	9/10	–	–	–
4	10/10	–	6/6	4/4
5	–	–	–	–

Conclusions



We still have very few participants, and more evidence is necessary for evaluating a better criterion for Perspective-Taking

Clair results in both protocols show how incidentally we can learn, even in our early years how to create relational networks and relate relations.

On the other hand, children with delayed development might depend on specific intervention for learning this complex behavior.

The biggest challenge is to differentiate the topography from the function of PT responses.

References

Barnes-Holmes, D., Barnes-Holmes, Y., Luciano, C., & McEnteggart, C. (2017). From the IRAP and REC model to a multi-dimensional multi-level framework for analyzing the dynamics of arbitrarily applicable relational responding. *Journal of Contextual Behavioral Science (JCBS)*.