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Citation: Telfer, Kathryn Linda and Defeyter, Margaret Anne (Greta) (2009) The Development of Theory of Mind: evidence from an explanation production paradigm. In: SRCD 2009 Biennial Meeting, 2 - 4 April 2009, Denver, Colorado, USA.

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The Development of Theory of Mind: Evidence from an Explanation Production Paradigm

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SRCO Denver, 2009

Explanation and Previous Research

- Recent research by Wertz & German (2007), used an explanation production paradigm, to assess adults ability to generate belief-desire explanations in response to a specific aspect of social behaviour.
- They adapted the classic false belief task by including a second object (the distracter object) at the location where the character leaves her desired object, and in a second condition, in a separate, empty location. Each time the participants were shown a possible 'reason' for the agents action, centred around either the belief or the desire of the agent, that the participant had to endorse or reject.

Aims

The aims of the current study were to:

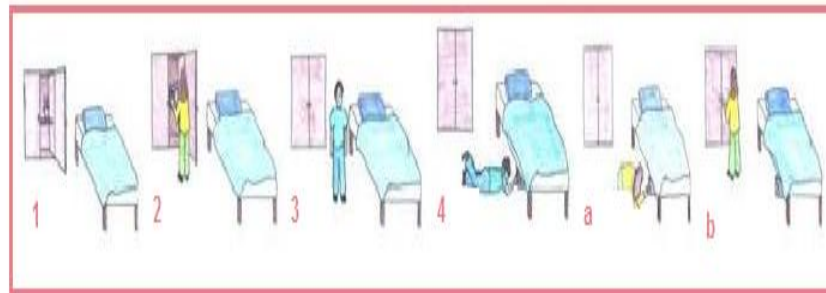
- employ this explanation production paradigm in 3-and 4-year-olds children and
- rule out the possibility that mental state representations were generated at test, when probes were presented, rather than when agents' actions were described.

Method

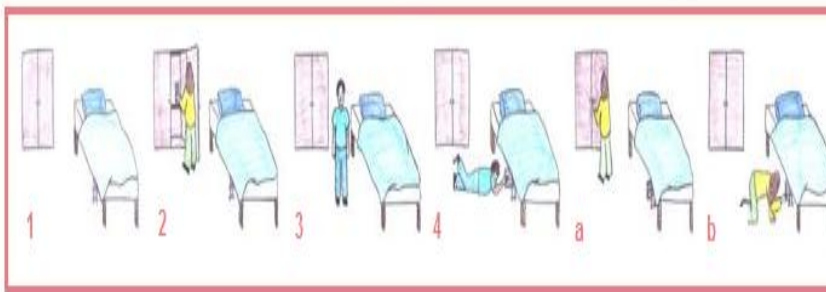
- 32 children (mean age of 38 months; range of 34-44 months) were assigned to the "Under 4-years-old" group. 21 children (mean age of 54 months; range of 46-61 months) were assigned to the "Over 4-years-old" group.
- The children were presented with four false belief tasks, presented on story boards, under two conditions; an 'Action towards distracter' (ADO) condition in which the first location also contained a distracter object, and an 'Action towards empty location' (AEL) condition in which the first location was empty.

- Each story consisted of a character placing the target object in one location and then leaving the room. In the absence of the first character, a second character moves the target object to another location. Then the first character returns to search for the target object, and searches in the first location.

ADO condition



AEL condition

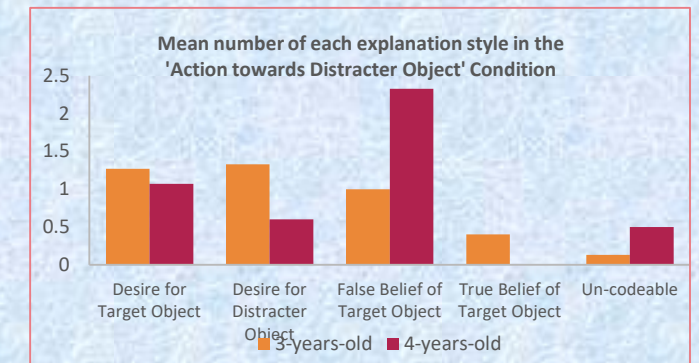


Test Question: "Why does Jenny go there?"

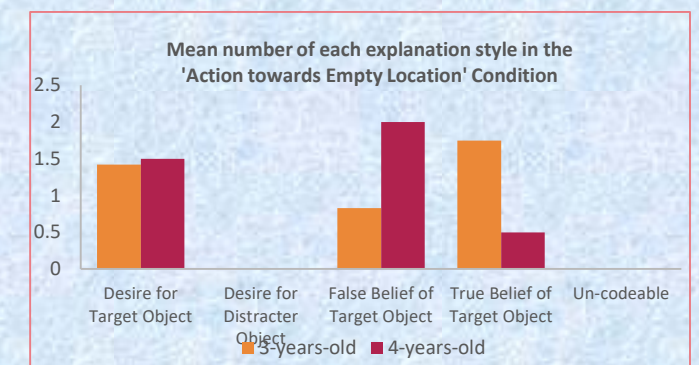
Results

- In both conditions, the older children produced significantly more correct false belief explanations compared to younger children ($F(1,52)=18.493$; $p<0.001$).
- Children, like the adults in Wertz & German (2007), produced more 'desire for distracter object' explanations in the ADO condition compared to the AEL condition across both ages ($F(1,52)=35.633$; $p<0.001$).

- Overall, in the ADO condition, more desire explanations towards the distracter object were made by 3-year-olds than 4-year-olds ($F(1,52)=5.127$; $p=0.028$).



- In the AEL condition there were a greater number of (incorrect) true belief explanations about the target object than in the ADO condition from both age groups ($F(1,53)=17.475$; $p<0.001$), this response rate was still significantly larger in the 3-year-old group ($F(1,52)=13.901$; $p<0.001$).



Conclusion

These results suggest that young children generate mental state representations about the distracter object when the agent's actions were described. Second, the results suggest that there is a developmental shift between the ages of 3 and 4 in terms of the representations generated when explaining an actions towards a distracter object.