

Perspective Tracking in the False-Belief Task: Do Language and Executive Function Matter?

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There is currently some controversy about the age at which children develop an understanding of false beliefs, a hallmark of theory of mind. The traditional view, based on the findings of numerous studies, assumes that around the age of 4 years children acquire representational theory of mind, as evidenced by their correct answers to test questions in verbal false-belief tasks. This view, however, is sometimes challenged by proponents of an ‘early competence’ account, according to which the theory of mind is already present in young children, but additional requirements posed by the false-belief (FB) task do not allow children to manifest their competence.

In the first part of my presentation I will outline the structure of the standard FB task in an ‘unexpected transfer’ version in which three key phases could be identified: the initial, displacement, and test phase. In each of these phases different factors operate that can affect how a child will respond to a test question. Crucial seem to be four factors identified in the meta-analysis of false-belief studies by Wellman and colleagues (2001). These are: a motive for the transformation, child’s participation in the transformation, real presence of the target object at the time the false-belief question is asked, and salience of the protagonist’s mental state. Previous attempts to raise children’s performance on the FB task by the simultaneous operation of all four factors (e.g. Murawska, Putko, 2008), however, have not yielded such impressive outcomes as one would expect; for some 3-year-old children a modified FB task still seems to be too difficult.

In the second part of my presentation I will present preliminary results of a study aimed at examining the effect of yet another factor: the ability of children to trace the perspective of the story protagonist in the FB task. The main research questions were: (1) Is a better performance on a modified FB task based on a genuine understanding of belief as a cause of a mistaken action? (2) Does a modified procedure help not only younger children (3-year-olds) but also older ones (4-year-olds)? (3) Does children’s performance on a modified FB task correlate with their executive control and language skills? Two FB tasks were administered, one in a standard and the other in a modified version (modelled on the study of Rubio-Fernandez and Geurts, 2012). The major modifications in the FB task included: (1) children could see the figure of the protagonist throughout the task; (2) the target object was moved from location A to B by the experimenter (no second character in the story); (3) instead of responding to the standard FB question children were encouraged to continue acting out the story. Both FB tasks were extended by adding one more test question requiring children to justify their predictions.

The study showed that 3-year-olds gave significantly more both correct predictions and justifications in a modified FB task in comparison to a standard version. In the group of 4-

year-olds there was no significant effect of task manipulation. Correlation analysis revealed significant relationships between children's measures of false-belief understanding, verbal skills (Picture Vocabulary Test, Haman et al., 2012), and executive control (DCCS, Frye et al., 1994) in the standard but not in the modified version of FB task. These findings lead to several conclusions: (1) in reasoning about causes of people's actions at least some young children (3-year-olds) do not use shallow behavioral rules but genuine mental ones; (2) difficulties of 3- and 4-year-olds in FB tasks are of different nature; (3) a modified FB task in comparison to its standard version reduces verbal and executive demands, allowing some children to reveal their mindreading capacity.