

Young children's understanding of perception and false belief: Hiding objects from others.

Manuel Sprung¹ & Martin J. Doherty²

¹ University of Salzburg, Helbrunnerstr. 34, A-5020 Salzburg, Phone: +43 662 80445134,

Email: Manuel.Sprung@sbg.ac.at

² University of Stirling, Stirling FK9 4LA, Scotland, Phone: +44 1786 466366,

Email: mjd1@stir.ac.uk

Note: We would like our submission to be considered as a paper presentation.

Abstract

Two-year-old children can hide an object by placing it behind a screen, but not by placing a screen in front of it (Flavell, Shipstead & Croft, 1978). McGuigan & Doherty (in press) explain this finding in terms of *engagement*, a precursor to understanding of attention. This hypothesis implies that children should be better able to occlude objects if the person has not yet seen the object. The present study confirmed this prediction with forty-seven 2- to 5-year-old children with modified versions of the move-object and move-screen tasks. Performance on the hiding tasks was also found to be superior to performance on two false belief tasks, suggesting that the shift from understanding of engagement to understanding of attention is a precursor to understanding of belief.

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Children's understanding of visual perception is thought by many to be quite sophisticated even before the age of 2 years (e.g., Lempers, Flavell, & Flavell, 1977; Baron-Cohen, 1995). However, recent studies and some classic research suggests that even 2-year-olds' understanding of perception is poor. For example, Flavell, Shipstead & Croft (1978) found that whereas 2½-year-olds could easily hide an object when they had to place it behind a screen (Move-object task), they could not achieve the same result by placing a screen in front of an object (Move-screen task). McGuigan & Doherty (in press) found success on the Move-screen task develops at the same time children are able to say what someone is looking at from eye-direction alone. They argue that 2-year-olds understand attention in terms of 'engagement' - general involvement - rather than vision. Occluding barriers block vision and can stop people every becoming engaged with an object, but do not necessarily disrupt engagement when it has already been established. Since 2-year-olds understand engagement but not vision, they are unable to disrupt vision by placing the screen in front of the object.

This account generates the clear prediction that younger children should pass the Move-screen task in cases where the adult is not yet engaged with the object. This study set out to test this prediction with a hiding game in which children must stop an experimenter witnessing the act of hiding by placement of a screen. Children should understand that they can prevent the experimenter ever being engaged with the object in its hiding location.

In Experiment 1, twenty-four 2- to 4-year-old children were shown an object and two boxes in which it was to be hidden from a second experimenter. Children were given the screen and told "put this somewhere so Sarah can't see us hide the duck". Performance on the new Move-screen task (54% success) was intermediate between performance on the Move-object and original Move-screen task (79% and 39% success respectively, $p < .05$ for all

comparisons). This supports the engagement hypothesis, especially considering the added complexity on the new Move-screen task.

Experiment 2 assessed the possibility that performance on the new version of the Move-screen task was inflated by an artefact: Egocentric responding would obstruct children's access to the boxes when hiding the object. If children simply placed the screen in the nearest convenient location - just beyond the two boxes - this would inflate performance. Twenty-three 3- to 5-year-old children were given the Move-screen and Move-object tasks plus novel versions of the Move-screen tasks which ruled out egocentric responding. There was a slight ceiling effect, but the new hiding version of the Move-screen task remained easier than the original version, and there was no evidence that the difference could be attributed to egocentric responding in the original version. False belief tasks were also administered - performance on all the Move-object and Move-screen tasks was significantly better than performance on the false belief tasks, suggesting understanding of visual perception is a developmental precursor to false belief understanding. The implications of this for theories of the development of belief understanding are discussed.

References

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