



# Who to Ask? The Relationship between Social Cognition and Recognizing Accurate Sources of Information in Preschool-Aged Children

Rachel A. Williams, Asheley R. Landrum, Amelia D. Pflaum & Candice M. Mills



SCHOOL OF BRAIN AND BEHAVIORAL SCIENCES, THE UNIVERSITY OF TEXAS AT DALLAS

## INTRODUCTION

- To succeed in learning more about the world, children must engage in a three-part process when they are trying to solve problems. These steps include deciding (1) **who** to ask, (2) **what** to ask, and (3) **how to apply** the gathered information.
- With regards to the “who”; even young preschoolers recognize that some sources are more likely than others to provide accurate information (e.g., Koenig & Harris, 2005).
- Beyond developmental differences, one possible contributor is children’s theory of mind (ToM), which refers to children’s abilities to recognize mental state of others (e.g., Wellman & Liu, 2004).
- The ability to recognize the beliefs, knowledge, and desires of others is likely to relate to the ability to recognize that some sources are more knowledgeable than others.
- A correlation has been found between ToM performance and metacognition -- children’s ability to recognize which of two informants was truthful (Vanderbilt, Liu, & Heyman, 2011) or was most reliable (DiYanni & Kelemen, 2008).
- The current study examines the link between ToM and metacognition.

### Research Questions

- Do 5-year-olds have higher ToM scores and higher metacognition scores than 4-year-olds?
- Do children’s theory of mind scores relate to their ability to recognize each puppet’s knowledge status?
- Do children have an easier time saying that an accurate source is accurate than saying that an inaccurate source is inaccurate?

## STUDY DESIGN

N= 196; 4- to 5-year-old children recruited from local preschools

SRCD 2013

## METHOD

- For this project, 4- to 5- year-olds were asked to choose which puppet they would like to question in order to determine which of four pictures was inside of a box .
- Children could ask many types of questions to help them decide which picture is correct. For instance, they could ask about what the item in the box looked like, sounded like, or felt like.
- Some puppets provided correct answers. Other puppets were not as helpful, providing an inaccurate answer (**Inaccurate Condition**) or providing an inaccurate answer after expressing uncertainty (**Guesser Condition**). Thus, we were able to learn about who children ask, what they ask, and how they use this information.
- After 4 trials, the child was asked which puppet gave them more right answers and which puppet gave them wrong answers.
- On a second day, children were tested on 5 theory of mind tasks measuring their understanding that other people have mental states—beliefs, intentions, desires, thoughts—that differ from their own. Children were given one point for each.

Knowledgeable



VS.

Inaccurate



Knowledgeable

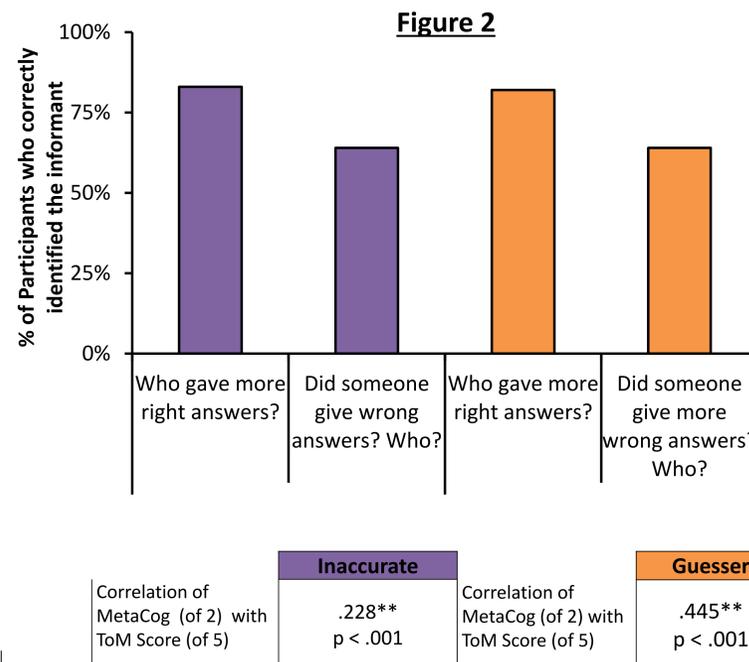
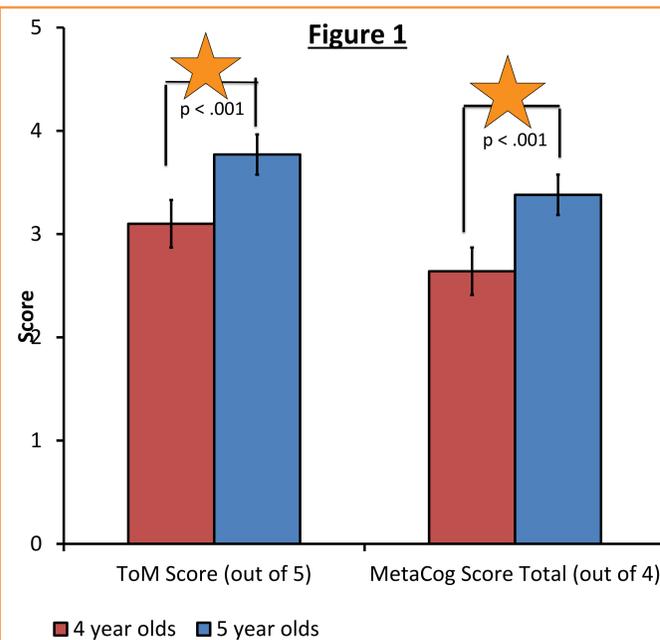


VS.

Guesser



## RESULTS



## CONCLUSIONS

**Q1: Do 5-year-olds have higher ToM scores and higher metacognition scores than 4-year-olds?**

A1: **Yes.** For both ToM scores and metacognition scores, 5- year- olds scored significantly higher than 4-year olds on both. (**Figure 1**)

**Q2: Do children’s theory of mind scores relate to their ability to recognize each puppet’s knowledge status?**

A2: **Yes.** Children’s theory of mind scores correlated significantly with their abilities to endorse puppets as giving more right or wrong answers. (**Figure 2**)

**Q3: Do children have an easier time saying that an accurate source is accurate than saying that an inaccurate source is inaccurate?**

A3: **Yes.** Children were able to say which puppet was more accurate above chance, and were significantly better at this question than saying who was inaccurate. (**Figure 2**)

### References

- DiYanni, C. & Kelemen, D. (2008). Using a bad tool with good intention: Young children’s imitation of adults’ questionable choices. *Journal of Experimental Child Psychology: Special Issue on Imitation*, 101, 241-261.
- Koenig, M.A., & Harris, P.L. (2005). Preschoolers Mistrust Ignorant and Inaccurate Speakers. *Child Development*, 76(6), 1261-1277.
- Vanderbilt, K.E., Liu, D., & Heyman, G.D. (2011). The Development of Distrust. *Child Development*, 82(5),1372-1380.
- Wellman, H. M., Liu, D. (2004). Scaling of Theory-of-Mind tasks. *Child Development*, 75(2), 523-541

For more information contact Rachel Williams:  
raw095020@utdallas.edu