



# Success does not imply knowledge: Preschoolers believe that accurate predictions imply knowledge, but accurate observations do not

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## Introduction

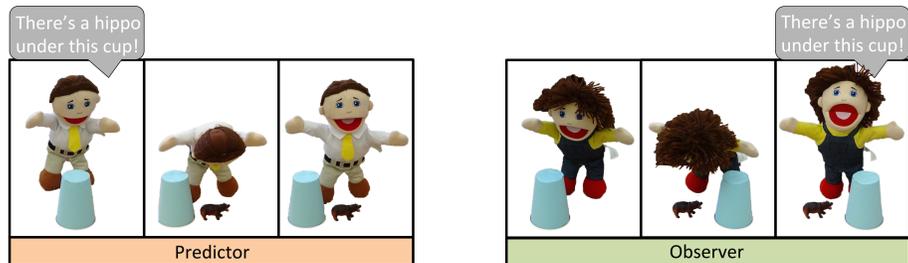
To effectively learn from others, we must decide who is knowledgeable. Past research suggests that children can solve this problem based on the accuracy of informants' prior testimony (e.g. Pasquini et al, 2007). However, agents can be knowledgeable but incompetent, or ignorant but accurate. How does our understanding of the link between accuracy and knowledge develop?

## Procedure

One of our friends peeked under all the cups, but we don't know who!



Who should we ask first? Which cup should we ask about first?



Which cup should we ask about next? (Procedure repeats 1x)

### Study 1:

Do children distinguish between accuracy and knowledge?

#### Test questions:

1. Who peeked? 2. Who knows what's under the last remaining cup?

### Study 2:

Do children recognize boundaries of knowledge and ignorance?

**Procedure difference:** before test questions, the animal in last cup is switched. Same **test questions** as Study 1

### Study 3: Do children

spontaneously infer knowledge when endorsing testimony?

#### Procedure difference:



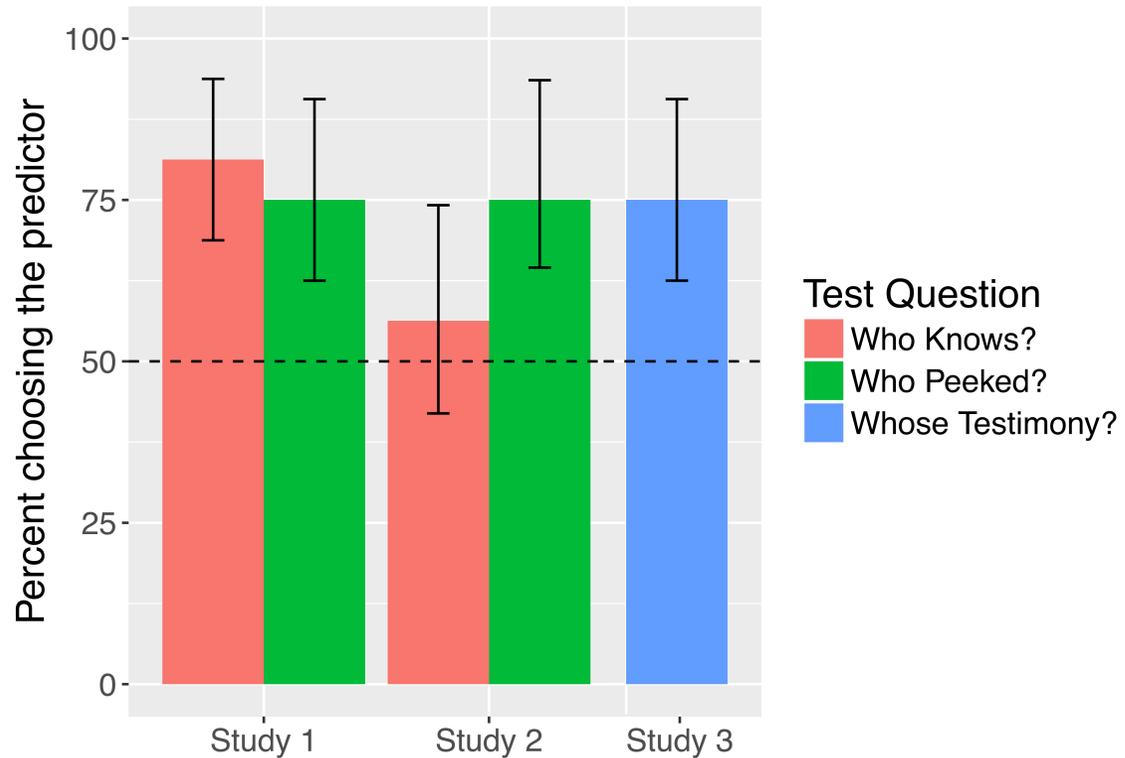
#### Test question:

What animal is under the cup?

## Results

Participants: 95 4- to 5-year-olds (M = 5.0, Range = 4.0 – 6.0)

### Results, Studies 1 – 3



#### Summary:

- In Study 1, children attributed more knowledge to the predictor, and also thought this knowledge should generalize to the third remaining cup.
- In Study 2, children understood that the predictor was more knowledgeable, but that this prior knowledge *shouldn't* generalize to the cup whose contents were switched out.
- In Study 3, children went beyond reasoning about knowledge explicitly. When the puppets disagreed, children spontaneously endorsed the testimony of the predicting agent.

## General Discussion & Conclusion

Across three experiments, 4- and 5-year-olds distinguished between knowledge and accuracy. Specifically, while accurate *predictions* were taken to imply knowledge, accurate *observations* were not.

#### Future Directions:

- In the first three studies, we saw that children understand that accuracy does not always imply knowledge
- However, it is also true that *inaccuracy* does not always imply *ignorance*. If an agent is *wrong* (in the right kind of way), will children infer that this agent is actually knowledgeable?

### Study 4:

Do children recognize that ignorance is not always associated with inaccuracy?

One of our friends peeked under all the cups, but we don't know who!



#### Test questions:

1. Who peeked?
2. Who knows?

#### References & Related Work:

Einav & Robinson (2011). *Psych Science*.  
Pasquini, Corriveau, Koenig & Harris (2007). *Dev. Psychology*