

# The Effects of Theory of Mind on Children's Source Monitoring of Testimony

Kirsten A. Lesage & Rebekah A. Richert  
University of California, Riverside

## Introduction

- Children readily believe in entities that cannot be seen (e.g., Santa Claus); however, how much they endorse the existence of any entity varies by patterns of testimony they receive.<sup>1,2</sup>
- But it is not always the case that children remember the source of knowledge for how they learn something.
  - E.g., one study found that only 25% of 4- to 5-year-olds and 45% of 7- to 9-year-olds were able to correctly cite how they learned science, math, and history material.<sup>3</sup>
- This lack of epistemological reasoning might be related to developing Theory of Mind (ToM) abilities.
- Research Question:**
  - Is there a similar frequency of source citation when asking children how they know about invisible entities that require testimony (e.g., God)?
  - Do children who pass ToM tests cite more sources of knowledge?

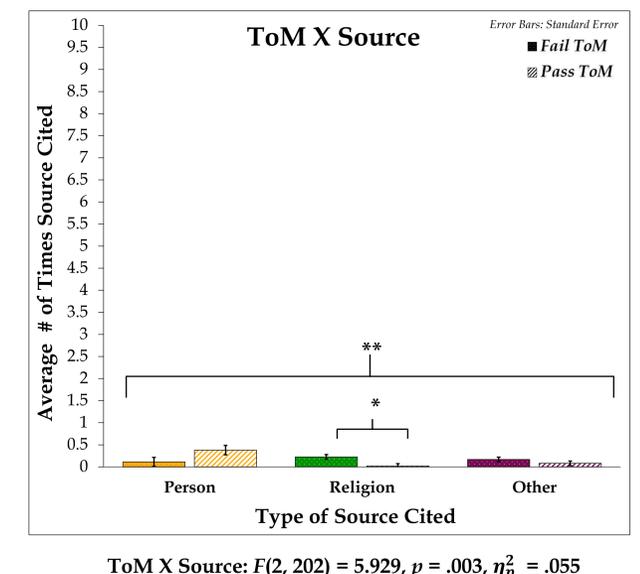
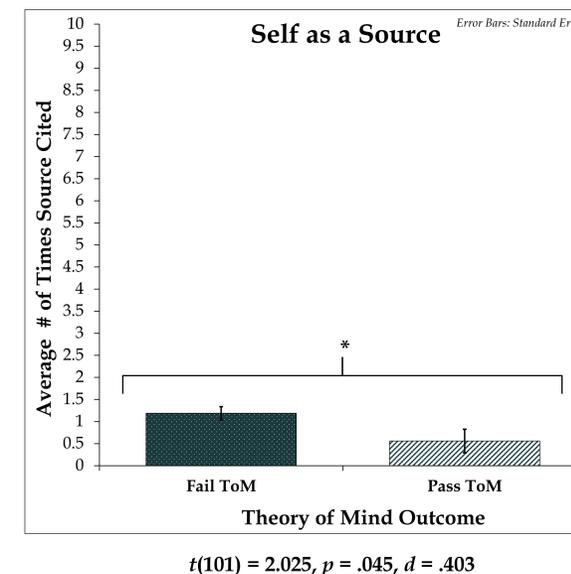
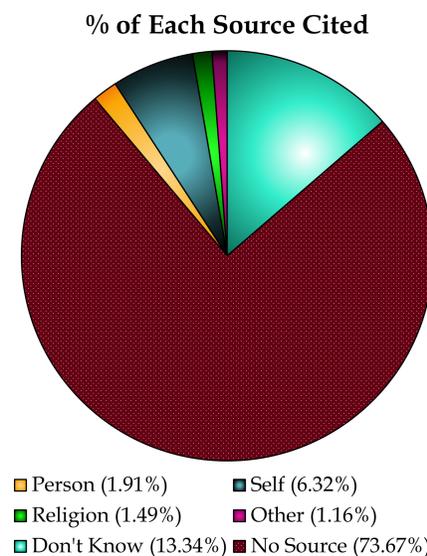
## Participants

- Children 3.87- to 7.05-years from four religious affiliations ( $N = 103$ ;  $M_{age} = 5.36$ ,  $SD_{age} = .72$ ; 54.2% female):
  - Protestant Christian ( $n = 22$ )
  - Roman Catholic ( $n = 22$ )
  - Muslim ( $n = 39$ )
  - Religiously Non-Affiliated ( $n = 22$ )

## Materials & Procedure

- Source Monitoring<sup>4</sup>**
  - Participants were asked how they knew if God possessed nine humanlike characteristics and if God was real or pretend.<sup>4</sup>
  - Open-ended responses were coded for citing sources of knowledge in the following categories:
    - Person:**
      - Family Member (Cohen's Kappa = .784)
      - Other (Cohen's Kappa = .653)
    - Religion:**
      - God (Cohen's Kappa = .530)
      - Religious Text (Cohen's Kappa = .721)
    - Other** (Cohen's Kappa = .719)
    - Self** (Cohen's Kappa = .655)
    - Don't Know** (Cohen's Kappa = .842)
    - No Source** (Cohen's Kappa = .696)
- Theory of Mind (ToM)<sup>6</sup>**
  - Participants completed an Occluded Picture ToM task<sup>6</sup> with a gender-matched agent:
    - Dichotomously scored as Pass ( $n = 50$ ), Fail ( $n = 53$ )

## Results



## Summary of Results & Discussion

- Research Question 1:**
  - Overall, the majority of children did *not* cite any source for how they knew about the attributes of an invisible agent (i.e., God).
  - Children only cited any type of source 12.99% of the time – lower frequency than found in other research.<sup>1,4</sup>
  - Children cited themselves as a source most frequently, so Theory of Mind might effect children's ability to generate the source of information.
  - Children who passed ToM cited themselves as the source of knowledge less frequently than children who failed ToM.
- Research Question 2:**
  - Children who passed ToM tended to cite persons (family and non-family) as a source, whereas children who failed ToM tended to cite religion or other types of sources.
- Discussion & Implications:**
  - When asked how they know something, 3- to 7-year-old children might judge the ability to *describe* a concept as more important than the ability to state the *source* of how they learned a concept.<sup>1,4</sup>
  - Future research should continue to consider ToM's role as a mechanism facilitating or constraining source monitoring – particularly for abstract concepts.

## References

- Bemis, R. H., Leichtman, M. D., & Pillemer, D. B. (2011). 'I remember when I learned that!' Developmental and gender differences in children's memories of learning episodes. *Infant and Child Development*, 20, 387-399.
- Harris, P. L., & Koenig, M. A. (2006). Trust in testimony: How children learn about science and religion. *Child Development*, 77, 505-524.
- Shtulman, A. (2008). Variation in the anthropomorphization of supernatural beings and its implications for cognitive theories of religion. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 34, 1123.
- Sobel, D. M., & Letourneau, S. M. (2015). Children's developing understanding of what and how they learn. *Journal of Experimental Child Psychology*, 132, 221-229.
- Woolley, J. D., Ma, L., & Lopez-Mobilia, G. (2011). Development of the use of conversational cues to assess reality status. *Journal of Cognition and Development*, 12, 537-555.
- Barrett, J. L., Newman, R. M., & Richert, R. A. (2003). When seeing is not believing: Children's understanding of humans' and non-humans' use of background knowledge in interpreting visual displays. *Journal of Cognition and Culture*, 3, 91-108.

## Contact

Kirsten A. Lesage, MA – kirsten.lesage@email.ucr.edu  
Rebekah A. Richert, PhD – rebekahr@ucr.edu

## Support

Support for this research was generously provided by the John Templeton Foundation's God's in Minds Initiative Grant