

The Roles of Overconfidence, Overclaiming, and Cognitive Reflection in Children's Belief in Myths

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INTRODUCTION

- ▶ People with the least expertise in a category misjudge their knowledge or performance in that category the most.
 - ▶ Those who are less knowledgeable and more misinformed about autism tend to believe they know more than medical experts and trust non-experts more.
- ▶ In adults, overclaiming is correlated with narcissism, self-deceptive enhancement, and self-perceived knowledge.
- ▶ In adults, poor cognitive reflection is associated with:
 - ▶ Higher rates of overclaiming.
 - ▶ Higher susceptibility to fake news.
- ▶ In children, poor cognitive reflection is associated with:
 - ▶ Lower accuracy in discerning true scientific statements from false scientific statements.
 - ▶ Smaller improvement after receiving instruction.

HYPOTHESIS

- ▶ Children who are confident in their knowledge, overclaim their knowledge, have lower cognitive reflection, and are younger in age are more likely to believe in scientific myths about animals.

METHODS

PARTICIPANTS

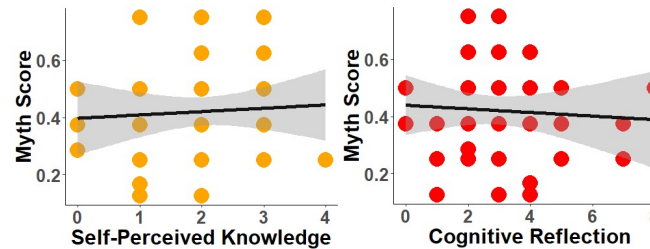
- ▶ 50 participants total
- ▶ Participants ranged from 7 to 10 years of age
- ▶ Recruited from Children's Research Center database

MATERIALS

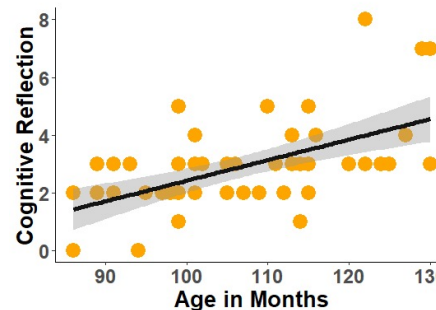
- ▶ Myth questionnaire: measured endorsement of 8 scientific animal myths
- ▶ Confidence questionnaire: measured self-perceived knowledge of animals
- ▶ Child overclaiming questionnaire: measured overclaiming of animal knowledge
- ▶ Developmental cognitive reflection test: measured cognitive reflection
- ▶ Parent questionnaire: measured parent-given endorsement of myths on the myth questionnaire
- ▶ The study was conducted online, with an experimenter interviewing each participant on Zoom.

RESULTS

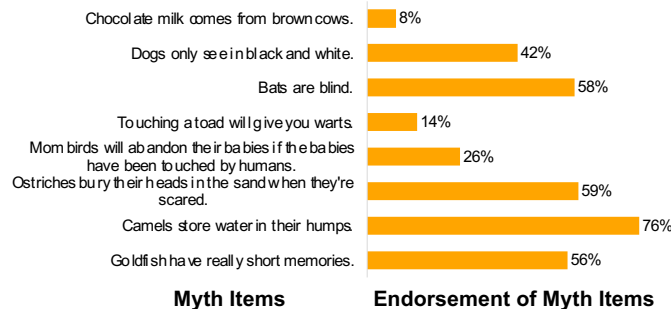
Of self-perceived knowledge, overclaiming, cognitive reflection, and age, none were predictors of myth endorsement.



Age was predictive of performance on the developmental cognitive reflection test, $R^2 = .33$, $p < .001$.



Children endorse different myths to varying degrees.



SUMMARY

- ▶ There were no significant predictors of endorsement of all myths or endorsement of familiar myths only.
- ▶ Familiar myths were more likely to be endorsed, while unfamiliar myths were more likely to be rejected, $\chi^2(1, N = 50) = 89.98$, $p < .001$.
- ▶ Age was predictive of cognitive reflection test score, $R^2 = .33$, $p < .001$.
- ▶ Interest in animals positively correlated with overclaiming, $r(49) = .311$, $p = .028$.
- ▶ This effect is driven by a small number of participants who overclaimed.

CONCLUSION

- ▶ Children do believe in myths about animals, and their endorsement of these myths varies.
- ▶ Self-perceived knowledge, overclaiming of knowledge, cognitive reflection, and age all do not explain myth endorsement.
- ▶ These findings suggest that children are skeptical believers. They are likely to believe in myths that have been introduced to them but are skeptical of unfamiliar myths.
- ▶ Children's interest in a topic may predict their overclaiming knowledge of that topic, though previous findings suggest children's self-perceived knowledge of a topic is more closely associated with overclaiming.
- ▶ These findings support past research on age and cognitive reflection.

FUTURE DIRECTIONS

- ▶ Future research is needed to better capture overclaiming in children.
- ▶ Future research might investigate myth endorsement in adults to see if myth endorsement persists throughout the lifetime.

KEY REFERENCES

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