Discerning minds: Are children skeptical of an unjustifiably confident informant?

Rachel L. Severson*  
University of Montana  

Susan A. J. Birch  
University of British Columbia

Introduction

Rather than passively absorbing knowledge from others, children are discerning in whom they learn from (e.g., preferring to learn from individuals who are accurate, prestigious, or confident [1, 2, 3]). Although ideally one’s degree of confidence would be highly correlated with their knowledge, it is possible that one’s confidence is unjustified—that is, they are overconfident [4, 5].

1. Do children prefer to learn from an individual whose confidence is well-calibrated with their knowledge? Or do they prefer to learn from a confident individual, regardless of whether their confidence is justified?

2. Does an individual’s calibration influence children’s impression of how smart that individual is? If so, do children prefer to learn new information from the “smarter” individual?

Method

502 children 3-12 years (M=6.42 yrs., SD=2.36; 50% female) were randomly assigned to either the Informed (N=241) or Uninformed Condition (N=261). 56% reported child’s ethnicity as European (61%), Asian (23%), Mixed (11%), or Other (4%).

History Phase
Models were shown (Informed)/not shown (Uninformed) boxes’ contents and asked to identify contents. One model answered confidently, the other hesitantly.

Test Phase 1: Four Endorse Trials
• Models were shown a picture of an “unusual animal” and were asked to name the animal.
• Each model confidently provided a different novel name (e.g., “Modi” or “Toma”)
• Participants were asked, “What do you think it’s called – a Modi or a Toma?”

Test Phase 2: Four Ask Trials
• Participants were shown pictures of other unusual animals.
• Participants were asked, “Who do you want to ask what animal this is? Who do you think will know that?”

Post-Test Questions
• Did Amanda and Emily get to see inside the boxes?
• Did Amanda/Ellie know what was inside the boxes?
• Who do you think is smarter?

Results

Manipulation Check
• Memory: Did Amanda and Emily get to see inside the boxes? 92.5% correctly recalled whether they had seen inside boxes.
• Looking leads to knowing (Fig. 1): Did Amanda/Ellie know what was inside the boxes?
  • Informed Condition: Both models had knowledge, but the confident model was more knowledgeable than the hesitant model.
  • Uninformed Condition: Both models lacked knowledge.

Who’s Smarter?
Children were twice as likely to judge the confident model as smarter in the Informed Condition compared to the Uninformed Condition (OR=2.16, CI= [1.48–3.19], p<.001).

Who Do Children Prefer to Learn From?
• Informed Condition: Across ages, children were more likely than chance to learn from the confident model on both the Endorse trials (t(238)=3.29, p<.001, d=.43) and Ask trials (t(239)=2.80, p<.005, d=.36).
• Uninformed Condition: Across ages, compared to Informed Condition, children were less likely to learn from the confident model on the Endorse trials (t(495)=2.704, p=.007, d=.27) and Ask trials (t(482.7)=1.640, p=.10, d=.15).

Discussion

The critical question of this study was whether children appreciate that confidence should be justified by knowledge when determining who is a credible source of knowledge.

• In the Informed Condition—when confidence is justified by knowledge—children across ages think the confident model smarter and prefer to learn from her over an model who is also knowledgeable but lacks confidence.

Together, these results suggest that children come to appreciate that confidence should be justified by knowledge.

References

2. Brosseau-Liard, P., Cassels, T. G., Birch, S. A. J. (2014). You seem certain but you were wrong before: Developmental change in preschoolers’ relative trust in accurate versus confident speakers. PLOS One, 9(9), e108308.

Acknowledgments. This research was supported by a grant to S.B. from the Social Science and Humanities Research Council of Canada.

*Corresponding Author: rachel.severson@umontana.edu