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Children learn more when they are asked to generate predictions about events that violate expectations.²

Does prompting children to make predictions about anomalous evidence improve their ability to learn from it?

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**BACKGROUND**

- When children have developed naïve theories, they often discount new evidence that is anomalous to their theories.¹
- Children learn more when they are asked to generate predictions about events that violate expectations.²
- Does prompting children to make predictions about anomalous evidence improve their ability to learn from it?

**METHOD**

**Participants**
- 39 4-year-old children (M = 4.51, SD = 0.26)
- 40 5-year-old children (M = 5.42, SD = 0.30)

**Outcome**
- Assessed whether children’s prediction changed across three trials after observing instances of anomalous evidence.

**Procedure**
Children engaged in an activity where they witnessed 3 examples of heavy and light objects falling at the same rate.

**RESULTS**

**Coding Scheme**

<table>
<thead>
<tr>
<th>Predictions for each Trial</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>One object falls faster</td>
<td>0</td>
</tr>
<tr>
<td>Both objects fall at the same rate</td>
<td>1</td>
</tr>
</tbody>
</table>

**Cochran’s Q test**
- 4-year-olds made similar predictions across all three trials, \( \chi^2(2) = 5.43, p = .07 \).
- 5-year-olds re-evaluate their predictions about the rate at which objects fall based on previous trials, \( \chi^2(2) = 26.60, p < .001 \).

**McNemar tests**
- Post-hoc pairwise comparisons (Bonferroni correction α = .17) revealed that 5-year-olds’ predictions for Trial 1 were significantly different than Trial 2 (\( p = .001 \)) and Trial 3 (\( p < .001 \)).
- However, Trial 2 and 3 were not different from each other (\( p = .05 \)).

**DISCUSSION**

- Five-year-olds improved their predictions after the first trial. Four-year-olds’ predictions did not improve over time.
- 5-year-olds experience of anomalous evidence leads to belief revision.
- Making predictions about belief violating evidence may activate prior knowledge, generate surprise and help children revise their subsequent predictions.²

**REFERENCES**