Imitation and Social Learning in Preschoolers
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Background
• Imitation is an important learning tool, particularly relevant for the spread of cultural behaviors.
• Previous research has shown that very young children are apt imitators, but there is developmental trajectory in the goals of imitation. Younger children tend to imitate in order to gain functional knowledge, only imitating “rational” or relevant actions. But older children tend to imitate with a social goal, to be “like others,” imitating even irrational/irrelevant actions.
• But all previous studies have only used one modeler. Since the spread of cultural behavior happens in groups, we are interested in exploring how similarities and differences within a group affect imitation behavior.

Question
Does group diversity affect imitative learning?
Specifically, from what kind of group are preschoolers more likely to imitate irrelevant actions: homogeneous or heterogeneous?

Study Design
• Participants: Twenty four 3- to 6-year-olds (12 boys, 12 girls, mean age = 4.7 years).
• Two between-subject conditions: Homogenous and Heterogeneous
  Homogenous = 2 same race and gender actors (either 2 Caucasian males or 2 African-American females).
  Heterogeneous = 2 different race and gender actors (1 African-American female, 1 Caucasian male).
• Children in both conditions first saw an actor perform a functional relevant action followed by 2 actors (homogeneous or heterogeneous) performing irrelevant actions.
• After seeing the video, children played with the music box. We recorded which of the actions they imitated: the relevant or the irrelevant ones.

Procedure
In both conditions, children first watched a video of 1 actor performing the relevant action 3 times.
Then, children watched a video of 2 actors (homogeneous or heterogeneous) modeling the irrelevant action 3 times.

Results

<table>
<thead>
<tr>
<th>Imitation Actions</th>
<th>Homogeneous</th>
<th>Heterogeneous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant</td>
<td>🔴</td>
<td>🔴</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>🔺</td>
<td>🔺</td>
</tr>
</tbody>
</table>

33% of children in the Heterogeneous condition imitated the irrelevant action, while 0 children in the Homogenous condition did so, $\chi^2(1, 24) = 4.80, p = .03$.

Memory by Condition

<table>
<thead>
<tr>
<th>% of children</th>
<th>Homogeneous</th>
<th>Heterogeneous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>🔴</td>
<td>🔴</td>
</tr>
<tr>
<td>Did not remember</td>
<td>🔺</td>
<td>🔺</td>
</tr>
<tr>
<td>Said remembered, did not knock</td>
<td>🔺</td>
<td>🔺</td>
</tr>
<tr>
<td>Said remembered, knocked</td>
<td>🔺</td>
<td>🔺</td>
</tr>
</tbody>
</table>

Summary
• Four-year-olds are not blind imitators: they preferred to relevant functional actions than irrelevant ones.
• However, the likelihood of imitating irrelevant actions is higher if children had observed a diverse group modelled this action.
• Unwillingness to imitate irrelevant behavior is probably not due to a lack of memory about the irrelevant action.

Test (same in both conditions):
Now it’s your turn!

Memory questions:
“Do you remember what you saw in the video?”
“What can you show me what my friends did?”

Press the pink button to make music (x 3)
Knocked 3 times, then pressed the pink button to make music (x 3)