Three-month-old Infants' Understanding of a Human Agent's Preference

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Introduction

What is preference and why does it important?

- Preference is an important dispositional state helping interpreting and predicting people's behaviors.
- To young children, knowledge of preference also helps them understand why people chose one object over another object, and therefore, to predict their behaviors.

" Effort" - emphasis in present study

- "Effort" is one of the most important element for adult to perceive the idea of "preference". Do 3-month-old infants use this information to attribute others' preferences?
- Researchers used the varying distances from the two objects to the agent to test the effort information rather than use a barrier.

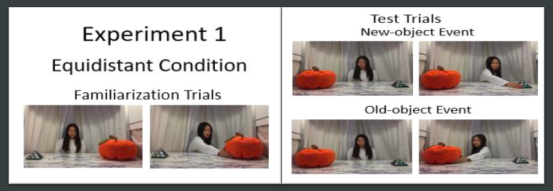
Prior studies on this topic

- 3-month-old infants using agents' unvarying choices on one object in a two-object task (Choi & Mou & Luo, 2018)
- 10-month-old infants also use effort information to attribute people's preferences (Liu, Ullman, Tnenbaum, & Spelke, 2017)
- 5- or 6-month-old infants also use effort information to attribute people's preferences (Choi, Luo, & Baillargeon, in prep.; Luo & Johnson, 2009)

Experiment 1 Equidistant Condition

Participant

Participants were 24 healthy, full-term infants, 13 males (2 months, 16 days to 4 months, 16 days, M = 3 months, 17 days). Another 9 infants' data were excluded due to the observers' difficulties (n = 4), being fussy (n = 2), being distracted (n = 2), or a long feeding break during the experiment (n = 1).



Procedure

- Infant first received six familiarization trials and four test trials.
- In each familiarization trials, the agent either reach out and grab the pumpkin or the pyramid and rest her hand on the object for the rest of the trial.
- In each test trials, the positions of the two objects were switched. The agent grabbed the object she didn't reach to in the familiarization trials first, then grabbed the old object.

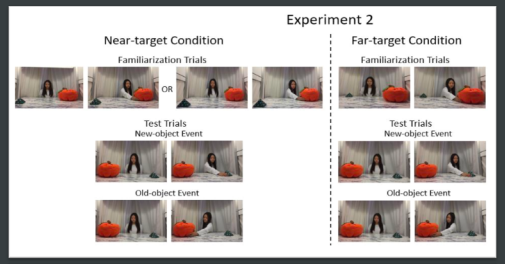
Result

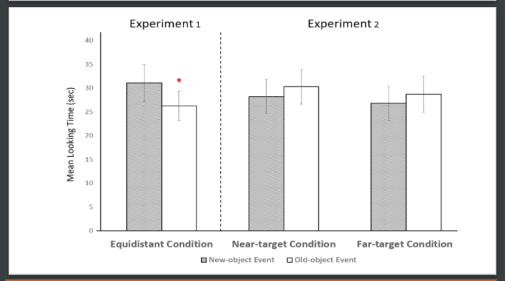
- Infants looked reliably longer at the new-object event (M = 31.1 s, SD = 19.1) than the old-object event (M = 26.3 s, SD = 14.9), t (23) = 1.80, p = .042, Cohen's d = .376.
- Therefore, the infants viewed the agent's unvarying choice on one object than the other during the familiarization trials as her preference, when they only had to consider choice information, since the two objects were equidistant from the agent.

Experiment 2 Varying Distance Condition

Participant

Participants were 48 healthy, full-term infants, 26 males (2 months, 12 days to 4 months, 16 days, M = 3 months, 6 days). Another 18 infants' data were excluded due to the observers' difficulties (n = 7), being fussy (n = 3), being distracted (n = 2), or drowsy (n = 1).





Result

- $F(1, 46) = 0.39$, $p > .250$, $\eta 2partial = .009$ (near-target condition: $M = 21.2$, $SD = 7.9$; far-target condition: $M = 19.8$, $SD = 7.3$).
- Therefore, when the two objects were of different distances to the agent, infants did not take the agent's unvarying choice of object-A as opposed to object-B during familiarization as evidence of her preference.

General Discussion

- The present results suggest that if seeing an agent consistently choose object-A over object- B, 3-month-old infants took her unvarying choice as evidence of her preference for A, only when the two objects were equidistant, but not when the two objects were of different distances to the agent during the familiarization trials.

- **There are two possible explanations for the negative results obtained in Exp. 2.**
  - One is the varying distances in the familiarizations might be too difficult for 3-month-old infants to process, therefore, they failed to tell the differences between the distances.
  - The other is, in the near target condition, where object A was closer to the agent, these young infants might simply think that object B was inaccessible for the agent due to the long distance.
  - In this case, the near target condition was similar with the one-object condition (Choi & Mou & Luo), in which the infants held no expectations on object B.

- Therefore, researchers designed Experiment 3, which has similar apparatus and procedure from Experiment 2 except the following aspects:
  - **During the familiarization trials, the two objects will be set on the same fronto-parallel plane, and the agent will sit right behind object A and grab object A (near-target condition) or grab object B (far-target condition).**