Infants’ Generalization of Causal and Non-causal Actions Across Social Groups

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Study 1: Generalizing Causal vs. Non-causal Actions

Adults expect members of social groups to act alike (Bodenhausen & Macrae, 2000). Previous work shows that preverbal infants also expect common behaviors amongst social groups (Powell & Spelke, 2013).

These past studies tested infants’ generalizations of non-causal actions. Here we hypothesize that infants will interpret causal actions in terms of their instrumental goals rather than external goals (Schachner & Carey, 2013), and thus don’t require social explanations. Moreover, there may be separate core domains of social vs. agentic reasoning in infancy (Spelke, Bernier & Skerry, 2013).

Participants: 48 7.5- to 9.5-month-olds and 46 11.5- to 13.5-month-olds (The 24 infants in each age range assigned to the non-causal condition were reported in Powell & Spelke, 2013a, 2013b).

Results:
- In the causal condition, looking times to consistent and group inconsistent trials, F(1,47) = 3.56, P < 0.001.
- In the causal condition, looking times to consistent and individually inconsistent actions at test.

Discussion: The reliable violation of expectation response that infants show to group inconsistent non-causal actions does not occur when they are presented with causal actions. Infants may interpret causal actions in terms of their instrumental goals rather than their social relevance.

Study 2: Individual Action Control Experiment

The second experiment was designed to rule out the possibility that the outcomes of the causal actions distracted infants, which might prevent them from tracking the consistency or inconsistency of actions not only across social groups but within individual behavior as well.

Participants: 24 7.5- to 9.5-month-olds and 22 11.5- to 13.5-month-olds

Methods: The procedure was the same as in Study 1 except that only the top character from each group acted during familiarization and test.

Results: Averaging across both test pairs, there was no significant main effect of trial type F(1,42) = 2.47, P < 0.1. Separating the two test pairs did reveal significantly longer looking to individually inconsistent actions in the first test pair but not the second. There was no sign of a similar initial difference in looking to group inconsistent actions in the causal condition of Study 1.

Discussion: Although the results are weak, infants’ reaction to the first test pair suggests the outcome of the causal actions does not prevent them from learning agent-action contingencies. The lack of effect in the second test pair may be a product of the individual actor’s highly variable action profile across the two rounds of trials in this condition.

References: