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# Core knowledge influences explanatory reasoning in children and infants

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**Abstract**

Explanations help us make sense of the world. How does early knowledge shape explanatory reasoning? We first asked whether children's knowledge of object physics shapes their explanation preferences (Experiment 1). In previous work, children preferred teleological explanations (referencing purposes) to mechanistic explanations (referencing underlying processes) for natural events — a domain where children may lack robust knowledge. Here, preschoolers (N=26) saw natural events, non-surprising physical events, and surprising physical events. Then, they chose between teleological and mechanistic explanations. Children strongly preferred mechanistic explanations, suggesting that early physical knowledge influences explanatory reasoning in children. We then asked whether this extends to infants (Experiment 2). Infants (N=23) watched a ball bouncing off (non-surprising) or rolling through a wall (surprising event). Following the surprising event, infants showed systematically different looking patterns at explanatory vs non-explanatory information (e.g., wall with a hole vs. no hole). Thus, core object knowledge influences explanatory reasoning in early development.



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