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Learning to Recognize Uncertainty: Effects of Disconfirming Evidence on Confidence Scale Use in Preschoolers

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Abstract

Although young learners often express overconfidence, research has demonstrated that 3- to 4-year-old children may be able to use a confidence scale to discriminate between their correct and incorrect responses. The current research introduces a novel paradigm to facilitate childrens reflection and reporting of confidence, based on the presentation of disconfirming evidence. This paradigm presents 3-, 4- and 5-year-olds with windows of varying occlusion (none, partial, and full). Children used a 3-point scale to assess their confidence that a target shape was behind each window. In four conditions, we varied when and whether children received disconfirming evidence. Results suggest that violating childrens expectations about the presence of the target shape on the first trial results in improves confidence calibration on future trials. Results also suggest that baseline confidence scale use improves with age. We discuss theoretical implications for development of uncertainty monitoring and potential applications of this novel paradigm.