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# Development of metacognitive monitoring during consecutive contingent decisions.

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## Abstract

Metacognitive monitoring of uncertainty is critical for the development of self-regulated learning because recognition of uncertainty triggers information-seeking or a strategy change. Uncertainty monitoring is assessed with the calibration of explicit self-reports of certainty with objective levels of certainty. Typically, this is done with cognitive tasks where each trial is independent from the last, such as with perceptual judgments of noisy images. However, uncertainty monitoring is perhaps most important when there are multiple consecutive decisions to be made that are contingent on each other, such as problems requiring multiple steps to solve. Reasoners have to reflect on each step and consider if they are getting closer or further from a solution. In the current experiment, both children aged 5-10 and adults calibrated their initial certainty judgments similarly, showing sensitivity to differing initial levels of certainty. However, only adults updated their judgments as they progressed through consecutive decision steps.