

(Un)conscious Updating? Conscious and Unconscious Reward Cues Can Affect Executive Control

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Abstract: The present study investigates whether updating, an important function of executive control, can be driven by unconscious reward cues. Participants had to memorize several numbers and update those numbers independently according to a sequence of arithmetic operations. At the beginning of each trial, a reward (1 euro or 5 cents) was presented, either subliminally or supraliminally. Participants could earn the reward if they found the correct response on the updating task. Results showed better performance when a high (conscious or unconscious) reward was at stake compared to a low reward. This suggests that subliminal information can influence a component process of executive control traditionally thought to require consciousness.