Explicit cues lead to reward-related enhancements in motor skill performance

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Abstract

A large body of evidence suggests that motor sequencing skills can be trained either implicitly or explicitly. That is, participants can learn implicitly outside of conscious awareness or they can be explicitly told and/or cued to existence of repeating sequences. Although explicit learning often coincides with faster skill acquisition, the role of conscious awareness in skill learning is still debated. Some recent work has suggested that the benefits seen from explicit learning are not due to added conscious knowledge per se, but rather an increase in intrinsic motivation. Here we show that although performance-contingent monetary incentives lead to improved performance in all subjects, this effect is larger for explicitly trained subjects. This suggests that intrinsic motivation alone cannot explain the superior performance in explicitly trained tasks and that explicit knowledge can confer an additional benefit in that it can allow individuals to better contextually modulate their behavior.