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How to measure observational implicit learning of complex sequences: a novel paradigm involving rapid visual presentation and serial reaction time task

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Abstract

Observational learning has been studied using the serial reaction time task (SRTT) reporting inconsistent findings on its nature. When present, observational learning appears to be due to explicit learning, even for complex second-order sequences (SOC). In contrast, statistical learning has been studied using the rapid serial visual presentation (RSVP) reporting implicit observational learning of simple sequences. We combined elements of the SRTT and RSVP to investigate whether observational learning of SOC can occur. Two groups were exposed to either a repeated or a random sequence in RSVP. A completion and a recognition tasks were performed as a measure of explicit learning, and an SRTT as a measure of implicit learning. Although results showed no difference between groups in the SRTT, the early learning index predicted the recovery from interference exclusively in the experimental group, which also showed a greater awareness of the repetitiveness of the sequence.