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Age, gender, and learning style predict spontaneous explicit learning in an implicit learning task

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Abstract

Previous studies of implicit learning have demonstrated spontaneous explicit learning in some participants but not others. We investigated whether differences in spontaneous explicit knowledge could be predicted by individual-level variables. Ninety-five undergraduates ($M_{age} = 19.91$, $SD_{age} = 1.5$; $N_{female} = 85$) performed a Serial Response Task in which a sequence was embedded in some blocks but not others; all participants demonstrated implicit learning (shorter RTs for sequence blocks compared to random blocks) but only 31 (32%) were able to describe the sequence accurately afterwards. Neither verbal nor non-verbal IQ, nor working memory span, nor Need for Cognition differentiated those with explicit sequence knowledge from those without. However, the relationship between sex and any explicit knowledge was significant ($2(95) = 4.5$, $p = .03$), and among participants with any explicit sequence knowledge, males correctly recalled more sequence items than females ($M_{male} = 8$, $M_{female} = 4.19$; $t(29) = 3.26$, $p = .0028$).