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### **Proceedings of the Annual Meeting of the Cognitive Science Society**

#### **Title**

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#### **Permalink**

<https://escholarship.org/uc/item/2748k65h>

#### **Journal**

Proceedings of the Annual Meeting of the Cognitive Science Society, 40(0)

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#### **Publication Date**

2018

# **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 ( $F(1,95) = 4.5$ ,  $p = .03$ ), and among participants with any explicit sequence knowledge, males correctly recalled more sequence items than females ( $M_{male} = 8$ ,  $M_{female} = 4.19$ ;  $t(29) = 3.26$ ,  $p = .0028$ ).