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Unconscious learning of orthographic regularity

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Abstract

Orthographic regularity (OR), the statistical regularity of letter strings, is a critical factor in fluent visual word recognition. Although studies showed that this regularity could be learned by simple exposure to letter strings, it remains unclear whether OR could be learned when participants are unconscious of their exposure to letter strings. In this study, we compared OR learning between unmasked and masked (continuous flash suppression; CSF) exposure conditions. From Chetail (2017)'s study, regularities are embedded in the initial position of letter strings (e.g., A B _ _ _). Nine of fifteen participants who were slightly aware of the presentation of stimuli in CSF condition (< 30 %) significantly selected the letter stimuli embedded in OR as word-like both in CSF (69.2%) and non-CSF (69.9%) conditions, showing no significant difference between conditions. This result suggests that orthographic regularity can be learned even when letter strings are perceived unconsciously.