Are there unconscious visual images in aphantasia? Development of an implicit priming paradigm

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Abstract

For some people the experience of visual imagery is lacking, a condition recently referred to as aphantasia. So far, most of the studies on aphantasia rely on subjective reports, leaving the question of whether mental images can exist without reaching consciousness unresolved. In the present study, the formation of mental images was estimated in individuals with aphantasia without explicitly asking them to generate mental images. 151 Participants performed an implicit priming task where a probe is assumed to automatically reactivate a mental image. An explicit priming task, where participants were explicitly required to form a mental image after a probe, served as a control task. While control participants showed a priming effect in both the implicit and explicit tasks, aphantasics did not show any priming effects. These results suggest that aphantasia relies on a genuine inability to generate mental images rather than on a deficit in accessing these images consciously. Our priming paradigm might be a promising tool for characterizing mental images without relying on participant introspection.

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