
Unveiling the mystery of déjà vu

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Abstract

Déjà vu is an eerie experience that is characterized by the recognition of a situation concurrent with the awareness that this recognition is inappropriate. This feeling of irrelevant familiarity is a common phenomenon occurring both in clinical (mainly epileptic) and nonclinical population. Despite numerous theories have been suggested as to what nonpathological déjà vu is and what causes it, until now no ultimate explanation has been generally accepted. We investigated differences in brain morphology between healthy subjects with and without déjà vu using a novel multivariate neuroimaging technique, Source-Based Morphometry. The analysis revealed a set of cortical (predominantly mesiotemporal) and subcortical regions in which there was significantly less gray matter in subjects reporting déjà vu. In these regions gray matter volume was inversely correlated with the frequency of déjà vu. Our results demonstrate for the first time a structural correlate of déjà vu in healthy individuals and implicate a direct pathogenetic link between nonpathological and epileptic déjà vu. We hypothesize our findings reflect an alteration of hippocampal function and postnatal neurogenesis in subjects with déjà vu.

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