



CICLE DE CONFER RENCIES 2017

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How schemas affect mnemonic processing: From scanner to classroom

When new declarative memories are formed in the brain, they are typically processed as relating to a preexisting schema. Such a schema, consisting of prior knowledge encapsulated in associative networks in the brain, is thought to enhance integration and storage of memories congruent with the preexisting schema compared to information that is not. This behavioral advantage is believed to be related to differential processes in medial temporal lobe (MTL) and medial prefrontal cortex (mPFC) that occur during and after memory formation. Understanding more about these processes is of crucial importance in situations where enhancing declarative memory is imperative for success, such as in education. In this talk, I will highlight my previous behavioral and functional Magnetic Resonance Imaging (fMRI) research on encoding, consolidation, and retrieval of schema-related declarative memories. These data show that mnemonic processing requires a schema-dependent interplay between MTL and mPFC structures that act to enhance the storage and integration of congruent memories. Based on these insights, we developed a framework that explains these findings in more detail and has provided a basis for further schema research in the past years. Furthermore, I will discuss preliminary data of ongoing studies where I intend to link insights from the cognitive neuroscience of learning and memory to learning in educational practice.

Date: Friday, 16 June 2017

Hour: 13:00

Place: Sala de Juntes, Facultat de Psicologia, Campus Mundet



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