

## **Attribute-based modulation in medial temporal activation during recollection of personal experiences**

D. R. Addis<sup>1,2</sup>, M. Moscovitch<sup>2</sup>, A. P. Crawley<sup>1</sup>, and M. P. McAndrews<sup>1,2</sup>.

<sup>1</sup> Toronto Western Research Institute, Toronto, Ontario

<sup>2</sup> Department of Psychology, University of Toronto, Toronto, Ontario

Recent neuroimaging studies of autobiographical memory (AM) suggest that AM retrieval specifically activates the hippocampus, as part of a left-lateralised memory network (e.g., Maguire & Mummery, 1999). It seems likely that particular attributes of these autobiographical event memories, such as level of detail, emotionality and personal significance, may modulate hippocampal activation, although as yet, this has not been directly investigated. Furthermore, there has been no investigation of the neural basis of the retrieval of different types of autobiographical event memories, namely general, repeated events and unique, specific events. Accordingly, we investigated the role of the hippocampus in the retrieval of general and specific AMs, using an event-related fMRI paradigm. Participants retrieved 20 specific and 20 general AMs in response to memory cues we obtained in a pre-scan interview. Each AM was rated for either level of detail, emotional intensity, or personal significance. Participants also completed two control tasks: Sentence completion and size discrimination. The retrieval of general and specific AMs resulted in the activation of a predominantly left-lateralised memory network. The comparison of general and specific AM retrieval revealed no differences in hippocampal activation, although retrieval of specific AMs resulted in greater activation of ventral lateral prefrontal cortex bilaterally, and general memories activated the right insula and parahippocampal gyrus. Finally, AMs high in detail, emotionality and personal significance activated the hippocampus to a greater extent than AMs low on these dimensions. These results replicate past findings, and suggest also the level of AM attributes modulates hippocampal activation in retrieval.