

## Specific and general autobiographical event memories: Distinct neural networks?

D. R. Addis<sup>1,2,3</sup>, A. R. McIntosh<sup>2,3</sup>, M. Moscovitch<sup>2,3</sup>, A. P. Crawley<sup>1</sup> and Mary Pat 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

<sup>3</sup> Rotman Research Institute, Baycrest Centre for Geriatric Care, Toronto, Ontario

Conway (1992, 1996) proposes that two types of autobiographical event memories (AMs) exist within a hierarchical AM system: unique, specific events and repeated, general memories. Little research has investigated whether retrieval of these AMs have different neural substrates. In a recent event-related functional magnetic resonance imaging (fMRI) study, we found activation of a medial and left-lateralized network during retrieval of specific and general AMs. There were, however, no differences between retrieval of these two types of AMs in univariate analyses. To investigate this issue further, we used a multivariate image analysis technique, partial least squares (PLS), to identify distributed patterns of activity most related to the experimental tasks. In this analysis, specific and general memories were more strongly associated with different aspects of the retrieval network. Specific AMs were characterised by activation of a network of regions involved in imagery in episodic memory, including the left precuneus, left superior parietal lobule and right cuneus. In contrast, general AM retrieval correlated with activation of structures more associated with semantics such as the right inferior temporal gyrus, as well as right medial frontal cortex and left thalamus. These two patterns were demonstrated at slightly different time lags, with the general AM pattern emerging at four seconds post stimulus onset, and the specific AM pattern two seconds later. This difference in time of access is consistent with Conway's (1992, 1996) theory of AM, which proposes that general AMs are the preferred level of entry to the AM system.