

## **P5.26.**

### **Dissociating the neural processes associated with attentional demands and working memory capacity**

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Previous research suggests that overlapping neural networks are associated with visual working memory capacity (WM) and overall attentional demands. Here we used functional magnetic resonance imaging (fMRI) to try to dissociate the neural processes reflecting increased attention demands with increasing number of objects to be stored in WM from those indexing the individuals' WM capacity. It was found that fMRI responses in the bilateral anterior cingulate cortex, the right anterior insula and the right inferior frontal cortex gradually increased with increasing the WM load, independently of the subjects' WM capacity. On the other hand, fMRI responses in the bilateral intraparietal sulcus and in the left anterior insula closely associated with the subjects' WM capacity and not with the overall attentional demands. These results suggest that fMRI can be used to separate the neural signatures of working memory capacity from the neural processes associated with changes in overall attentional demands.