

SELECTIVE ATTENTION IN PATIENTS WITH ALZHEIMER'S DISEASE AND NORMAL ELDERLY CONTROLS: RELATING STRUCTURE AND FUNCTION Elise Levinoff¹, Karen Li², Noor Kabani¹, and Howard Chertkow¹, 1. Bloomfield Centre for Studies in Aging, Lady Davis Institute and 2. Department of Psychology, Concordia University; Montreal, Quebec, Canada

Selective attention involves the ability to ignore irrelevant information in favour of relevant information. Experimental studies indicate that inhibition is closely related to and required for performance on selective attention tasks. Functional imaging studies have linked the neural networks of attention and inhibition to the anterior cingulate gyrus (AC). As a consequence of Alzheimer's disease (AD), patients manifest significant brain atrophy in localized regions as compared to normal elderly controls (NECs). AD patients are also impaired in their ability to selectively attend to relevant information.

In this study, behavioural Stroop task reaction time (RT) data were compared to brain structures related to inhibition and selective attention in 19 AD patients and 19 NECs. A T1 weighted, 1 mm resolution magnetic resonance (MR) image was manually segmented for the cortical grey matter of the AC. Hemispheric volumes of the AC were correlated with the RT data. Preliminary results showed that AD subjects were significantly slower than NECs on reaction time measures in the incongruent condition of the Stroop task. In addition, a negative correlation between the AC grey matter volume and the RTs was found in the right hemisphere of the AD subjects, suggesting that slowed RTs on the Stroop task may have a neuroanatomical correlate amongst the patient group.