

## PW01-196 - RELATIONSHIP BETWEEN SCHIZOPHRENIC SYMPTOMS AND FMRI ACTIVITY DURING PERFORMANCE OF A WORKING MEMORY TASK

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**Introduction:** Recent reports show that psychological functions such as working memory, attention and intention produce overlapping functional activation in the inferior parietal region. Task activation related to attention shifting, theory of mind and agency also overlaps in the inferior parietal and posterior superior temporal regions. We hypothesized that schizophrenic symptoms may stem from abnormal activity in these regions.

**Objectives:** To understand the relationship between brain abnormalities and symptoms in schizophrenia.

**Aims:** To show that abnormal activity in the inferior parietal and posterior superior temporal regions during working memory is related to certain schizophrenic symptoms.

**Methods:** 14 schizophrenic and 14 normal control subjects were tested using functional magnetic resonance imaging (fMRI) in conjunction with a verbal working memory paradigm. Symptoms were assessed using the SAPS and SANS scales.

**Results:** As hypothesized, activity in the posterior superior temporal sulcus during working memory was correlated with levels of delusions in schizophrenic subjects. Connectivity strength between regions in the inferior parietal and anterior insula language related regions was related to levels of auditory hallucinations.

**Conclusions:** These regions are part of speech and voice perception and production networks. Voice perception during conversation also involves gesture processing, working memory and dynamic shifting of attention, as well as social cognition (e.g. theory of mind) and self/other (agency) representation. Over-activation of this social communication system could result in the symptoms of schizophrenia. We will present the results in the context of a framework implicating these regions in the generation of most of the symptoms of schizophrenia.