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BRAIN ACTIVITY DURING SOCIAL COGNITION TASKS IN INDIVIDUALS WITH SCHIZOPHRENIA, THEIR UNAFFECTED SIBLINGS, AND HEALTHY CONTROLS

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**Background:** Several studies have shown that patients with schizophrenia have impaired performance in various aspects of social cognition including emotion processing and theory of mind. Most available neuroimaging studies have compared patients and healthy controls during such mental.

**Objective:** To determine whether alterations in brain activation associated with social cognition reflects a heritable trait in schizophrenia.

**Methods:** Sixteen patients with schizophrenia (age  $31.3 \pm 6.5$ ), 16 non-psychotic siblings (age  $31.8 \pm 3.5$ , 6 females) and 16 healthy subjects (age  $30.1 \pm 9.2$ , 6 females) underwent BOLD fMRI during emotion processing (Ekman Faces Test) and Theory of Mind (ToM) paradigms: Faces and Reading the Mind in the Eyes tasks. In all cases a gender condition was used as a control task. Random effects analysis was done for each task within groups, measuring signal changes between the target and control conditions of each paradigm, and later a group analysis was done.

**Results:** In patients, social cognition tasks brought about activations in language areas (left inferior frontal gyrus and structures near tempo parietal junction). The intensity of the activations was minimum in the emotional processing task (basic emotions), and maximum in the detection of complex mental states in eyes. Healthy controls also activated symmetric brain structures on the right side. Unaffected siblings also showed bilateral activation in the same brain structures but asymmetrically distributed (left > right).

**Discussion:** These results support the idea that schizophrenia is an illness characterized by abnormalities in the process of brain lateralization.