

P-361 - SEX DIFFERENCE IN NEURAL CORRELATES OF THEORY OF MIND

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Theory of mind (ToM) is the ability to predict behaviors of others in terms of their underlying mental states. Impairments in ToM have been found in many psychiatric/neurological disorders including schizophrenia and autism spectrum disorders (ASD). Previous research has indicated that females score higher on standard tests of ToM, social sensitivity, and empathy than males do. To examine possible sex differences in the neural mechanisms associated with ToM, 16 female and 16 male adults were examined with fMRI while performing verbal (story) and nonverbal (cartoon) false-belief tasks. During the ToM condition, female participants showed significantly greater activity in the left superior frontal gyrus (SFG)/medial prefrontal cortex (mPFC) and left ventral prefrontal cortex (vPFC). In contrast, males showed greater activation in the TPJ and greater deactivation in the insula during the ToM cartoon, relative to the ToM story condition. These results suggest that males and females employ different brain regions for ToM depending on the modality involved in the ToM task. Implications of these results on the cognitive and affective neural bases of ToM and the aforementioned psychiatric disorders are discussed.