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Introduction: Individuals with autism spectrum condition (ASC) frequently report difficulties in social communications, combined with restricted inflexible behaviors. However, it is unclear whether this rigidity is pervasive across cognitive flexibility (CF) and affective flexibility (AF) in situations which resolve different social conflicts.
Objectives: To study CF and AF levels and associated brain activity in individuals with ASC.
Methods: Individuals with ASC and with typical development (TD) performed a moral dilemma task during functional magnetic resonance imaging. For CF, participants made decisions on (1) whether to enforce result-oriented actions to prioritize social/public benefits; and (2) judged whether these actions are right or wrong. For AF, participants made decisions on (1) whether to permit social norm/rule violations in sympathy-evoking situations; and (2) permit these identical violations in no sympathy-evoking situations. We calculated participants' CF/AF levels by computing the switching-rate of decisions in CF/AF sessions (switching was defined as: CF, judging the actions as wrong but choosing to enforce the action in the same vignette; AF, judging the violations as not permissible in a no sympathy-evoking circumstance, but permissible in a sympathy-evoking circumstance).
Results: For CF, ASC participants showed a marked decrease in CF switching-rates compared to TD participants (p < 0.05), and in corresponding brain activity for executive functioning. For AF, although the AF switching rate difference was non-significant, we observed unique brain activities in each group (e.g., TD activation of the greater dorsomedial-prefrontal cortex and ASC activation of the cingulate cortex).
Conclusions: Our results suggest ASC inflexibility may be further characterized by both CF and AF.

Disclosure: No significant relationships.
Keywords: flexibility; decision making; autism; fMRI

EPV0400

Functional connectivity alterations between default mode network and occipital cortex in patients with obsessive-compulsive disorder (OCD)

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Introduction: A meta-analysis by Gürsel et al. (2018) found altered functional connectivity in OCD patients within and between default mode (DMN), salience (SN), and frontoparietal networks (FPN), as well as evidence for aberrant fronto-striatal circuitry.
Objectives: Testing the replicability of meta-analysis rsfMRI findings in OCD patients.
Methods: We measured functional connectivity during resting-state fMRI in a sample of OCD patients (n=24) and controls matched for age and sex (n=33). The CONN toolbox implemented in SPM was used to perform seed-to-voxel analysis using 30 seed regions based on the previous meta-analytic findings.
Results: OCD patients showed reduced functional connectivity between SN and DMN compared to controls, replicating previous findings. We did not observe significant group differences of functional connectivity within the DMN, SN, or FPN. The strongest finding consisted of altered connectivity between DMN and SN to the visual network. OCD patients showed reduced functional connectivity between the left lateral parietal seed (LPl) and the inferior lateral occipital pole left (iLOCl) compared to controls. Furthermore, the LPl was found to be hyperconnected with the right superior lateral occipital cortex (sLOCr) and the right precuneus. This finding was positively correlated to OCD symptom severity, especially compulsions.
Conclusions: Our findings replicated partly the meta-analysis findings, specifically reduced connectivity between SN and DMN. Using seeds based on the meta-analysis, we identified aberrations between the SN and, in particular, the DMN to the visual network. This raises the question about the visual system's involvement in OCD symptoms and the abnormal connectivity of a unimodal region to the multimodal DMN.

Disclosure: No significant relationships.
Keywords: neuropsychiatry; functional-connectivity; DMN_Visual-Network; ocd

EPV0401

Effects of acute stress on probabilistic reversal learning in healthy participants

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Introduction: Altered reward-based learning and stress play an important role in psychiatric illnesses, such as psychosis or addiction. Stress sometimes increases learning from rewards, other times it does not show an effect (Starcke & Brand, 2016). A task addressing reward-based learning is the reversal learning task, which uses probabilistic rewards as feedback and incorporates sudden changes in reward contingencies. The effects of acute stress on reversal learning have rarely been addressed.
Objectives: Here, we investigated the effect of acute social stress in a within-subject design in healthy participants.
Methods: A sample of n = 28 male non-clinical participants performed the task in a control condition versus the Trier Social Stress