T68. Seed Based Correlation Analysis of Amygdala and Orbitofrontal Regions in Resting State Activity of an Intermittent Explosive Disorder Population

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Background: Intermittent Explosive Disorder (IED) has been studied using task-based functional magnetic resonance imaging. Amygdala and orbitofrontal (OFC) brain regions are altered during emotional processing in IED subjects. However, no research has assessed differences in resting state activity to determine whether intrinsic neural activity in IED is altered.
Methods: Resting state fMRI and structural T1 weighted images were collected on participants diagnosed with IED (n=25) and healthy controls (n=22). The left and right OFC and amygdala were used as seeds to create four connectivity maps for separate group comparisons using the CONN toolbox. Two-tailed group analyses were calculated. Significant results were identified at $p < 0.0125$, correcting for multiple comparisons.
Results: The right amygdala seed showed significantly less connectivity in the left middle (cluster size (k) =191 voxels (382 mm3)) and inferior (k = 135 voxels (270 mm3)) frontal gyrus in the IED group compared to the controls. The left OFC seed showed significantly less connectivity to the precuneus (k = 160 voxels (320 mm3)) in the IED group compared to the controls.
Conclusions: Participants diagnosed with IED showed significantly weaker connectivity in the amygdala to the frontal gyrus as well as in the OFC to the precuneus compared to healthy controls. These results suggest, even at rest, those with IED have weaker connections within areas and networks associated in aggression and emotional control.
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Keywords: Aggression, Resting State Functional Connectivity, Cognitive Control, rs-fMRI

T69. The Effect of Dopamine Drugs on Reward Discounting: A Systematic Review and Meta-Analysis

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Background: Although numerous studies have suggested that pharmacological alteration of the dopamine system alters reward discounting, these studies have yielded inconsistent findings. Here, we conducted a pre-registered systematic review and meta-analysis to evaluate dopaminergic drug-mediated effects on reward discounting of time delays, probabilities, and physical effort requirements in studies of healthy humans, non-human primates, and rodents.
Methods: We identified potential studies using PubMed. To focus on effects in a normal system, we limited studies to healthy animals excluding effects in human patient groups or animal models of human disorders. This produced a total of 1,343 articles to screen for inclusion/exclusion. Using random-effects with maximum-likelihood estimation, we meta-analyzed placebo-controlled drug effects for (1) DAT, (2) D1-like agonists, (3) D1-like antagonists, (4) D2-like agonists, and (5) D2-like antagonists.
Results: From the literature evaluated thus far (700 of 1,343 articles), we identified 117 effects from 1,517 individual animals. The majority of effects were in rodents (N = 112, with Long-Evans rats comprising 51 effects), while only 4 human effects and 1 non-human primate effect were identified. There were relatively equal numbers of studies using time (N = 43), probability (N = 43), and effort discounting (N = 31) tasks. Meta-analytic effects showed that DAT-binding drugs decreased reward discounting. While D1 and D2 antagonists both increased discounting, agonist drugs for those receptors had no significant effect on discounting behavior.
Conclusions: These findings suggest a nuanced relationship between dopamine and discounting behavior and urge caution when drawing generalizations about dopamine-mediated effects on reward-based decision making.
Keywords: Dopamine, Meta-Analysis, Delay-Discounting, Pharmacology, Decision Making

T70. Could Suicidality in mTBI be Distinct From Depression? A Pilot Study and Theoretical Framework

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Background: Individuals with mild traumatic brain injury (mTBI) are at increased risk for suicidality compared to the general population. mTBI is known to frequently co-occur with psychiatric conditions including post-traumatic stress disorder (PTSD), substance use and depression, though it is unclear if these diagnoses play a role in the increased suicide rate among those with mTBI.
Methods: 22 Veterans were enrolled in the study. Veterans were grouped based on presence or absence of mTBI, with n = 12 for no mTBI group and n = 10 for mTBI group. Presence of mTBI was based on structured TBI interview. A Beck Depression Inventory (BDI), Alcohol Use Disorder Identification Test (AUDIT), and Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) were performed on all participants.
Results: Veterans with mTBI did not differ from veterans without mTBI in frequency of co-occurring psychiatric diagnosis. Veterans with mTBI were more likely to report recent suicidal ideation (SI) per X2 analysis X2=0.391, p=.002, than Veterans without. Among veterans with mTBI, there was no significant difference in BDI score or CAPS-5 score between Veterans who reported recent SI versus those who had not. Veterans with mTBI and suicidal ideation were more likely to report irritability than Veterans with mTBI without SI (X2= 4.5, p =.03).
Conclusions: This suggests that suicidality in individuals with mTBI may be etiologically distinct from a DSM recognized