seeking behaviors. Additionally, female rats may be more sensitive to D2R manipulations on such risky decision-making behavior, highlighting the necessity of tracking sex-based differences in such tasks. Ongoing studies will determine whether D2R activity reveal a similar sex-specific change during such reward-seeking risk-preference. Furthermore, ongoing studies will determine the link of such behavior to effortful decision making and more traditional measures of risk-taking behavior, such as the Iowa Gambling Task used both in rodents and humans.

Categories:
Neuropsychiatry/Psychopharmacology
Keyword 1: decision-making
Keyword 2: psychopharmacology
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64 Reduced Generation of Specific Future Events in Veterans with PTSD

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Objective: When asked to imagine future events, individuals with PTSD provide narratives with limited event-specific details, suggesting an impairment in event elaboration. Here we examined whether future thinking in PTSD is also associated with an impairment in the initial stage of event construction, by using a future-event fluency task that makes no demands on event elaboration (MacLeod, A. K., & Salaminiou, E. (2001). Reduced positive future-thinking in depression: Cognitive and affective factors. *Cognition & Emotion*, *15*(1), 99-107).
Participants and Methods: Thirty-five veterans (6 female, 29 male; aged 27-51), assigned on the basis of structured diagnostic interviews to PTSD-only (n = 15), PTSD + depression (n = 9), or psychopathology-free control groups (n = 11), were asked to generate, in one minute, as many events as possible that they expected to happen in the future, across four conditions that varied in valence (positive, negative) and temporal framework (1 month, 10 years). Two independent raters classified each event generated as being specific (i.e., a unique, time-limited event), generic (i.e., ongoing or recurring events), or a repetition.
Results: Results of linear mixed modeling carried out on the number of specific events generated showed that diagnostic group and event valence contributed significantly to the overall model fit. All participants generated more positive than negative events (β = 1.014, SE = 0.330, $t(105) = 3.07$ p = 0.003), and both PTSD groups generated fewer specific events than controls (PTSD-only (β = -2.203, SE = 0.744, $t(35) = -2.96$, p = 0.005); PTSD + depression (β = -1.859, SE = 0.842, $t(35) = -2.21$, p = 0.034). Adding the interaction between group and valence did not improve the model fit, suggesting that the PTSD groups were not differentially impaired in the generation of positive and negative events. When including scores on an emotionally neutral phonemic fluency task (FAS) as a covariate to account for verbal fluency, the PTSD-only group still generated significantly fewer events than the controls (β = -1.667, SE = 0.733, $t(34) = -2.27$, p = 0.030). After adjusting for FAS, the group effect was marginal for the PTSD + depression group (β = -1.600, SE = 0.801, $t(34) = -2.00$, p = 0.054).
Conclusions: These results suggest that the impairment in future thinking in PTSD concerns not only the elaboration of future events but also the processes involved in initial event specification, such as those involved in the search and selection of a specific event. Moreover, these findings highlight a distinction between the future thinking abnormalities in PTSD, characterized by reduced generation of both positive and negative future events, compared to depression, which has been associated with reduced generation of positive future events only (MacLeod & Salaminiou, 2001).

Categories: Psychiatric Disorders
Keyword 1: post-traumatic stress disorder
Keyword 2: fluency
Keyword 3: cognitive neuroscience
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65 The Impact of PTSD and Mild Cognitive Impairment on Resting State

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Brain Functional Connectivity in World Trade Center Responders

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Objective: Functional connectivity of the default mode network (DMN) during rest has been shown to be different among adults with Mild Cognitive Impairment (MCI) relative to aged-matched individuals without MCI and is predictive of transition to dementia. Post-traumatic stress disorder (PTSD) is also associated with aberrant connectivity of the DMN. Prior work from this group has demonstrated a higher rate of MCI and PTSD among World Trade Center (WTC) responders relative to the general population. The current study sought to investigate the main and interactive effects of MCI and PTSD on DMN functioning. Based on prior work, we hypothesized that MCI, but not PTSD, would predict aberrant connectivity in the DMN.
Participants and Methods: 99 WTC responders aged 44-65 stratified by MCI status (yes/no) and PTSD status (yes/no) and matched for age in years, sex (male vs. female), race (white, black, and other), and educational attainment (high school or less, some college / technical school, and university degree), and occupation on September 11, 2001 (law enforcement vs. other) underwent fMRI using a 3T Siemens Biograph MR scanner. A single 10-minute continuous functional MR sequence was acquired while participants were at rest with their eyes open. Group-level analyses were conducted using SPM-12, with correction for multiple comparisons using AFNI's 3dClustSim. Based on this threshold, the number of comparisons in our imaging volume, and the smoothness of our imaging data as measured by 3dFWHMx-acf, a minimum cluster size of 1134 voxels was required to have a corrected p ≤ .05 with 2-sided thresholding. Spherical 3 mm seeds were placed in the dorsal (4, -50, 26) and ventral (4, -60, 46) posterior cingulate cortex (PCC).
Results: Individuals with PTSD demonstrated significantly less connectivity of the dorsal posterior cingulate cortex (PCC) with medial insula (T = 5.21), subthalamic nucleus (T = 4.66), and postcentral gyrus (T = 3.81). There was no difference found in this study for connectivity between groups stratified by MCI status. There were no significant results for the ventral PCC seed.
Conclusions: Contrary to hypotheses that were driven by a study of cortical thickness in WTC responders, the impact of PTSD appears to outweigh the impact of MCI on dorsal DMN connectivity among WTC responders stratified by PTSD and MCI status. This study is limited by several issues, including low number of female and minority participants, relatively small group cell sizes (n = 23-27 per cell), a brief resting state sequence (10 minutes), and lack of a non-WTC control group. Importantly, responders are a unique population so generalizability to other populations may be limited. Individuals in the current study are now being followed longitudinally to relate baseline resting state functional connectivity with cognitive changes and changes in connectivity over a four-year period.

Categories: Psychiatric Disorders
Keyword 1: post-traumatic stress disorder
Keyword 2: mild cognitive impairment
Keyword 3: neuroimaging: functional connectivity
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66 A Recurrent Pattern of Posterior Vermis-Predominant Cerebellar Hypoplasia (Not Dandy-Walker) Occurring with Psychosis-Schizophrenia

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Objective: Schizophrenia (SCZ) is a neuropsychiatric disorder with strong genetic heritability and predicted genetic heterogeneity, but limited knowledge regarding the underlying

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