who completed a baseline assessment and a one-year follow-up. Physiological data, structured clinical interviews and self-reports on psychopathological distress were obtained at both time points. Covariance and predictors of change in clinical outcomes and HF-HRV were assessed.
Results: Patients showed clinical improvements indicated by a reduction of depressive symptoms ($z(34;17) = -3.74$, $p<.0001$), NSSI frequency ($z(34;17) = -3.79$, $p<.0001$), and increases in the level of functioning ($z(34;17) = 2.87$, $p=.004$). No significant differences were observed on resting state HF-HRV ($z(34;17) = -0.94$, $p=.348$) recorded at baseline and follow-up. Changes in BPD symptoms were significantly associated with changes in resting HF-HRV ($r(17)=-.516$, $p=.033$).
Conclusions: Longitudinal changes in BPD symptomatology in adolescents engaging in NSSI are associated with changes in resting state HF-HRV, which gives support to HF-HRV as a trait marker of emotion regulation capacity. Results bear promise with respect to the implementation of measures of HF-HRV in the monitoring of patients and outcome assessment within psychiatric research. Future clinical studies are necessary to investigate the utility of HF-HRV to track treatment outcome in adolescents with BPD.
Keywords: Non-suicidal self-injury, Borderline Personality Disorder, Adolescents, Heart rate variability, longitudinal

672. Neural Mechanisms Underlying the Cognitive Regulation of Value Attribution: Abstraction of Contextual Information in the Monkey Hippocampus

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Background: Human and animal studies have pointed to valence systems (reward valuation, reward prediction error) and to cognitive constructs such as working memory and cognitive control as potentially malfunctioning in several psychiatric disorders characterized by difficulties with emotional regulation. Animal studies have shown encoding of both valences at cellular level coexisting with the encoding of cognitive constructs. The purpose of this study is to investigate the modulatory mechanisms of cognitive constructs on reward valuation.
Methods: Two rhesus monkeys were trained to perform an action in response to visual cues. The monkey had to release a level in response to two of four fractals and hold it in response to the other two. After a random number of trials, the contingencies revers, leading to a change in the rule in effect. Importantly, the reversals were not cued. Single cell activity electrophysiological recordings were collected from the anterior cingulate gyrus (ACC), hippocampus (HPC) and dorsolateral prefrontal cortex (DLPFC).
Results: Monkeys were able to infer the change in contingencies shortly after the first mistake following the reversal. Single neuron activity showed a strong encoding of the rule in effect in several brain regions, particularly the ACC and the HPC. Further analysis showed that the hippocampus relies more than other brain areas on a process of abstraction rather than memory recall.
Conclusions: Understanding the mechanisms of value attribution and cognitive control may elucidate individual differences leading to emotional dysregulation. Here we investigated some of the nodes belonging to a wider network.
Supported By: NARSAD, T32 fellowship, APA Research Fellowship
Keywords: Electrophysiological Single Unit Recordings, ACC, value, Hippocampus, Rhesus Monkey

673. Sleep Components in Early Postpartum Predict Later Postpartum Depression

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Background: Postpartum depression (PPD) occurs in 15-20% of mothers worldwide and is associated with adverse outcomes for both mother and child. Prior research has established a relationship between overall sleep quality and PPD, but few studies have considered individual sleep components. We conducted an exploratory study in 62 mood-disordered women to consider the relationship between sleep components measured in the 3rd trimester and one month postpartum and the later development of PPD.
Methods: We measured sleep (Pittsburgh Sleep Quality Index (PSQI), subscale and total scores) and depressive symptoms (Inventory of Depressive Symptoms, Self-Report (IDS-SR)) in the third trimester and at one month and three months postpartum. We used bivariate and multivariate linear regression models to study the association between PSQI and IDS-SR scores, with adjustments for age, education, diagnosis, history of child abuse, antidepressant use, and depression.
Results: Higher global PSQI scores (reflecting poor sleep quality) as well as higher component scores for subjective sleep quality, sleep latency, sleep efficiency, sleep medication usage, and daytime dysfunction, measured at one month postpartum, were associated with increased IDS-SR scores (reflecting more severe depression) at three months postpartum ($p = 0.003, 0.01, 0.01, 0.003, <0.001$, respectively). We did not find an association between poor sleep quality in the third trimester and PPD at one or three months.
Conclusions: Poor sleep quality in the early postpartum independently predicts development of later PPD. Targeting individual components such as sleep latency and efficiency may be an important postpartum therapeutic tool.
Supported By: NIMH K23MH074799 (Payne, PI)
Keywords: Postpartum Depression, Sleep, Mood disorder, Pregnancy

674. Subcallosal Cingulate Local Field Potential (SCC-LFP) 1/f Noise Changes during SCC Deep Brain Stimulation (DBS) for Major Depressive Disorder (MDD): Observations across Treatment Phases and Circadian Cycles

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