electrocortical responsivity to negative pictures at baseline showed greater reductions in worry from pre- to post-treatment [$\beta = 2.97$, $p < .03$]. No effect was observed for positive pictures ($p = .21$).
Conclusions: Unlike in traditional CBT, the greatest improvements in worry were observed in individuals with reduced electrocortical processing of negative pictures at pre-treatment. Results suggest that SMILE may be a promising treatment alternative for individuals with elevated worry who do not respond well to traditional CBT.
Funding Source: Texas A and M University
Keywords: Internalizing Disorders, Worry, Positive affect, personalized medicine

34. Investigating Decision Making and Risk Taking in Pregnancy and Postpartum

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Background: Pregnancy causes major physiological changes that are thought to impact decision making and reward processing. It is poorly understood if these alterations remain or change in the postpartum period. Here we characterize decision making with repeated measures in pregnancy and postpartum periods using a validated cognitive gambling task and one of the largest reported sample sizes.
Methods: Participants completed the Gambling Task in the Cambridge Neuropsychological Test Automated Battery (CANTAB) in the third trimester of pregnancy and three months post-partum (N=101). Quality of decision making, delay aversion, risk adjustment and risk taking scores were assessed using a two-way repeated measures ANOVA between pregnancy and postpartum with Tukey HSD post-hoc analysis.
Results: Risk taking, the mean proportion of gambled points, was significantly higher ($F(1, 99)=48.732$, $p < 0.0001$) in the postpartum period (M=0.60, SE=0.02) compared to pregnancy (M=0.52, SE=0.02). Risk adjustment, or risk taking while accounting for new information, was significantly lower ($F(1, 99)=3.977$, $p=0.049$) in postpartum period (M=1.35, SE=0.11) compared to pregnancy (M=1.55, SE=0.11). Differences in decision making and delay aversion were not statistically significant.
Conclusions: Higher risk taking and lower risk adjustment in the postpartum period suggests there are significant changes in decision making behavior between pregnancy and postpartum. However, the degree to which impulsivity and cognitive flexibility drives changes in the postpartum period should be further studied. These results are clinically relevant because they suggest a potential shift in cognitive or emotional states that may influence how healthcare providers understand and support decision-making behaviors in mothers.
Funding Source: RO1MH127315
Keywords: Pregnancy, Postpartum mother, Decision Making, Risk Taking, Impulsivity

35. Hierarchical Drift Diffusion Modeling of Self-Referential Processing in Social Anxiety and Body Dysmorphic Disorder

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Background: Social Anxiety Disorder (SAD) and Body Dysmorphic Disorder (BDD) are prevalent disorders marked by a highly specific, maladaptive focus on the self. A significant clinical challenge is that many patients fail to respond to first-line treatments, such as cognitive behavioral therapy. Aberrant self-referential processing (SRP), a core mechanism implicated in the cognitive and emotional dysfunction of both disorders and commonly measured using the Self-Referential Encoding Task (SRET), may underlie treatment non-response.
Methods: While the SRET has traditionally measured SRP using reaction times (RTs), RTs alone do not capture the trial-by-trial computational mechanisms driving decision-making. Hierarchical Drift Diffusion Models (HDDM) address this limitation by estimating latent parameters, such as drift rate (v), reflecting the rate of evidence accumulation during decision-making.
Results: In this study, we applied HDDM to the SRET to investigate drift rates in 58 adults (with 15 SAD, 15 with BDD, and 28 healthy controls). Model-based linear regression showed that SAD and BDD patients exhibited significantly lower drift rates ($p < 0.001$) for both positive and negative words compared to healthy controls in self-trials, even after controlling for depression severity. There was no significant difference in drift rates between SAD and BDD patients.
Conclusions: These findings suggest a strong transdiagnostic inefficiency in SRP in both patient groups compared to healthy controls, with heightened disruptions in self-referential contexts. This study highlights the potential benefit of computational phenotyping to identify scalable markers for socially relevant mechanisms of psychopathology and inform treatment development and prognosis for SAD and BDD.
Funding Source: K award
Keywords: Social Anxiety Disorder, Body Dysmorphic Disorder, Drift Diffusion Modelling, Self-reference Processing, Drift Rate

36. Transdiagnostic Connectome-Wide Markers of Anxiety in Children and Adolescents

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