

PREGNANCY DURING THE COVID-19 PANDEMIC AND THE DEVELOPING INFANT BRAIN



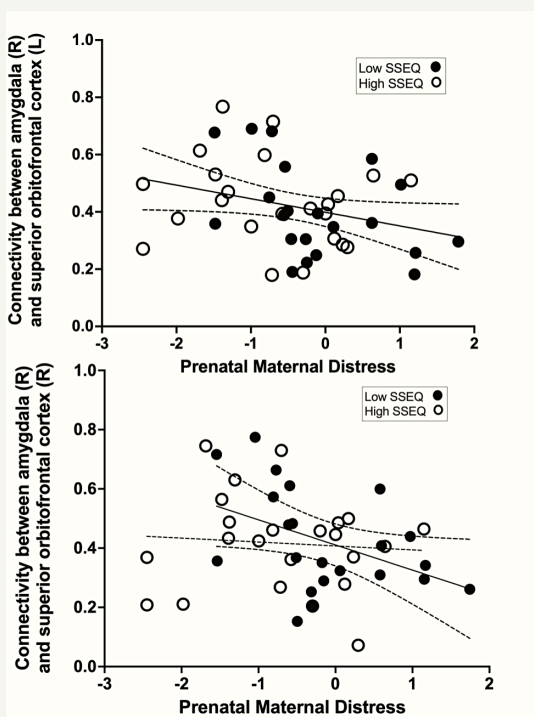
PRENATAL MATERNAL DISTRESS

ELEVATED ANXIETY AND DEPRESSION was reported in our preliminary sample, including 37% of participants with clinically elevated symptoms of depression and 57% with clinically elevated symptoms of anxiety compared to pre-pandemic rates



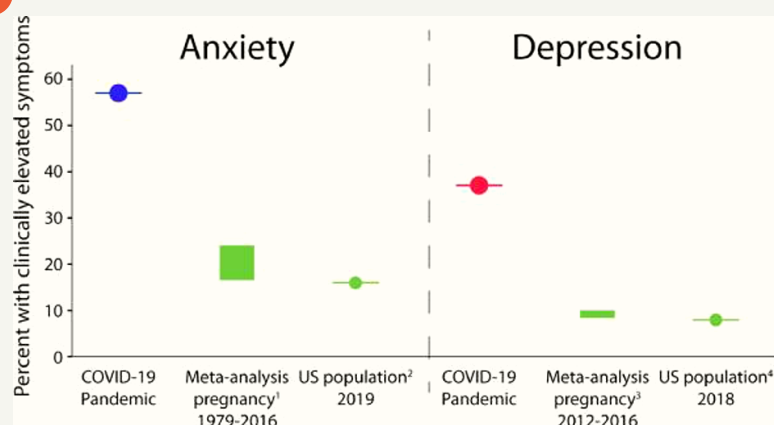
WHITE MATTER PATHWAYS

PRENATAL MATERNAL DISTRESS was significantly associated with fractional anisotropy (FA) within the uncinate fasciculus and mean diffusivity (MD) within the amygdala-prefrontal white matter tract at this stage of development.



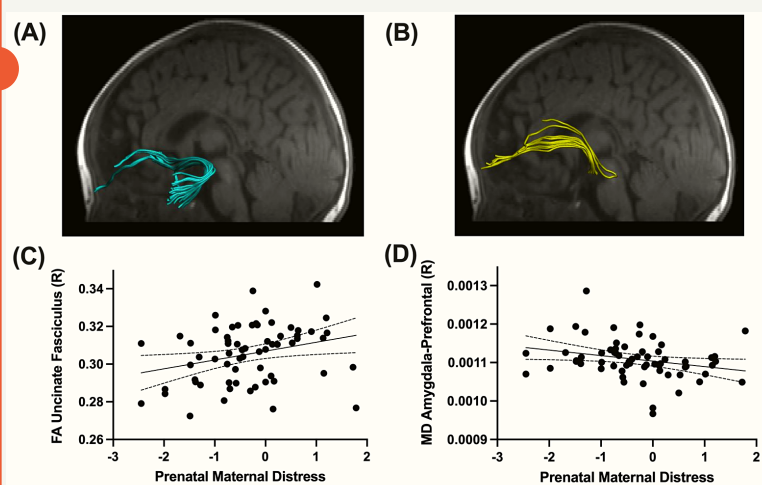
THE PREGNANCY DURING THE PANDEMIC (PDP) STUDY

11,000 PREGNANT INDIVIDUALS completed online surveys throughout their pregnancy. This included the Edinburgh Depression Scale and the Patient Reported Outcomes Measurement Information System Anxiety measures.



IMAGING INFANTS BORN DURING THE PANDEMIC

A SUBSET OF PDP PARTICIPANTS enrolled in the infant MRI portion of the study. We scanned infants at 3 months of age and acquired anatomical, diffusion, and functional images. We used these to examine the structural and functional connectivity of the amygdala



FUNCTIONAL CONNECTIVITY

COMMUNICATION BETWEEN AMYGDALA and regions in the prefrontal cortex had a significant association with prenatal maternal distress, however this was most prominent in pregnant individuals who reported relatively lower quality of social support from a partner. In the larger PDP sample, we also found that social support was significantly correlated with prenatal maternal distress ($r = -0.3, p < 0.000$) and may mitigate the effects of prenatal maternal distress on the infant brain.