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depression) and children (M: 8 years, SD: 1, 50% female). Mothers self-reported their current depressive symptoms (CES-D) and their child’s internalizing symptoms (CBCL; RCADS). Structural data were processed using FreeSurfer and examined in relation to child symptoms, controlling for age and sex. RSFMRI networks were processed with the DECAN pipeline; similarity matrices of network connectivity were computed across dyads.

**Results:** Maternal depression associated with child internalizing symptoms (t=-2.57, p<.01) and less cortical thickness (CT) in CO regions in mothers (left orbital inferior frontal gyrus [IFG, t=-2.24, p=.03], left anterior insular gyrus [AIG, t=-2.25, p=.03]) and children (right AIG, t=-2.52, p=.02). In children, internalizing symptoms associated with less CT in CO regions (left orbital IFG, t=-2.46, p=.02; right AIG, t=-3.10, p=.004). Greater within-CON dyadic similarity associated with fewer child internalizing symptoms (t=-2.81, p<.001).

**Conclusions:** Maternal depression may have intergenerational effects on the structure of control networks; greater similarity of functional control networks may protect against transmission of depression across dyads. Data collection is ongoing; subsequent analyses will test for mediation and tease apart effects of maternal pre-, peri- and postnatal depression.

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**Keywords:** Self-Regulatory Control, Maternal Depression, Brain Imaging

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**P247. Mental Health Symptoms Predict Cognitive Performance in Online Gig Economy Workers**

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**Background:** The United States has seen rising wealth inequality and the global COVID19 pandemic contribute to a “secondary pandemic” of mental health symptoms. However, not all groups of people have been equally impacted. We report results from a pre-registered study of mental health and cognitive function of over 1000 online gig workers collected before and during the COVID19 pandemic.

**Methods:** We used a browser-based survey and task battery to collect data on mood and cognition from N=1000+ adults age 18-75.

**Results:** Surprisingly, we found no change in self-reported depression or anxiety in the pre-pandemic vs. pandemic-era sample. However, there were significant disparities in mental health outcomes based on group demographics, with the youngest and most highly educated participants reporting the highest depression and anxiety symptoms (p<.001). These symptoms negatively impacted cognitive performance on a visual attention task. Computational modeling of latent cognitive parameters revealed a “fast and inaccurate” pattern associated with anxiety, and a “slow and noisy” pattern associated with depression (p>.001). Exploratory analyses identified interactions between age, mental health, and cognition, whereby younger participants reported clinically supra-threshold mental health symptoms that negatively impacted cognition; whereas older adults reported sub-threshold symptoms which were positively correlated with cognitive performance (p>.001). An interaction was observed between education levels, age, and mental health symptoms: the most highly educated younger adults in the sample reported the most mental health symptoms (p>.001).

**Conclusions:** Results indicate a high mental health burden particularly among young, highly educated gig economy workers. Anxiety and depression differentially impacted cognitive performance on a visual attention task.

**Supported By:** Kaggle Grant, Gorilla Grant

**Keywords:** Depression, Anxiety Disorders, Cognition, Computational Modeling

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**P248. PM2.5 Exposure Affects Association Between Dorsolateral Prefrontal Connectivity and Co-Expression of Neuroinflammation Genes**

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**Background:** Air pollution, a reversible cause of significant cardiorespiratory mortality, is also associated with neuropsychiatric effects, of which the underlying neural mechanisms are unclear.

**Methods:** We studied 352 subjects living in Beijing who were exposed to relatively high levels of PM2.5 over 6 months. Working memory (WM) and social stress-related effective connectivity across dorsolateral prefrontal cortex and 108 other cortical regions were examined in a 3T MRI scanner. We further examined the spatial correlation between connectivity and co-expression of 49 depression-related genes across the same brain regions in Allen Brain Atlas, in subgroups with differing levels of polygenic risk for depression and PM2.5 exposure. Unbiased sets of genes contributing to this spatial correlation were examined in a hierarchical clustering analysis, followed by an enrichment analysis of their biological functions.

**Results:** Effective connectivity components including from parietal to dorsolateral prefrontal cortex evidenced disproportionately larger effects of PM2.5 exposure in subjects with...