Neurobiological Substrate for Mental Illness

To determine whether psychiatric diagnoses share a common neurobiological substrate, Goodkind and colleagues conducted a meta-analysis of structural imaging studies across 6 major psychiatric diagnoses. A transdiagnostic pattern of gray matter loss was observed in 2 brain regions, the dorsal anterior cingulate and insula. Analyses in healthy individuals demonstrate these brain regions are critically involved in executive function, suggesting that structural deficits in executive function may broadly underlie psychiatric illness.

Obessive-Compulsive Classes and Pathological Gambling

In this study, Scherrer and colleagues examined the latent-class structure of obsessive-compulsive features and their relationships with inclusionary criteria for gambling disorder. Obsessive-compulsive classes differed in qualitative and quantitative features and their links to disordered gambling suggest that certain obsessive-compulsive dimensions relate strongly to disordered gambling behaviors. The shared genetic and environmental contributions to obsessive-compulsive and disordered gambling features suggest that both genetic and environmental factors warrant study for intervention development in targeting obsessive-compulsive features of disordered gambling.

Disrupted Effective Connectivity in Melancholia

As psychiatry moves towards a neurobiologically informed nosology, melancholia represents an informative test case for the diagnostic classification of depressive disorders. Using resting-state functional imaging, Hyett et al examined effective connectivity among brain networks in melancholia. Dynamic disconnections involving the insula, frontoparietal, and executive control networks were observed in melancholia, reflecting the disorder's distinct phenotype. The findings highlight the role of perturbed brain networks subserving attention and interoceptive awareness in melancholia.

Familial Clustering of Tic Disorders and OCD

Using a Danish national cohort, Browne and colleagues investigated the familial recurrence risk for tic disorders (ie, Tourette syndrome and chronic tic disorder) and obsessive-compulsive disorder (OCD). Familial aggregation of tic disorders was profound and substantially higher compared with OCD. Cross-disorder risk was also significant, supporting shared liability between these disorders. The findings support the role of genetic and non-genetic risk factors and elucidate risk architecture underlying these complex disorders.

White Matter in Youth With Emotional Dysregulation

Using tractography, Versace and colleagues examined white matter tracts involved in emotion regulation in youth with behavioral or emotional disorders. Youth with emotional disorders showed significantly decreased fractional anisotropy (an index of white matter collinearity) in these tracts when compared with youth with behavioral disorders and control participants. Youth with comorbidities (both emotional and behavioral disorders) did not show these abnormalities, suggesting that different neural mechanisms may underlie mood symptoms in youth with behavioral disorders.