

Neural Correlates of Obesity in Adolescents: A Systematic Review

This systematic review, led by Dr. Lawrence Maayan and conducted by researchers at the New York State Psychiatric Institute and Columbia University, aims to synthesize existing neuroimaging research on the neural underpinnings of obesity and overweight in adolescents. By examining studies that use various imaging modalities—such as resting-state and task-based fMRI, cortical thickness, and white/gray matter volume—the team seeks to clarify how brain structure and function relate to elevated BMI during this critical developmental period.

The review addresses key questions, including:

- How extensively have large-scale databases like the ABCD Study been utilized?
- What age ranges, study designs (cross-sectional vs. longitudinal), and brain imaging methods are represented?
- How do sex and pubertal status influence findings?
- Which brain regions and circuits consistently emerge across studies?

By identifying current gaps and strengths in the literature, this review will help establish a more network-based understanding of adolescent obesity, informing future research and interventions. The study is currently registered in PROSPERO (ID: CRD42024614414) and funded by NYSPI Bridge Funding.