In This Issue

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A brief summary of the articles appearing in this issue of *Biological Psychiatry*.

Special Issue: Metabolic Links Between Body, Brain, and Behavior

Farooqi (pages 856–859) describes how genetic syndromes that disrupt pathways in the hypothalamus can lead to obesity. These genetic disorders have also been linked to behavioral conditions such as autism, anxiety, hyperactivity, and aggression. Studies looking at the genes and the clinical consequences of these disorders have shed light on how these molecules regulate appetite, weight, and related behaviors with relevance for diagnosis and future therapy.

Neuroeconomics is the study of the neural basis of decision making. Here, **Dan *et al.*** (pages 860–868) review works that have applied neuroeconomics to the study of obesity. This literature has revealed associations between specific feeding patterns and neural and behavioral characteristics, such as intertemporal preferences, uncertainty preferences, and sensitivity to reward. Understanding individual differences in the decision-making processes leading to obesity has the potential to facilitate the design of targeted and more efficient interventions.

Understanding the neural mechanisms regulating appetite is of intrinsic importance to shed light on the pathogenesis of obesity and eating disorders. From an anatomical point of view, the hypothalamus receives and sends axonal projections to several higher-order brain regions that integrate sensory, visceral, and emotional information, ensuring that appropriate behavioral decisions are made depending on the individual's internal needs and environment. In this review, **Azevedo *et al.*** (pages 869–878) focus on the top-down mechanisms controlling appetite.

Evidence has shown a strong bidirectional association between mood disorders and obesity. In this review, **Copperi *et al.*** (pages 879–887) discuss the link between appetite and depression, focusing on melanocortin signaling in the brain. Through the modulation of melanocortin receptors, melanocortin peptides are known to regulate appetite. Interestingly, weight loss medications that target melanocortin receptors affect mood, suggesting a role for the melanocortin system in disorders associated with altered appetite and depressive behavior.

Systems that determine why stress increases food intake in some individuals but decreases it in others are understudied. Most rodent experimental paradigms that combine stress and feeding-related tasks are not designed to examine food intake per se. **François *et al.*** (pages 888–897) discuss methodological issues that undermine the utility of rodent studies to model human eating behavior and propose guidelines for developing rodent assays to narrow this gap.

Here, **Lippert and Brüning** (pages 898–906) review the current advancements in the study of maternal metabolic programming of brain development with particular emphasis on brain connectivity, specific regional effects, newly studied peripheral contributors, and key windows of interventions. Evidence suggests that maternal body weight and food intake may drive the most detrimental effects on the brain and associated metabolic and behavioral consequences in offspring.

In this review, **Iyilikci *et al.*** (pages 907–914) discuss the link between neurons that regulate energy metabolism and the infant-mother relationship. The authors review critical literature on key developmental features of "hunger" neurons in the hypothalamus—Agrp neurons—and provide an overview of a model for the function of these neurons in the mammalian brain. These insights provide a novel framework to understand the biological principles of early development and how infants attach to their caregivers.

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