“Cognitive Dysmetria” as an Integrative Theory of Schizophrenia: A Dysfunction in Cortical-Subcortical-Cerebellar Circuitry

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Abstract

Earlier efforts to localize the symptoms of schizophrenia in a single brain region have been replaced by models that postulate a disruption in parallel distributed or dynamic circuits. Based on empirical data derived from both magnetic resonance and positron emission tomography, we have developed a model that implicates connectivity among nodes located in prefrontal regions, the thalamic nuclei, and the cerebellum. A disruption in this circuitry produces “cognitive dysmetria,” difficulty in prioritizing, processing, coordinating, and responding to information. This “poor mental coordination” is a fundamental cognitive deficit in schizophrenia and can account for its broad diversity of symptoms.

**Keywords:** Cognitive dysmetria, cerebellum, thalamus, prefrontal cortex

**Topic:**

- nuclear magnetic resonance
- positron-emission tomography
- schizophrenia
- thalamic nuclei
- brain
- cerebellum
- cognitive impairment
- coordination
- cerebellar dysmetria
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