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What is the Current Classification Relevance of Neurodevelopmental Brain Disorders?

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Abstract

DSM and ICD classifications fail by design to properly address the biological dimension of mental disorders. A new approach has been emerging that aims to examine abnormal brain functioning from a different standpoint, inclusive of biological mechanisms, crossing the boundaries between currently classified disorders and eventually redefining them under a new diagnostic framework.

We have been investigating associations between biological structures and mechanisms, behavioral traits, and corresponding biologically plausible SOM (Self-Organizing Map) computational structures and mechanisms in two neurodevelopmental disorders, autism and schizophrenia, that are classified as entirely different disorders. Based on the cognitive modeling work conducted so far, important neurocomputational functional and structural similarities, at the behavioral and cognitive levels, have been pinpointed between these disorders. It is an open question to what extent the current classification of these disorders remains relevant at the level of causal and epigenetic neurodevelopmental mechanisms, as well as the implications for future research.