

## **Language in Schizophrenia: A hierarchical dynamic generative framework**

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Language dysfunction impacts multiple clinical, cognitive and social aspects of schizophrenia. However, the literature on language processing in schizophrenia has been somewhat disjointed. One line of research has focused on abnormalities in comprehending the high-level structure and meaning of sentences and discourse. A separate literature has examined low-level sensory and perceptual deficits that affect the processing of the acoustic and visual features that make up spoken and written language. A third line of research has investigated auditory verbal hallucinations and the ability to distinguish one's own thoughts and actions from those of others. These different dimensions of language have often been studied by different researchers, with theoretical foci, using different investigative tools, and there have been few efforts to link them. In this talk I will discuss an approach that can bring these literatures together. This approach is based on a *dynamic hierarchical generative framework* for understanding the neurocognitive basis of normal language processing (1, 2). Within this framework, I explore the hypothesis that abnormal language processing in schizophrenia results primarily from a disruption of the *predictive and belief-updating generative circuitry* that links prior knowledge and the interpretation of incoming stimuli (3). This framework provides novel insights into relations between neurocognitive abnormalities in the processing of multiple dimensions of language in schizophrenia, and paves the way towards the development of novel remediation methods to improve real-world social communication in schizophrenia.

1. Kuperberg GR, Jaeger TF. Language, Cognition & Neuroscience. 2015
2. Kuperberg GR. Language, Cognition & Neuroscience. 2016.
3. Brown M. Kuperberg GR. Frontiers in Human Neuroscience. 2015.