What the study of language can tell us about neurocognitive architecture in schizophrenia?

Gina Kuperberg, MD PhD
Department of Psychology, Tufts University and
Department of Psychiatry & Martinos Center of Biomedical Imaging,
Massachusetts General Hospital

Language dysfunction impacts multiple clinical, cognitive and social aspects of schizophrenia. However, the literature on language processing in schizophrenia has been somewhat disjointed. In this talk I will attempt to bring together some of these findings by discussing language processing in schizophrenia within a hierarchical generative framework (1, 2). I will present evidence from ERPs, fMRI, MEG and the visual world paradigm that specific patterns of semantic, referential and syntactic processing in schizophrenia can be explained by disruptions of top-down connections, but relative sparing of bottom-up connections, to each of these levels of representation (3). I will argue that these data are consistent with the more general theory that a breakdown of generative models is a core feature of schizophrenia (4).

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.
4. Fletcher et al., Nature Neuroscience, 2009.