Schizophrenia is a neuropsychiatric disorder associated with global cognitive deficits in speech, which are considered a key feature of the disorder. These functional deficits are characterized by impairments in associating semantic concepts and an inability to organize and express thoughts, referred to as thought disorder. The goal of the current study is to conduct an exploratory analysis to identify the functional brain networks underlying controlled semantic association. 30 healthy controls and 28 schizophrenia patients completed a controlled semantic association task. Constrained principal component analysis for fMRI (fMRI-CPCA) was used to separate distinct, simultaneously-active, task-based networks. The CPCA analysis revealed three networks. While brain activity for controls reached a higher peak of activation than patients in the third (language) network, group differences were absent in the first and second networks. The results of the current fMRI study align with previous investigations which found that hypoactivity in frontotemporal language regions could be linked to thought disorder in schizophrenia. These results are important for understanding the brain networks underlying symptoms of thought disorder, and will influence neuromodulation treatments for otherwise treatment-resistant symptoms.

Themes:
Check (highlight) the most applicable theme according to the abstract.

| Innovation and Technology | Health and Wellness | Culture and Society | Sustainability and Conservation |

Comments: Well-written and an excellent primer on the topic. Might want to consider expanding on your explanation of PCA as most won’t understand this statistical procedure. All the best at MURC!