Auditory Perception Network:

An anatomical depiction of the response network was observed for button press or squeeze response when

Focus on Visual Features Network

The auditory perception network revealed a speech

Brain regions found to be involved in AVHs in the literature were found to overlap with the response network.

Focus on Visual Features/Auditory

Melbourne site:

Melbourne task:

Conditions:

Task conditions:

Utrecht task:

Since responses are perfectly confounded with hallucination onsets, there is no strong evidence that event

It is

Utrecht site:

Constrained Principal Component Analysis for fMRI (fMRI

One

Melbourne Patient & Control Radio Speech Analysis

Methods

• Melbourne site: 17 schizophrenia patients and 31 healthy control participants were included in the analysis of the radio speech stimuli, and 12 of those patients also contributed data to the Melbourne symptom capture study.

• Melbourne task: Involved indicating the start and end of (i) radio speech clips, and (ii) experienced hallucinations, using a dominant hand button-press response.

• Utrecht site: 15 schizophrenia patients were included in the analysis of the Utrecht symptom capture study.

• Utrecht task: Involved indicating the beginning and end of hallucinations using a dominant hand balloon squeeze and release.

• Constrained Principal Component Analysis for fMRI (fMRI-CPCA) was employed in two separate analyses to extract functional brain networks.

Melbourne Patient & Control Radio Speech Analysis (Cont.)

Auditory Perception Network

Focus on Visual Features/Auditory Perception Network

Merged Melbourne & Utrecht Symptom Capture Analysis

• Conditions: Short and Long hallucination durations.

Melbourne Patient & Control Radio Speech Analysis (Cont.)

• One-Handed Response Network: For both the Melbourne and Utrecht data, there were no significant effects involving duration (p > .25 and p > .10 respectively).

• Focus on Visual Features: There was a significant Duration × Time interaction with a small effect, F(38, 1748) = 2.31, p < .001, η2p = .05.

Discussion

• The auditory perception network revealed a speech-duration-dependent hemodynamic response (HDR) signal when radio clips were heard, but under no conditions were duration-dependent HDRs elicited during hallucination capture.

• An anatomical depiction of the response network was observed for button press or squeeze response when analyzing the hallucinations from merging the Utrecht and Melbourne datasets together.

• Since responses are perfectly confounded with hallucination onsets, there is no strong evidence that event-related symptom-capture fMRI-paradigms can detect brain networks involved in hallucinations over and above response processes.

• Brain regions found to be involved in AVHs in the literature were found to overlap with the response network.[3]

• It is suggested that hallucinations are not the same as perceptions and may be more like thoughts.[3]

References