1. **Background**

- Working memory (WM) impairment in schizophrenia substantially impacts functional outcome.\(^1\)
- Although the dorsolateral prefrontal cortex (dIPFC) has been implicated in such impairment\(^2\), findings across different studies and experiments are inconsistent.

2. **Methods**

- Data consisted of four task-based functional magnetic resonance imaging (fMRI) datasets, each with a schizophrenia patient group and a healthy control group.
- Task-related functional brain networks were extracted using multi-experiment constrained principal component analysis for fMRI (fMRI-CPCA).

   **Verbal WM Task**
   - Remember a string of consonants.
   - Sample: 28 patients + 26 controls.

   **Visuospatial WM Task\(^3\)**
   - Remember the location of dots.
   - Sample: 44 patients + 44 controls

   **Stroop Task**
   - Read the word **OR** name the font colour.
   - Sample: same as verbal WM task.

   **Thought Generation Task**
   - Silently generate a definition for the object shown **OR** listen to a pre-recorded sentence.
   - Sample: 28 patients + 32 controls.

3. **Results**

   **A. Six task-related networks emerged.**
   - [Diagrams showing network activation]

   **B. The “energizing” network (but not the dIPFC-anchored “internal attention” network) correlated with verbal & visuospatial WM.**
   - [Graphs showing correlation between network activation and WM performance]
   - The “energizing” network activated only during encoding in both WM tasks.
   - Activation was correlated with WM task performance and WM capacity measured out-of-scanner in both datasets.
   - No correlation with Stroop task performance, despite overlapping participants.

   **C. Schizophrenia patients showed reduced engagement of the “energizing” network during verbal & visuospatial WM encoding.**
   - [Graphs showing reduced engagement in patients compared to controls]
   - “Energizing” network was diminished in patients in both WM tasks, but not in the Stroop or Thought Generation tasks.
   - The “internal attention” (dIPFC) network only showed disruption in patients in the visuospatial WM task.

4. **Conclusions**

- Contrary to expectations, the dIPFC-anchored “internal attention” network may not be the primary source of WM deficits in schizophrenia.
- WM deficits in schizophrenia may arise from disruption in the “energizing” network during encoding.

**References**

3. OpenFMRI database UCLA Consortium for Neuropsychiatric Phenomics LASc Study (accession number ds000030; https://openfmri.org/dataset/ds000030/).