

Poster

 Sat. Sep 27, 2025 3:00 PM - 4:10 PM JST | Sat. Sep 27, 2025 6:00 AM - 7:10 AM UTC  Poster Session (Foyer 1)

## Poster 20

### [P-20-07] Cognitive Heterogeneity in First-Episode Schizophrenia Patients: A Latent Profile Analysis and Network Analysis Based on the CANTAB Test

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Keywords : Schizophrenia、Cognitive Function、Subtyping

**Objective:** This study used the Cambridge Assessment Neuropsychological Test Battery (CANTAB) to assess cognitive function, combined with latent profile analysis (LPA) and network analysis, to explore cognitive subtypes and pathological network mechanisms in first-episode schizophrenia patients. **Methods:** A total of 157 first-episode schizophrenia patients and 342 healthy controls (HC) were included. CANTAB tests were used to assess the following: Rapid Visual Information Processing test, Delayed Matching to Sample, Pattern Recognition Memory, Spatial Working Memory, Intra-Extra Dimensional Set Shift, Stockings of Cambridge. LPA analysis used CANTAB metrics as continuous variables; the optimal number of subtypes was determined via model fitting statistics (AIC/BIC/entropy values etc.). Network analysis constructed a correlation network among cognitive metrics, comparing intra-group connection strengths (edge weights) and topological properties. **Results:** LPA identified two stable subtypes: the Cognitive Preserved Group (CPG, 48 cases) with cognitive function similar to healthy controls; and the Cognitive Impaired Group (CIG, 109 cases), accounting for a larger proportion of patients and showing significantly lower performance on multiple CANTAB metrics. The CIG had older age and shorter years of education. Network analysis revealed that healthy controls exhibited higher connectivity density among cognitive metrics; network connectivity in both the CIG and CPG was significantly weaker than in the HC. **Conclusion:** First-episode schizophrenia exhibits two subtypes. The impaired subtype is associated with advanced age, lower educational attainment, and weakened cognitive network connectivity, providing targeted evidence for early individualized intervention.