

# Improving outcome through improving cognition in Severe Mental Illness

## Cognitive Remediation Training combined with transcranial Direct Current Stimulation.

Lisette van der Meer<sup>1,7</sup>, Leonie Bais<sup>7</sup>, Branislava Ćurčić-Blake<sup>2</sup>, Danielle van Duin<sup>3,8</sup>, Lies Korevaar<sup>4</sup>, André Aleman<sup>2,5</sup>, Gerdina HM Pijnenborg<sup>5,6</sup>

<sup>1</sup>University of Groningen, Dpt of Clinical and Developmental Neuropsychology; <sup>2</sup>University Medical Center Groningen, Cognitive Neuroscience center; <sup>3</sup>Trimbos Institute Utrecht; <sup>4</sup>Hanze university of Applied Sciences, School of Rehabilitation; <sup>5</sup>University of Groningen, Dpt of Clinical & Experimental Psychopathology; <sup>6</sup>Drenthe Psychiatric Institute; <sup>7</sup>Lentis Psychiatric Institute; <sup>8</sup>Phrenos Center of Expertise

Email: L.van.der.meer@rug.nl

Seven percent % of service-users (SU) with a severe mental illness need long-term intensive (clinical) psychiatric treatment.

Illness is often characterized by an incomplete recovery

Problems in multiple life domains, e.g.:

- persistent complaints due to medication resistance
- physical health problems
- self-care
- psychosocial dysfunction.
- cognitive dysfunction

Neural plasticity in service-users with SMI appears to be reduced

→ might hinder newly learned cognitive skills to sustain

### Feasibility study

12 SU randomly assigned to two cognitive remediation training programs

→ 7 people tested adapted version of Compensatory Cognitive Training (Mullen et al., 2017; Twamley et al., 2008)

→ 5 people tested Computerised Interactive Remediation of Cognition – a Training for Schizophrenia (CIRCuiTS; Reeder et al., 2016)

*"Well, I let my brain work for a bit. You know. Just being active again."*

New study in preparation

Transcranial direct current stimulation (tDCS) for the program with the best tolerability

### Results & Conclusions

Training program tolerable for:

- one SU (out of seven) testing CCT
- four SU (out of five) testing CIRCuiTS

Tolerability simultaneous tDCS + CIRCuiTS well for all SU in the CIRCuiTS group

*"A little proud perhaps"*

