

**Annual Cognitive Remediation 2022 Conference Abstract Submission**

**Poster abstract title:** cognitive remediation in forensic mental health care

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**Study design:** Randomized controlled trial

**Key words:** forensic mental health; rehabilitation; cognitive remediation

**Abstract (Max 500 words)**

**Background information:** Previous research has indicated that cognitive impairments are present in forensic mental health populations; however, they are typically not addressed in forensic programs. These cognitive impairments can have negative implications on rehabilitation and increase the risk of recidivism. One intervention, cognitive remediation, has been shown to improve executive functioning deficits in mental disorders commonly found in a forensic mental health population. Additionally, some evidence suggests that cognitive remediation can reduce aggressive behaviour, and a randomized-controlled trial is needed to clarify this effect in a forensic mental health population.

**Hypotheses:** The present randomized-controlled trial aims to determine whether cognitive remediation applied to a forensic mental health population may improve outcomes imperative for rehabilitation. We hypothesize that individuals in the cognitive remediation condition will show greater improvements in executive functioning and functional capacity post-training than those in the active control condition. Additionally, we hypothesize that individuals in the cognitive remediation condition will show a greater reduction in oppositional behaviour and psychopathology symptoms.

**Methods:** In this ongoing data collection (clinical trial NCT04610697), we will recruit sixty forensic inpatients and outpatients at the Royal Ottawa Mental Health Centre. Participants are randomly assigned to nine hours of remotely-delivered cognitive remediation therapy or an active control condition distributed over five weeks. Participants in the cognitive remediation therapy condition complete computerized cognitive exercises and receive personalized coaching; those in the active control condition complete computerized games and receive psychoeducation. Seven participants have enrolled thus far, six of whom completed the training. Four outcome variables are assessed at three time points: baseline, one week post-training, and twelve weeks post-training.

**Results:** As data collection is on-going, training conditions are still blind. Preliminary descriptive analyses ( $N = 7$ ) indicated that group A reported decreased executive functioning (pre:  $M = 0.07$ ,  $SD = 0.5$ ; one week post:  $M = -0.06$ ,  $SD = 0.66$ ; twelve weeks post:  $M = -0.28$ ). Group B reported increased executive functioning (pre:  $M = 0.03$ ,  $SD = 0.13$ ; one week post:  $M = 0.1$ ,  $SD = 0.12$ ; twelve weeks post:  $M = 0.12$ ,  $SD = 0.23$ ). Group B also reported increased functional capacity (pre:  $M = 28.5$ ,  $SD = 7.59$ ; one week post:  $M = 30.75$ ,  $SD = 8.06$ ; twelve weeks post:  $M = 35.25$ ,  $SD = 4.86$ ) while group A reported decreased levels (pre:  $M = 34$ ,  $SD = 4.36$ ; one week post:  $M = 31.5$ ,  $SD = 2.12$ ; twelve weeks post:  $M = 29$ ). Both groups experienced a trending increase in oppositional behaviour. Finally, both groups indicated a trending decrease in psychopathological symptoms one week post-training; however, at the twelve weeks follow-up, group A reported a trending increase with group B reported a trending decrease.

**Impact:** If Group B is the cognitive remediation group, our preliminary findings would suggest that cognitive remediation could improve executive function and functional capacity in forensic settings, but its effect on oppositional behavior and psychopathological symptoms

would remain uncertain. We hope this study will elucidate the impact of cognitive remediation on outcomes imperative to forensic rehabilitation.