Episodic Memory Enhancements in Depression Interventions for Stroke Survivors: A Pre-Registered Protocol

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Study 1: Exploratory Quantitative Analysis: Which Task-Specific Cognitive Impairments Predict Depression Severity

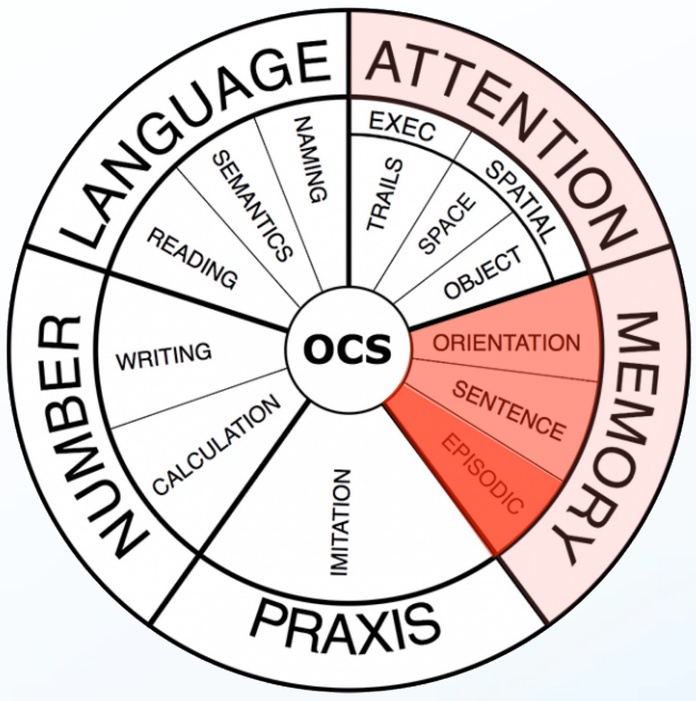
INTRODUCTION

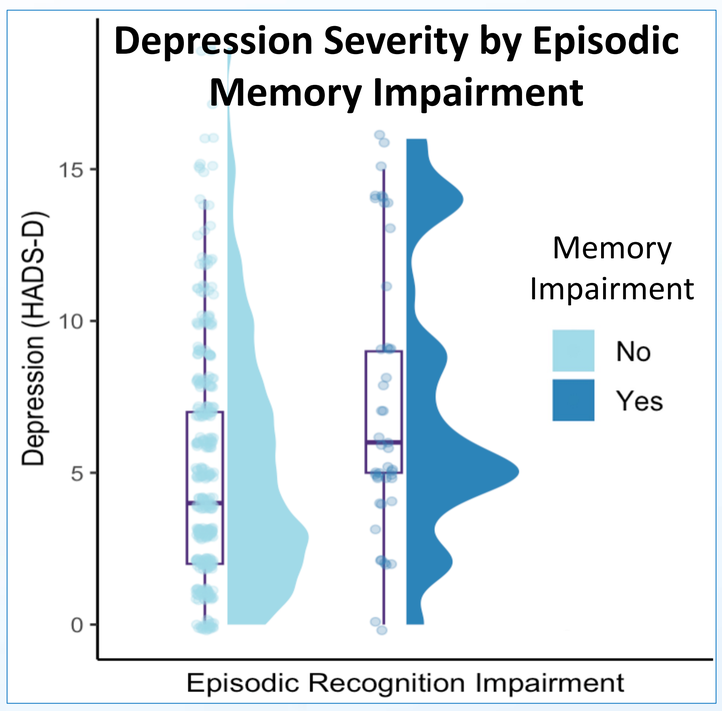
Both domain-general and domain-specific (Williams & Demeyere, 2021) cognitive impairment (CI) predicts depression severity. AIM: Which task-level CIs within such domains predict depression severity?

METHODS

Retrospective multiple regression analysis on Oxford Cognitive Screen (OCS) and Hospital Anxiety and Depression Scale (HADS) data of (N=385) participants 6 months post stroke.

Multiple regression of **(1)** Domain-specific CI **(2)** Task-specific CI.





FINDINGS

Episodic memory impairments significantly predict depression severity (β = 1.36, SE = .52, *t* = 2.63, *p* = .009). Domain-specific, but not task-specific, attention impairments also predict depression severity.

IMPLICATIONS

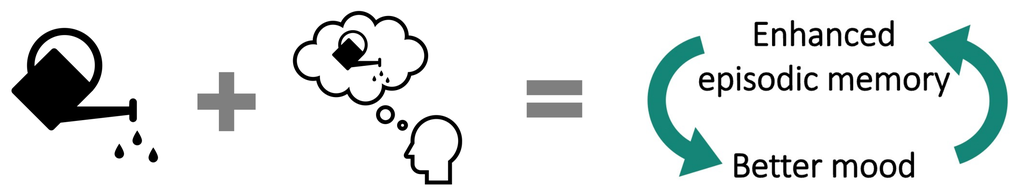
Findings corroborate that of non-stroke depressed populations, in which episodic memory impairments and negative recall bias relate bidirectionally with depression (Dillon & Pizzagalli, 2019).

Study 2: Two-Arm Experimental Investigation of Mental Imagery on the Efficacy of Behavioural Activation for Depression Severity

INTRODUCTION

Behavioural Activation (BA), a depression intervention based on planning enjoyable activities, is effective and accessible for depression in stroke survivors (Kusec et al., 2022). However, a sub-population of memory impaired people can't access these benefits. Hypothesis: Mental imagery – an accessible, scalable tool (Pellas et al., 2021) – could thus enhance the efficacy of BA in a stroke survivor population.

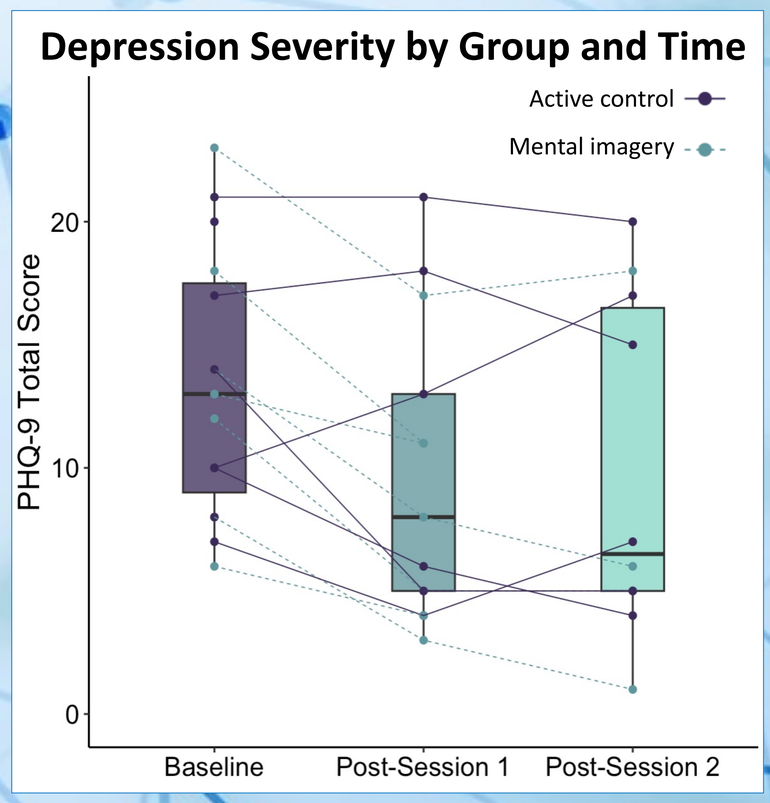
HYPOTHESIS



METHODS

In Study 2, a two-arm experimental study will compare 1) standard BA plus an active control of non-activity imagery exercises, and 2) BA plus contextual mental imagery about planned activities.

Participants (N = 50) stratified (1:1) by episodic memory impairment.



PRELIM FINDINGS

Ten complete (fifteen currently incomplete) randomised cases analysed of target fifty (as per a priori power analysis).

Depression severity scores (PHQ-9) trending towards decreasing across time.

Depression severity scores trending towards decreasing more in the BA + MI group compared to active control.

Study 3: Post-Intervention Qualitative Analysis Exploring Participants' Perceptions on Mood, Memory, Activity, and Imagery

INTRODUCTION

Qualitative analysis of post-intervention semi-structured interviews analysed with reflexive thematic analysis (n=8)

PRELIM INSIGHTS

"*I've **achieved** things that I otherwise might not have achieved.*" (n=2)

*I will **continue to work on these targets** because I did feel better for doing it. It **encouraged me** to do more activities and I felt better for having done them.*

*There's a certain **memory loss** factor that is **frustrating** sometimes and rather annoys me.*

*Well, **imagery** does encourage you to do it [the BA activity].*"

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