take place after SOPT. Taub will share findings from a case series in adults with stroke testing Constraint-Induced (CI) Cognitive Therapy- a combination of SOPT with a form of the Transfer Package of CI Movement Therapy adapted for cognitive rehabilitation. Participants in this case series showed large increases in information processing speed and large improvements in performing instrumental activities of daily living (IADL) outside the treatment setting. Uswatte will share data from a pilot RCT (N = 9) of CI Cognitive Therapy in adults with persistent brain fog due to long COVID; preliminary findings show a large advantage for the experimental group in reduction of brain fog and improvement in IADL function outside the treatment setting.
Presenters and Format. Panel members are leaders in their fields who can present effectively to a wide range of audiences. Each talk will have a 20-minute slot divided into 15 minutes for speaking and 5 minutes for answering questions. Ten minutes will be reserved for questions that remain at the end about any of the four talks and to accommodate any delays that may occur.

Keyword 1: information processing speed
Keyword 2: cognitive rehabilitation
Keyword 3: activities of daily living

1 Benefits of Speed of Processing Training in Older Adults

Karlene Ball, Katie Wheeler
University of Alabama at Birmingham, Birmingham, AL, USA

Objective: Physical, sensory, and cognitive function are all related to successful aging, quality of life, and independence in older age. Decline in cognitive function, in particular, can create difficulty in many Instrumental Activities of Daily Living such as driving and other aspects of everyday function. Loss of driving competence can subsequently lead to depression, isolation, loss of independence and reduced quality of life. Results from a large randomized controlled trial investigating the long-term impact of Speed of Processing Training will be presented demonstrating the impact of such training on cognitive and everyday function. Speed of Processing Training is an adaptive cognitive intervention administered on a computer that improves visual attention, and has been shown to enhance the connections needed for visual attention using task-driven and resting state fMRI.
Participants and Methods: The ACTIVE clinical trial recruited a volunteer sample of 2,832 community dwelling older adults between the ages of 65 and 94 years at six different field sites in six different states. This study evaluated the impact of three cognitive interventions targeted at improving cognitive and everyday function which served as contract control conditions for each other. Participants were randomly assigned to speed of processing training, reasoning training, memory training, or a no-contact control group. Follow-up testing was collected in person for ten years, and at twenty years final archival data was collected from the Departments of Motor Vehicles at each of the six field sites, as well as the Medicare/Medicaid data across the twenty years since enrollment. Outcomes included measures of cognitive function, measures of IADL (including crash involvement and driving cessation), and secondary outcomes of mobility (falls, driving habits, life space), quality of life, mortality and health conditions (from Medicare Records).
Results: Results will be presented with respect to everyday function including several longitudinal measures of mobility: number of miles driven per year and driving difficulty, rates of driving cessation, and crash involvement. Random effects modelling, cox proportional hazards, and rate ratios will be presented illustrating the positive impact of cognitive training on these outcome measures. In particular, Speed of Processing Training was found to sustain driving competence with respect to continued driving relative to other types of training, and to reduce the risk of crash involvement over ten years. Furthermore, decline in Speed of Processing was the only cognitive measure predictive of crash involvement longitudinally in the no-contact control group. Positive benefits were also observed for Health Related Quality of Life (HRQoL), and depression.
Conclusions: The ACTIVE clinical trial, among other studies, has demonstrated that cognitive training can have long-term positive benefit on the everyday abilities, quality of life, and continued independence of older adults.

https://doi.org/10.1017/S1355617723007609 Published online by Cambridge University Press

Categories: Cognitive Intervention/Rehabilitation
Keyword 1: information processing speed
Keyword 2: cognitive rehabilitation
Keyword 3: aging (normal)
Correspondence: Karlene Ball, PhD, University Professor, Department of Psychology, University of Alabama at Birmingham, kball@uab.edu

2 Cognitive Processing Speed Training in Individuals with Multiple Sclerosis

John DeLuca, Nancy Chiaravalloti, Silvana Costa, Nancy Moore
Kessler Foundation, East Hanover, NJ, USA

Objective: Cognitive impairment is observed in up to two-thirds of persons with Multiple Sclerosis (MS). Impairments in cognitive processing speed (PS) is the most prevalent cognitive disturbance, occurs early in the course of disease and is strongly associated with disease progression, various brain parameters and everyday life functional activities. As such, cognitive rehabilitation for PS impairments should be an integral part of MS treatment and management. The current study examines the efficacy of Speed of Processing Training (SOPT) to improve processing speed (PS) in individuals with Multiple Sclerosis (MS). SOPT was chosen because of its significant positive results in the aging populations.
Participants and Methods: This double-blind, placebo-controlled randomized clinical trial included 84 participants with clinically definite MS and impaired PS, 43 in the treatment group and 41 in the placebo control group. Outcomes included changes in the Useful Field of View (UFOV) and neuropsychological evaluation (NPE) including measure of PS (e.g., Pattern Comparison and Letter Comparison). Participants completed a baseline NPE and a repeat NPE post-treatment. Treatment consisted of 10 sessions delivered twice per week for 5 weeks. After the 5 weeks, the treatment group was randomized to booster sessions or no contact. Long-term follow-up assessments were completed 6 months after completion of treatment. The primary outcome were tests of PS including UFOV and neuropsychological testing.
Results: A significant effect of SOPT was observed on both the UFOV (large effect) and Pattern Comparison with a similar pattern of results noted on Letter Comparison, albeit at a trend level. The treatment effect was maintained 6-months later. The impact of booster sessions was not significant. Correlations between degree of improvement on the UFOV and the number of levels completed within each training task were significant for both Speed and Divided Attention indicating that completion of more levels of training correlated with greater benefit.
Conclusions: SOPT is effective for treating PS deficits in MS with benefit documented on both the UFOV and a neuropsychological measure of PS. Less benefit was observed as the outcome measures became more distinct in cognitive demands from the treatment. Long-term maintenance was observed. The number of training levels completed within the 10-sessions exerted a significant impact on treatment benefit, with more levels completed resulting in greater benefit.

Categories: Cognitive Intervention/Rehabilitation
Keyword 1: cognitive rehabilitation
Keyword 2: multiple sclerosis
Keyword 3: information processing speed
Correspondence: John DeLuca, Senior Vice President for Research, Kessler Foundation, East Hanover, NJ, jdeluca@kesslerfoundation.org

3 CI Cognitive Therapy: Initial Application in a Pilot Study to Improve Cognitive Impairment in Chronic Stroke Survivors

Edward Taub, Gitendra Uswatte, Karlene Ball, Victor W Mark, Staci McKay, Brandon Mitchell, Jason Blake, Amy Knight, Chen Lin, Gary Cutter
University of Alabama at Birmingham, Birmingham, AL, USA

Objective: CI Cognitive Therapy (CICT) is a combination of behavioral techniques derived from CI Movement Therapy (CIMT) modified to apply to the cognitive domain, and Speed of (Cognitive) Processing Training (SOPT). SOPT is effective in improving cognitive function in the treatment setting and driving ability in everyday situations. The data concerning the effect of

https://doi.org/10.1017/S1355617723007609 Published online by Cambridge University Press