Woodcock Institute Final Report
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Strategic Memory and Advanced Reasoning Training (SMART) in Stroke Survivors

Research overview: The objective of the feasibility study was to examine the benefits of a cognitive training called SMART in adults with stroke. Outcomes of the study were examined at post (i.e. immediately post-SMART) and at long-term post SMART periods (i.e. 6 month post SMART completion). Analysis of variance will compare performance post SMART performance (i.e., immediately post and 6-month post SMART) to pre-SMART performance to examine changes in cognitive functions including cognitive functions and activity participation.

The SMART program involves 10 hours of group training sessions over a period of 4-6 weeks. The program teaches cognitive strategies (e.g. inhibiting less relevant information, abstracting meaning, flexible thinking, problems solving) that can be applied to various aspects of daily living including processing information, organizing daily tasks, deriving gist-based meaning from articles and texts.

Participants: We recruited 15 adults with stroke from the TWU Stroke Center (n=12) and the DFW community (n=3) who qualified to participate in the study.

	Pre-SMART testing	**10 hours of SMART over 4-6 weeks**	**Post-SMART testing**	**6-motnh post-SMART testing**
Number of participants	15	14 (one participant dropped out after first session)	14	13 (one participant did not return for testing)

Budget: Participant remuneration and associated costs are reconciled with TWU accounting.

Outcomes: Overall participant feedback has been positive. Handful of participants self-reported using SMRT strategies in their daily lives, months post- training.

Dissemination:

	Details
Published abstracts/ Posters	1. Vas, A., Abellera, R., Taylor, S., Rich, E., Burns, J., Woods, A (2017). SMART approach: Executive Function training for Chronic Stroke. *Archives of Physical Medicine and Rehabilitation. Presented at American Congress of Rehabilitation Medicine Annual Conference. Chicago, IL* https://doi.org/10.1016/j.apmr.2017.09.049 2. Ladik, S., Vas, A (2018). A SMART Approach to Improve Cognition in Chronic Stroke. *Presented at American Congress of Rehabilitation Medicine Annual Conference. Dallas, TX*. https://doi.org/10.1016/j.apmr.2018.09.005 3. Rich, E., Taylor, S., Vas, A (2017). Strategic Memory and Advanced Reasoning Training (SMART) in Chronic Stroke Patients. *Poster presented at*

	Vanderkooi Endowed Lectureship, School of Occupational Therapy-Texas Woman's University.
Articles	1. Vas, A., Abelerra, R., Taylor, S., Rich, E., Burns, J., Woods, A (2017). Integrative Executive Function Training in Chronic Stroke- A Case Example. *Journal of Applied Biobehavioral Research.* https://doi.org/10.1111/jabr.12114 2. Vas, A., Woods, A., Keebler, M., Spees, S. SMART Program in Chronic Stroke. *Annals of International Occupational Therapy* (accepted with minor revisions).

Upcoming Plan:

1. To meet with Dr. Daniel Miller during late Fall-2019 and/or Spring-2020 to interpret WJ test scores from this study.
2. Based on the positive findings from this preliminary study, we intend to apply for American Heart Association grant (that we just learnt about). Plan is to propose a large scale collaborative project to extend SMART program to multiple rehabilitation centers in the DFW area. Additionally, virtual reality based functional metrics will be included to as outcome measures. Potential collaborators for this grant application are UNT (Dr. Thomas Parsons), UTD (Dr. Sandi Chapman), TWU-Stroke Center (Dr. Delaina Walker-Batson), and local brain injury rehabilitation/ support centers (Rehab Without Walls, Brain Injury Network of Dallas).

We greatly appreciate the generous support from Woodcock Institute in helping us offer cognitive training to adults with stroke and to improve cognitive rehabilitation practices.