

## Details of Cognitive Training Exercises

Cognitive Training Exercises								
Domain	Exercise	Description	Adaptive features		Speed-of-Processing Training	Number of trained sessions (hours)	Initial training started at	Similarity with assessment
			Within session	Between session				
Sensory Processing Speed	Visual Sweeps	See two sweep patterns, either inwards or outwards. Indicate the direction of the two sweep-patterns in sequence.	Exposure duration	Color, direction, and frequency of visual stimuli	YES	25 (2.5)	Session 1	No
	Audio Sweeps	Listen to two sweep sounds. The sound can sweep up from a lower to higher frequency or down from the higher to lower frequency. Indicate the direction of the two sweep sounds in sequence.	Exposure duration	Frequency and sweep ratio of auditory stimuli	YES	30 (3)	Session 1	No
	Fine Tuning	Listen to sound and indicate the heard sound among examples.	Exposure duration	Similarity of syllable pairs	YES	20 (2)	Session 1	No
	Hawk Eye	See briefly presented items and locate the item which is slightly different from others.	Exposure duration	Eccentricity, target-distractor similarity	YES	20 (2)	Session 1	No
Attention	Double Decision	Watch for a vehicle in the center of the screen and road sign in the periphery. Indicate the central vehicle target and the periphery target location.	Exposure duration	Number of distractors, eccentricity, target-background similarity	YES	40 (4)	Session 1	No
	Target Tracker	Keep track of objects in motion and indicate the tracked objects.	Number of memory items	Number of distractors, stimuli-background similarity, moving speed of stimuli	NO	30 (3)	Session 2	No

	Freeze Frame	Remember the target image and withhold a response for the target and commit a response for distractors.	Exposure duration	Number of distractor, target saliency	YES	25 (2.5)	Session 1	No
	Mixed Signal	Listen to a number, letter, color, or other piece of information while looking at a set of numbers, symbols, letters, words, or other information, and indicate if the auditory information matches to visual information.	Response duration	Target-distractor compatibility, stimuli category	YES	20 (2)	Session 1	Color Stroop
	Divided Attention	Watch two items presented at the screen and respond if they have the same color, shape or pattern.	Exposure duration	Stimuli category, response rule	YES	20 (2)	Session 2	No
Memory	To-Do list training	Listen to a series of items presented in auditory format and select the items in the presented order on a visual grid.	Number of memory items	Complexity of auditory presentation	NO	20 (2)	Session 28	No
	Memory Grid	Click on a card and remember the sound associated to the card. The goal is to find a pair of cards having the matching sound.	Number of memory pairs	Type of voice, familiarity of sounds	NO	20 (2)	Session 31	No
	Rhythm Recall	Listen to and watch a song, then repeat the timing sequence by pressing keyboard keys.	Number of memory beats	Presence of hints, presentation speed	NO	20 (2)	Session 28	No
	Scene Crasher	Watch a briefly presented image and indicate the missing item on the current image from memory.	Number of memory objects	Exposure duration, display eccentricity, target-background similarity	NO	10 (1)	Session 29	Spatial Working Memory
Executive Control	Card Shark	Match if the previously presented visual item is matching to the current visual item.	N/A	Number of memory items (up to 6), complexity of visual stimuli, stimuli presentation speed	NO	15 (1.5)	Session 28	N-back

	Juggle Factor	Watch a sequence of numbers that are presented within moving circles and reconstruct the sequence in the right order and in the right locations.	Number of memory items	Presence of distractors, complexity of placeholder, moving speed of circles	NO	10 (1)	Session 30	No
	Mind Bender	Respond to stimuli differently depending on changing rules.	Response Duration	Complexity of rule, stimuli category	YES	15 (1.5)	Session 29	No
	Auditory Ace	Match if the previously presented auditory stimuli is matching to the current auditory stimulus.	N/A	Number of memory items (up to 6), complexity of auditory stimuli, stimuli presentation speed	NO	10 (1)	Session 30	N-back