

Supplementary Material

Supplementary S1. The results of FGA all tasks and total score

	Baseline Mean	Post intervention Mean	<i>p</i>	<i>Z</i>
Gait on level surface; (SD) Range	2.22 (0.67) 1/3	2.83 (0.39) 2/3	0.029	-3.08
Change in gait speed; (SD) Range	2.33 (0.65) 1/3	2.83 (0.39) 2/3	0.030	-2.12
Gait with horizontal head turns, (SD) Range	1.42 (0.67) 0/2	2.33 (0.49) 2/3	<0.001*	-2.12
Gait with vertical head turns; (SD) Range	1.50 (0.67) 0/2	2.67 (0.50) 2/3	0.041	-2.64
Gait with pivot turn; (SD) Range	2.25 (0.75) 1/3	2.67 (0.65) 1/3	0.065	-2.91
Step over obstacle; (SD) Range	2.17 (0.94) 0/3	2.75 (0.45) 2/3	0.021	-1.89
Gait with narrow base of support;(SD) Range	1.92 (1.08) 0/3	2.50 (0.52) 2/3	0.071	-2.33
Gait with eyes closed; (SD) Range	1.17 (0.72) 0/2	2.08 (0.67) 1/3	<0.001*	-1.84
Ambulating backward; (SD) Range	2.00 (0.74) 1/3	2.83 (0.39) 2/3	<0.001*	-3.05
Steps; (SD) Range	2.42 (0.52) 2/3	2.67 (0.49) 2/3	0.084	-2.89
Total; (SD) Range	19.58 (5.55) 8/26	26.17 (2.98) 18/29	<0.001*	-1.73

SD = standard deviation; Range = min/max; *Z*, *p*= Wilcoxon Signed Rank Test; *Bonferroni correction $p < 0.008$

Supplementary S2: The results of ETGUG all tasks and total score

	Baseline Mean	Post intervention Mean	<i>p</i>	<i>Z</i>
Sit-to-stand; sec (SD)	1.95 (1.44)	1.32 (0.7)	0.59	-2.67
Range	0.95/6.40	0.20/2.50		
Gait initiation; sec (SD)	1.54 (1.31)	1.17 (1.1)	0.55	-1.22
Range	0.65/5.40	0.50/4.20		
Walk 1; sec (SD)	4.23 (1.41)	3.50 (1.18)	0.20	-0.77
Range	2.60/7.30	1.30/4.50		
Turn around; sec (SD)	3.73 (1.37)	3.58 (1.18)	0.85	-1.57
Range	1.90/7.60	2.20/5.40		
Walk 2; sec (SD)	4.80 (1.38)	3.49 (0.95)	0.03	-0.16
Range	3.10/7.80	1.80/5.50		
Slow down, stop, turnaround, and sit down; sec (SD)	3.65 (1.31)	2.48 (1.04)	<0.001*	-2.24
Range	2.0/6.60	1.80/4.30		
Total time; sec (SD)	19.95 (5.14)	15.61 (4.59)	<0.001*	-2.67
Range, min/max	12.8 /31.00	7.30/22.20		

SD = standard deviation; Range = min/max; Z, p= Wilcoxon Signed Rank Test; *Bonferroni correction $p < 0.005$

Supplementary S3: DHI results

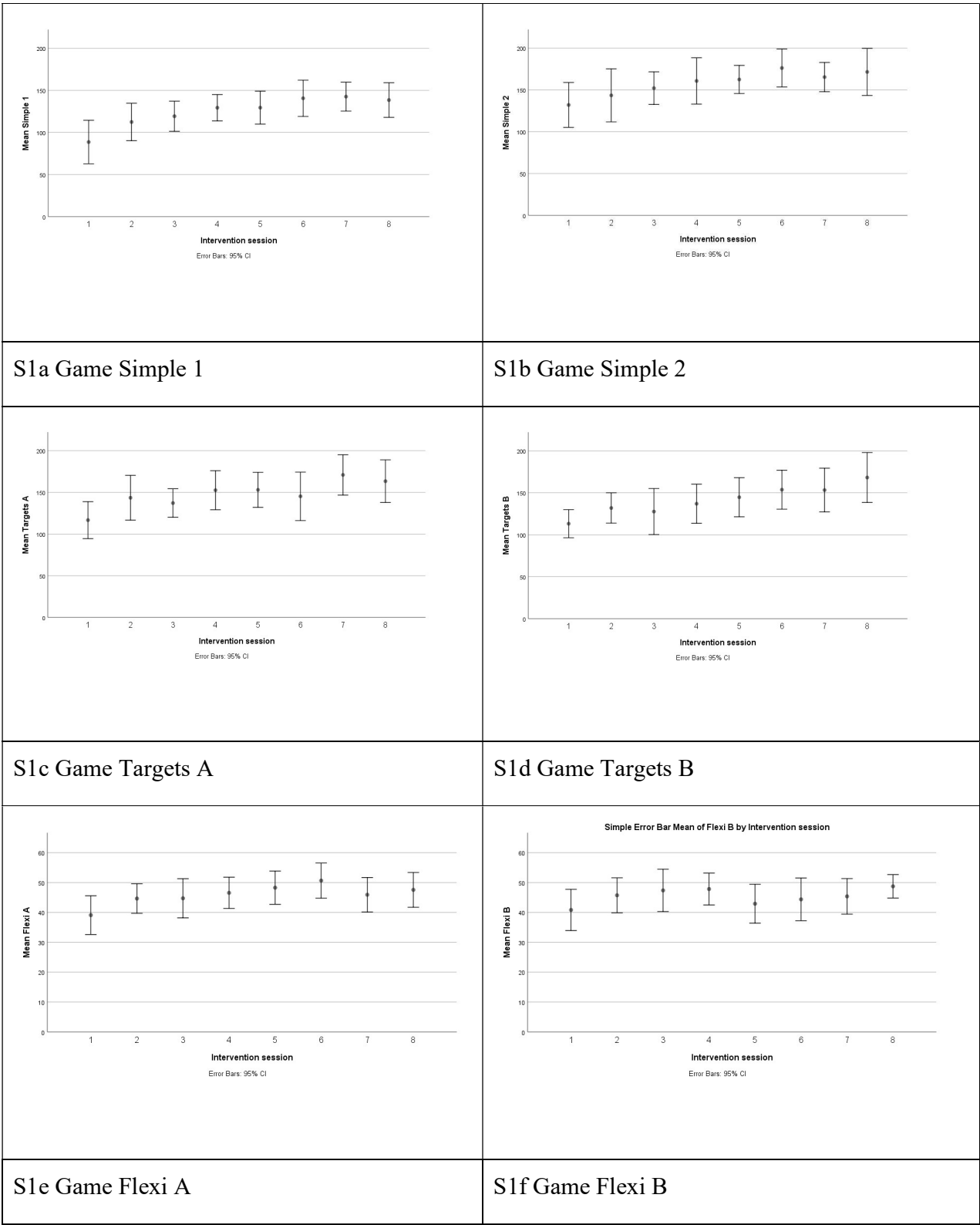
	Baseline Mean	Post intervention Mean	<i>p</i>	<i>Z</i>
Total points (SD)	32.83 (23.76)	29.48 (26.95)	0.17	-1.38
Range	6/74	0/84		

SD = standard deviation; sec = seconds; *p* = Wilcoxon Signed Rank Test; * = significant exact difference (one-tailed) (*p*<0.05); Range = min/max

Supplementary S4: Mean Scores of the Simulator Sickness Questionnaire after each exercise session

	Exercise Sessions							
	1	2	3	4	5	6	7	8
Mean (SD)	7.4 (5.7)	5.2 (4.9)	6.0 (4.2)	6.1 (5.4)	4.8 (5.2)	3.0 (3.9)	4.8 (6.3)	4.2 (3.6)
Range	1/18	0/15	0/14	0/16	0/15	0/13	0/11	0/13

Supplementary Figure S1a-h Game score of the exergames (units reflect points scored in the exergame)



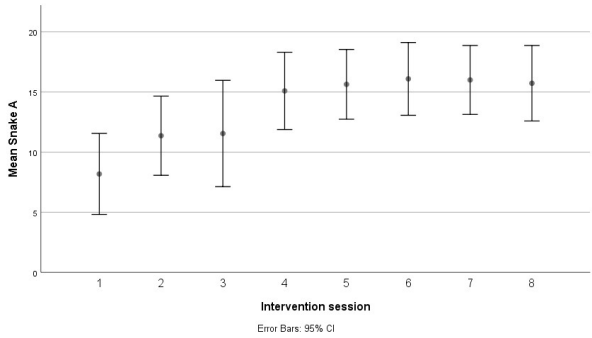
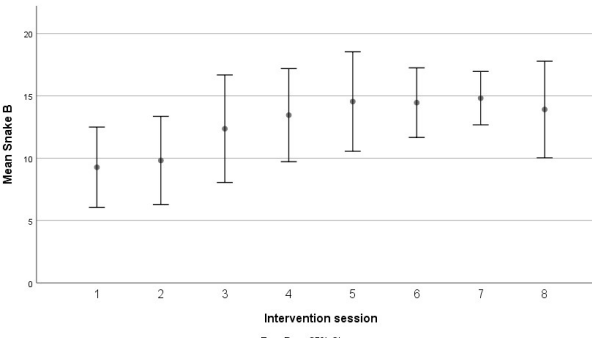
 <p>Mean Snake A</p> <p>Intervention session</p> <p>Error Bars: 95% CI</p> <table border="1"><thead><tr><th>Intervention session</th><th>Mean Snake A</th></tr></thead><tbody><tr><td>1</td><td>8.5</td></tr><tr><td>2</td><td>11.5</td></tr><tr><td>3</td><td>11.5</td></tr><tr><td>4</td><td>15.5</td></tr><tr><td>5</td><td>16</td></tr><tr><td>6</td><td>16.5</td></tr><tr><td>7</td><td>16.5</td></tr><tr><td>8</td><td>16</td></tr></tbody></table>	Intervention session	Mean Snake A	1	8.5	2	11.5	3	11.5	4	15.5	5	16	6	16.5	7	16.5	8	16	 <p>Mean Snake B</p> <p>Intervention session</p> <p>Error Bars: 95% CI</p> <table border="1"><thead><tr><th>Intervention session</th><th>Mean Snake B</th></tr></thead><tbody><tr><td>1</td><td>9.5</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>12.5</td></tr><tr><td>4</td><td>13.5</td></tr><tr><td>5</td><td>14.5</td></tr><tr><td>6</td><td>14.5</td></tr><tr><td>7</td><td>15</td></tr><tr><td>8</td><td>14.5</td></tr></tbody></table>	Intervention session	Mean Snake B	1	9.5	2	10	3	12.5	4	13.5	5	14.5	6	14.5	7	15	8	14.5
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Figure S2 a-d

Figure 2a The game Simple trains focussed attention – the ability to concentrate on certain stimuli and react as quick as possible to them

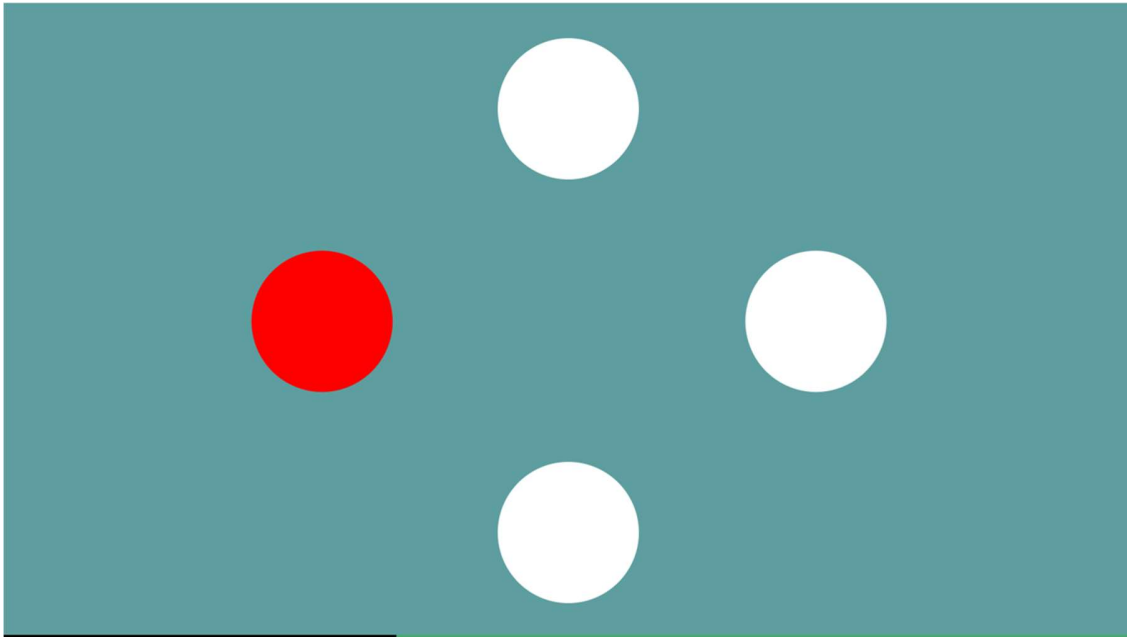


Figure 2b The game Targets which helps training reaction time (speed & accuracy)

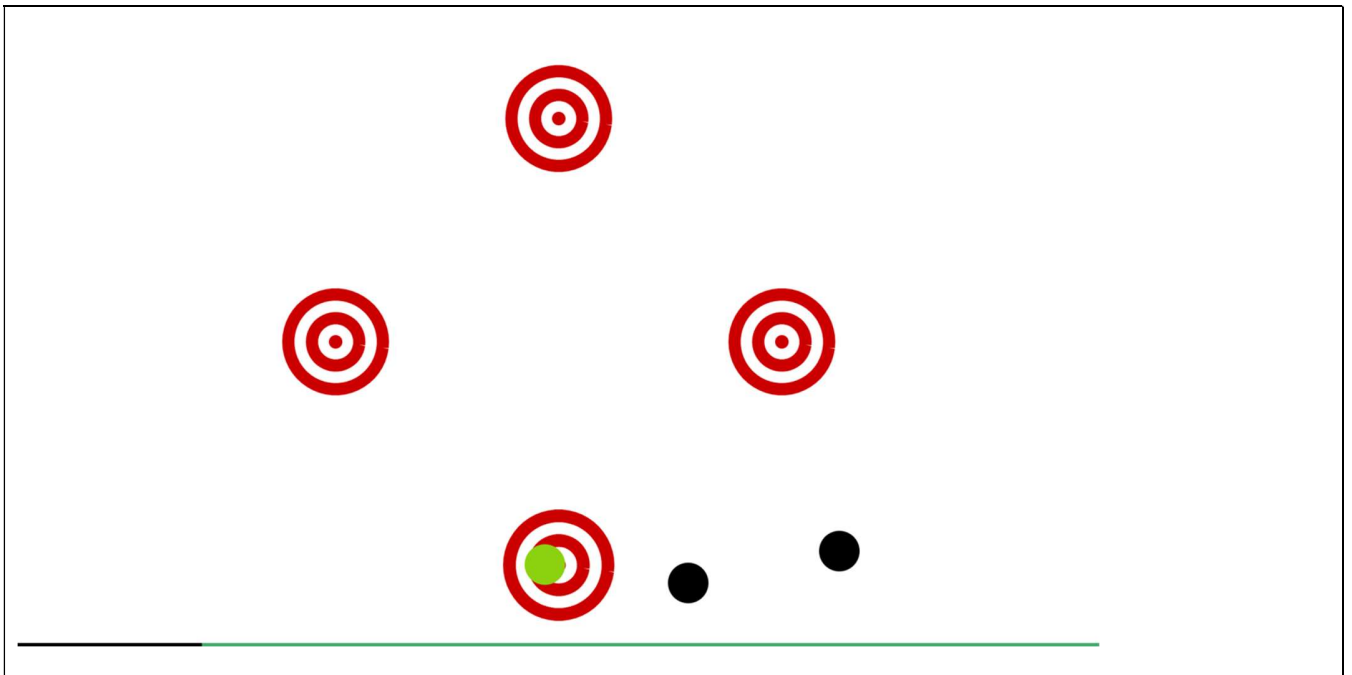


Figure 2c Flexi supports training of shifting attention

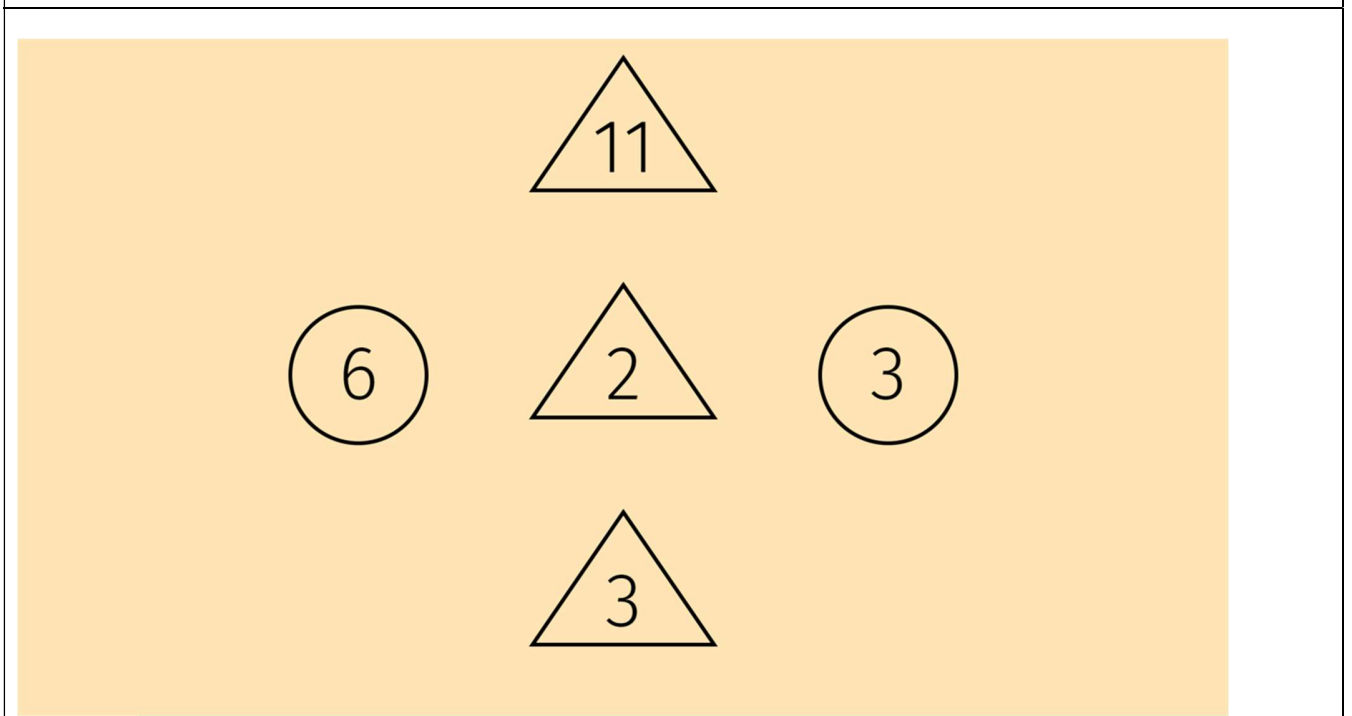


Figure 2d The Snake game which supports training of spatial orientation in a 2D virtual environment

