

**Physical exercise improves quality of life, depressive symptoms, and cognition across chronic brain disorders: a transdiagnostic systematic review and meta-analysis of randomized controlled trials**

Meenakshi Dauwan\*, Marieke JH Begemann, Margot IE Slot, Edwin HM Lee, Philip Scheltens, Iris EC Sommer

**\* Corresponding author:**

Meenakshi Dauwan, M.D.

Neuroimaging Center, University Medical Center Groningen

Department of Clinical Neurophysiology and MEG Center, Amsterdam UMC, Vrije Universiteit Amsterdam

Department of Psychiatry, University Medical Center Utrecht

Neuroimaging Center 3111

Antonius Deusinglaan 2

9713 AW Groningen, The Netherlands

Tel: +31 88 75 57468

E-mail: [m.dauwan@umcg.nl](mailto:m.dauwan@umcg.nl); [m.dauwan-3@umcutrecht.nl](mailto:m.dauwan-3@umcutrecht.nl)

**Table S6: Results of meta-regression analysis**

<b>Outcome measure</b>	<b>Meta-regression variable</b>	<b>Beta</b>	<b>95% CI</b>	<b>p-value</b>
<b>QoL</b>	Weekly amount of exercise (min/week)	-0.000	-0.002 to 0.002	.973
	Length of intervention (weeks)	-0.009	-0.025 to 0.008	.311
	Mean age	-0.007	-0.015 to 0.002	.144
<b>Depressive symptoms</b>	Weekly amount of exercise (min/week)	<b>0.007</b>	<b>0.002 to 0.013</b>	<b>.012</b>
	Length of intervention (weeks)	-0.016	-0.039 to 0.008	.190
	Mean age	0.001	-0.014 to 0.017	.873
<b>Cognition Attention &amp; Working Memory</b>	Weekly amount of exercise (min/week)	0.002	-0.002 to 0.005	.331
	Length of intervention (weeks)	0.007	-0.006 to 0.020	.299
	Mean age	0.005	-0.007 to 0.016	.425
<b>Executive Functioning</b>	Weekly amount of exercise (min/week)	-0.000	-0.001 to 0.001	.532
	Length of intervention (weeks)	0.001	-0.007 to 0.009	.793
	Mean age	-0.001	-0.009 to 0.006	.726
<b>Memory</b>	Weekly amount of exercise (min/week)	-0.000	-0.001 to 0.001	.761
	Length of intervention (weeks)	-0.009	-0.025 to 0.007	.281
	Mean age	-0.002	-0.010 to 0.005	.527
<b>Psychomotor Speed</b>	Weekly amount of exercise (min/week)	-0.001	-0.005 to 0.002	.504
	Length of intervention (weeks)	-0.018	-0.039 to 0.003	.088
	Mean age	-0.007	-0.016 to 0.002	.116
<b>Global Cognition</b>	Weekly amount of exercise (min/week)	-0.001	-0.002 to 0.000	.158
	Length of intervention (weeks)	0.001	-0.014 to 0.015	.931
	Mean age	-0.001	-0.031 to 0.028	.939