

THE IMPACT OF EXERCISE AND NUTRITION SCIENCE EDUCATION ON THE BRAIN AGILITY OF UNIVERSITY STUDENTS



Cronjé R, du Toit PJ, Nortje E, Kleynhans M
Department of Physiology, Faculty of Health Sciences, University of Pretoria

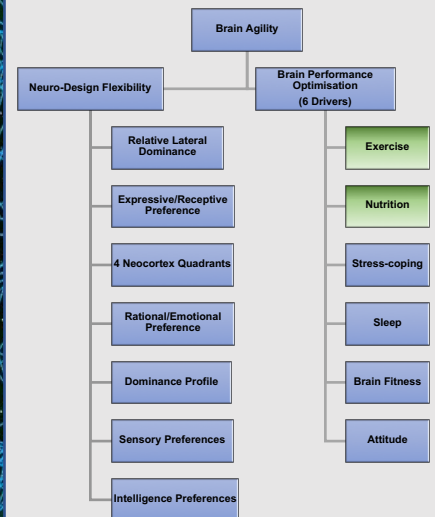


Background: The world is changing at an unprecedented rate, requiring us to process more information and learn faster than ever before. These changes bring into university environments new challenges which students must overcome to succeed. A possible way to assist in overcoming these challenges is to improve the brain agility of students. When students are brain agile it may improve academic performance through enhanced learning, information processing, and coping under stressful situations. Two components that play a role in brain agility and brain performance optimisation are exercise and nutrition.

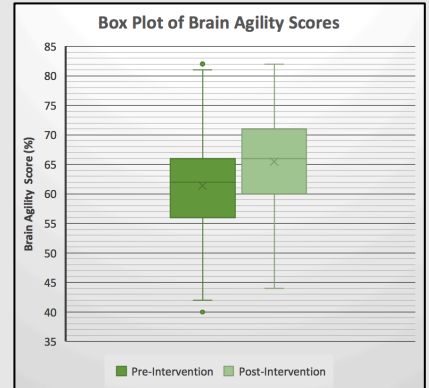
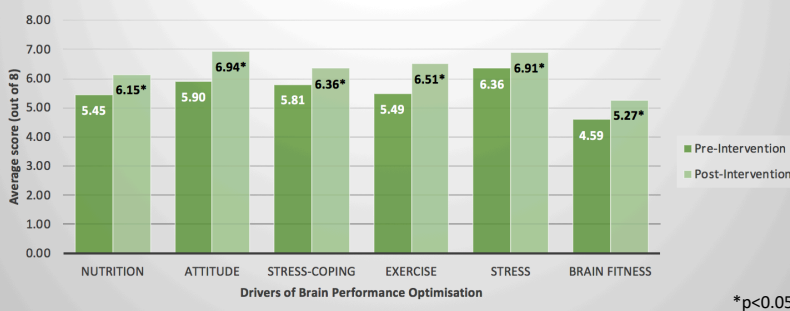
Aim: To assess whether an exercise and nutrition education intervention can improve brain agility in university students.

Methods: A group of 199 university students underwent an exercise and nutrition science intervention program. The students were assessed pre-intervention with questionnaires and a brain agility profile. After the intervention, the same assessments were conducted.

Components of Brain Agility:



Means of the drivers of brain performance optimisation pre- and post-intervention



Results: All the drivers of brain performance (exercise, nutrition, attitude, sleep, stress-coping, and brain fitness) showed significant improvement ($p < 0.05$). Of these drivers, the mean score for nutrition improved by 12.9% and exercise by 18.6%. Mean brain performance optimisation scores improved by 13.7% and overall brain agility by 6.7%. The neuro-design flexibility score did not show any significant difference.

Profile Areas	Mean % \pm SD		% Difference
	Pre-Intervention	Post-Intervention	
Brain Performance Optimisation*	55.67 \pm 11.74	63.27 \pm 12.99	13.7%
Neuro-Design Flexibility	67.13 \pm 8.06	67.68 \pm 8.02	0.8%
Overall Brain Agility*	61.38 \pm 7.60	65.48 \pm 7.86	6.7%

(Profile areas measured out of 100%) * $p < 0.05$

Conclusion: Comparison of pre-intervention and post-intervention scores showed increased brain agility in university students. Additionally, all the drivers of brain performance optimisation showed improvement. Therefore, nutrition and exercise interventions may be of value in improving the brain agility of students.



Faculty of Health Sciences

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