



Scientific Executive Overview

Neuroplasticity has replaced the formerly-held position that the brain is a physiologically static organ. Today we know that the brain changes throughout life, and that we can actively improve its function.¹ Founded in 2011, and guided by its advisory board of neuroscientists, psychologists, medical doctors and researchers, NeuroGym® applies the science of brain neuroplasticity and behavioral psychology to commercially available products.

NeuroGym's Innercise® methods apply practical mental exercise techniques scientifically shown to improve mental and emotional functioning. These techniques elicit several mindset benefits: increasing confidence, self-esteem, positive decision-making and actionable intention, while also reducing fear, worry and doubts. Broader commercial industry applications of brain-based training include: battling PTSD, rehabilitating those with brain injuries, improving cognitive function (i.e. focus, recall and speed), and many others. The number of practical applications of neuroscience and behavioral psychology research is exploding, with tens of billions of dollars in funding now at work to take recent advances to market.

Many people are aware of companies, such as Lumosity, that use neurogaming techniques shown to improve brain function involving memory, recall, and concentration. NeuroGym similarly focuses on brain function, but with an emphasis on mental and emotional regulation and emotional intelligence (also referred to as EQ).² NeuroGym's products apply a series of evidence-based techniques for mindset improvement in a proprietary combination, sequence and pace. These include cognitive priming, success meditations, guided hypnotherapy and visualizations, subliminal programming and behavioral modification techniques to alter deeply rooted and limiting beliefs and habits. Neuro-auditory entrainment is also used to create a receptive whole brain state that is ready for change.

The parts of the human brain that are directly related to motivation, emotional regulation, social awareness, and conscious decision-making are some of the most flexible neural circuits in the brain. Therefore, brain plasticity studies in the EQ sector show more compelling results that would correlate to life improvement, than those studies in the IQ, or cognitive, sector. While the body of research showing evidence-based outcomes in this area is vast and growing rapidly, key studies include the following:

- Upward spirals of positive emotions counter downward spirals of negativity. Garland EL, Fredrickson B, Kring AM, Johnson DP, Meyer PS, Penn DL. *Clin Psychol Rev.* 2010 Nov;30(7):849-64.
- Guided imagery as a treatment option for fatigue: a literature review. Menzies V, Jallo N. *J Holist Nurs.* 2011 Dec;29(4):279-86.
- Be seen as a leader. Galinsky AD, Kilduff GJ. *Harv Bus Rev.* 2013 Dec;91(12):127-30, 143.
- Endogenous control of waking brain rhythms induces neuroplasticity in humans. 1.Tomas Ros, Moniek AM Munneke, Diane Ruge, John H Gruzelier, and John C. Rothwell. *European Journal of Neuroscience*, 2010; 31 (4): 770 DOI: 10.1111/j.1460-9568.2010.07100.x
- Episodic retrieval activates the precuneus irrespective of the imagery content of word pair associates; A PET study. B. J. Krause, D. Schmidt, F.M.Mottaghy, J. Taylor, U. Halsband, H. Herzog, L. Tellmann, H.W. Mueller-Gaertner. *Brain* (1999), 122, 255-263

To NeuroGym's proprietary integrated methodology, a broad array of brain scan studies show that a combination of intention, relaxation, autosuggestion and concentration activities stimulate the frontal lobes and motor cortex, which propels subjects into taking action. In short, as long as you learn to stay intensely focused on your goal, you will literally be driven to succeed.

¹ Rakic, P. (January 2002). "Neurogenesis in adult primate neocortex: an evaluation of the evidence". *Nature Reviews Neuroscience* **3** (1): 65-71. [doi:10.1038/nrn700](https://doi.org/10.1038/nrn700). PMID 11823806.

² *Front Psychol.* 2015 Feb 24;6:160. doi: 10.3389/fpsyg.2015.00160. eCollection 2015. Integrating emotion regulation and emotional intelligence traditions: a meta-analysis. Peña-Sarrionandia A1, Mikolajczak M2, Gross JJ3.