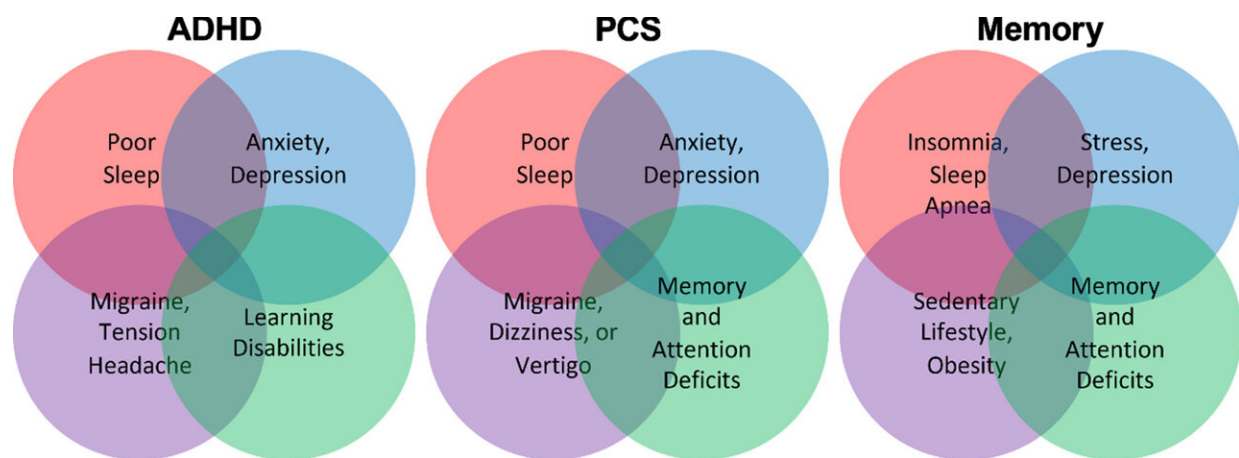


# New study reveals breakthrough 'brain fitness program' for patients with ADHD, concussion, memory loss

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Patients with ADHD, PCS, and memory loss often suffer from several other symptoms and comorbidities that impact their cognitive functions. Credit: *Journal of Alzheimer's Disease Reports* (2023). DOI: 10.3233/ADR-220091

Neurologist Dr. Majid Fotuhi, MD, Ph.D. has developed a multi-disciplinary program for patients with Attention Deficit Hyperactive Disorder (ADHD), post-concussion syndrome (PCS), or memory loss. His 12-week program, consisting of brain coaching and biofeedback twice weekly and specific lifestyle interventions, resulted in remarkable improvements in patients' memory, attention, mood, alertness, and/or sleep.

The program is published in the *Journal of Alzheimer's Disease Reports*. The findings represent a breakthrough in the field of [brain](#) rehabilitation and provide further scientific evidence for effectiveness of multi-disciplinary personalized interventions.

"The program's emphasis on improving neuroplasticity through non-drug interventions holds great potential for people who suffer from poor attention, persistent concussion symptoms, or [memory loss](#). It also offers hope and a path towards enhanced overall brain function and improved quality of life for people who worry about developing Alzheimer's disease in the future," explained Dr. Fotuhi, adjunct professor of neuroscience at George Washington University's department of Psychological & Brain Sciences as well as the medical director of the NeuroGrow Brain Fitness Center, where the study was conducted. "My paper details the interventions that improve the biology of the brain for better cognitive function, better mood, and better sleep—all of which are readily available for everyone at low cost and do not require prescription drugs or surgical procedures."

A total of 223 participants, including both children and adults, were enrolled in the study over a two-year period. The cohort encompassed 71 individuals with ADHD, 88 with PCS, and 64 with [memory](#) loss (Mild Cognitive Impairment or Subjective Cognitive Decline). The participants underwent a thorough neurocognitive evaluation, including tests for Verbal Memory, Complex Attention, Processing Speed, Executive Functioning, and Neurocognition Index. Additionally, they completed questionnaires regarding sleep, mood, diet, exercise, anxiety levels, and depression, which were repeated again at the end of their program. Quantitative EEG measurements were also obtained before and after the program to monitor changes in [brain activity](#).

The study results are highly promising. Pre- and post-test score comparisons demonstrated statistically significant improvements in all

patient subgroups. Following completion of the program, 60% to 90% of participants obtained higher scores on cognitive tests and reported a reduction in their cognitive, sleep, and emotional symptoms. The most significant improvement was observed in executive functioning for all subgroups.

The neuroplasticity-focused interventions in the brain training program highlighted in this study were not limited to specific age groups or conditions. They can be utilized by anyone that has concerns about ADHD, concussion symptoms, or memory loss. Results are most evident if patients undergo a baseline evaluation and then receive personalized coaching for improving diet, sleep, exercise, stress reduction, and targeted brain training based on deficits specific to the patient.

The study follows earlier research findings by Dr. Fotuhi that these interventions are effective for patients with memory loss or traumatic brain injury. As published in 2016 in the [Journal of Prevention of Alzheimer's Disease](#), Fotuhi noted that 84% of elderly with cognitive impairment who completed this brain training program gained remarkable improvements in their brain functions and many of them experienced measurable growth in the parts of their brain for learning and memory. In an article published in the [Journal of Rehabilitation](#) in 2020, this same combination of interventions was quite effective for patients that suffered from persistent concussion symptoms for months to years and had not improved with any other treatment.

A Harvard- and Johns Hopkins-trained neurologist and neuroscientist, Dr. Fotuhi is widely regarded as an authority in the fields of memory, Alzheimer's Disease, concussion treatment, ADHD, and increasing brain vitality at any age.

**More information:** Majid Fotuhi et al, Benefits of a 12-Week Non-Drug "Brain Fitness Program" for Patients with Attention-

Deficit/Hyperactive Disorder, Post-Concussion Syndrome, or Memory Loss, *Journal of Alzheimer's Disease Reports* (2023). [DOI: 10.3233/ADR-220091](https://doi.org/10.3233/ADR-220091)

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