

# The Science

Although primitive reflexes are not a new concept, using them as a treatment is. Many professionals you speak with may even tell you that it is not necessary. They couldn't be further from the truth.

The truth is, schooling for our medical and therapeutic professionals has not caught up to the most recent research on the topic. Below, I've highlighted a few key research studies that demonstrate the effectiveness of primitive reflex integration and brain hemispheric balance. Following the links you will find testimonials from some of my personal clients that have experienced incredible transformations with their children.

Read below for just some of the research studies on primitive reflex integration and brain hemispheric balance....

## Research on Effectiveness of At-Home Melillo Method Program

### **HARVARD STUDY on ADHD/hyperactivity**

A recent Harvard Study showed a brain balancing program is AS EFFECTIVE as stimulant medication in alleviating ADHD symptoms in

children.

Harvard University's McLean Hospital completed a study on Dr Melillo's Brain Balance Program and its effect on kids with ADHD. The results showed that kids who completed the program saw comparable results to those on low dose Ritalin.

### **Key findings of the study:**

- **Children who completed the 16 week program saw significant reduction in hyperactivity, greater cognitive attention and reductions in oppositional behavior.**
- **Connections across the brain were significantly improved in areas that are responsible for emotional and response control, language processing, memory retrieval, concentration, and distractibility.**
- **Not only did brain connections significantly improve immediately after the program, but those improvements were still present 7 months later.**

### **CAMBRIDGE BRAIN SCIENCES STUDY ON BRAIN BALANCE PROGRAM**

"In this retrospective review of cognitive test results from the Cambridge Brain Sciences database, **we found that participants of the Brain Balance program showed significant overall performance on specific tests of memory, reasoning, verbal ability, and concentration.** The present findings point to the potential of nonpharmacologic training programs, such as the Brain Balance program, in significantly improving aspects of cognitive performance in children and adolescents with developmental and attentional issues, especially programs that comprehensively target and integrate multiple developmental areas."

# Reduction of Retained Primitive Reflexes in ASD by Sensory Stimulation

Our JUMP START program is based on this study and it's results

"Each child with ASD possessed a triad of impairments in three domains: social interaction, communication, and repetitive behaviour. Individuals were evaluated by quantitative electroencephalographic measures and tested by standardised cognitive function tests before and after 12 weeks of intervention. These interventions were associated with reduced ASD symptoms in the three domains, significant changes in qEEG network connectivity and significantly improved performance on standardised cognitive tests."

[Link to the Study](#)

[Learn More About JUMP START](#)

McPhillips M, Jordan-Black JA. **Primary reflex persistence in children with reading difficulties (dyslexia): a cross-sectional study.** Neuropsychologia. 2007 Mar 2;45(4):748-54. doi: 10.1016/j.neuropsychologia.2006.08.005. Epub 2006 Oct 9. PMID: 17030045.

"The findings suggest that for many children in mainstream schooling, the attainment of core educational skills may be affected by the persistence of a brainstem mediated reflex system that should have been inhibited in the first year

after birth."

McPhillips M, Sheehy N. **Prevalence of persistent primary reflexes and motor problems in children with reading difficulties.** Dyslexia. 2004 Nov;10(4):316-38. doi: 10.1002/dys.282. PMID: 15573963.

"This study highlights the high levels of primary reflex persistence in children with reading difficulties and it provides further evidence of the association between reading difficulties and movement difficulties in young children."

**Primitive Reflexes and Attention-Deficit/Hyperactivity Disorder: Developmental Origins of Classroom Dysfunction.** Taylor, Myra; Houghton, Stephen; Chapman, Elaine

International Journal of Special Education, v19 n1 p23-37 2004

"Results indicated that, in general, boys diagnosed with AD/HD had significantly higher levels of reflex retention than non-diagnosed boys. Results also indicated both direct and indirect relationships between retention of the Moro, ATNR, STNR and TLR reflexes with AD/HD symptomatology and mathematics achievement. The pattern of relationships between these variables was also consistent with the notion of the Moro acting as a gateway for the inhibition of the other three reflexes."

Konicarova J, Bob P. **Asymmetric tonic neck reflex and symptoms of attention deficit and hyperactivity disorder in children.** Int J Neurosci. 2013 Nov;123(11):766-9. doi: 10.3109/00207454.2013.801471. Epub 2013 Jun 5. PMID: 23659315.

"Results of this study show that ADHD symptoms are closely linked to persisting ATNR, which indicates that ADHD symptoms may present a compensation of unfinished developmental stages related to diminishing ATNR."

Konicarova, J., Bob, P. **Retained Primitive Reflexes and ADHD in Children.** *Act Nerv Super* **54**, 135-138 (2012). <https://doi.org/10.1007/BF03379591>

"Results of this study show that ADHD children have high occurrence of primitive reflexes compared to the control group, which indicates that ADHD symptoms may present a compensation of unfinished developmental stages related to diminishing Moro and Galant reflexes."

Niklasson M, Niklasson I, Norlander T. **Sensorimotor therapy: using stereotypic movements and vestibular stimulation to increase sensorimotor proficiency of children with attentional and motor difficulties.** *Percept Mot Skills*. 2009 Jun;108(3):643-69. doi: 10.2466/PMS.108.3.643-669. PMID: 19725302.

"These finding suggest that a comprehensive training program that includes primitive reflex integration may benefit typically developing children with sensorimotor difficulties and may serve as a complement to regular treatment of developmental coordination disorder, learning disability, or ADHD."

Westendorp M, Hartman E, Houwen S, Smith J, Visscher C. **The relationship between gross motor skills and academic achievement in children with learning disabilities.** *Res Dev Disabil*. 2011 Nov-Dec;32(6):2773-9. doi: 10.1016/j.ridd.2011.05.032. Epub 2011 Jun 22. PMID: 21700421.

"In children with learning disabilities a specific relationship was observed between reading and locomotor skills and a trend was found for a relationship between mathematics and object-control skills: the larger children's learning lag, the poorer their motor skill scores. This study stresses the importance of specific interventions facilitating both motor and academic abilities."

Niklasson M, Norlander T, Niklasson I, Rasmussen P. **Catching-up: Children with developmental coordination disorder compared to healthy children before and after sensorimotor therapy.** *PLoS One*. 2017 Oct 11;12(10):e0186126. doi:

[10.1371/journal.pone.0186126](https://doi.org/10.1371/journal.pone.0186126). PMID: 29020061; PMCID: PMC5636139.

"This study found that children who have developmental coordination disorder (DCD) caught up with typically developing children in terms of sensorimotor maturity (e.g., balance and vestibular functioning, body-space perception, eye movements, primitive reflexes, gross motor milestones) after completing sensorimotor training for 15 min/ day over 36 months (average age = 8 years old). Specifically, the sensorimotor training consisted of vestibular stimulation, tactile stimulation, auditory stimulation, complementary play exercises, gross motor milestones, stereotypical fetal- and infant movements, and sports-related gross motor skills."

Miller LE, Burke JD, Troyb E, Knoch K, Herlihy LE, Fein DA. **Preschool predictors of school-age academic achievement in autism spectrum disorder.** Clin Neuropsychol. 2017 Feb;31(2):382-403. doi: 10.1080/13854046.2016.1225665. Epub 2016 Oct 5. PMID: 27705180; PMCID: PMC5464727.

"This study examined predictors of academic functioning in children with autism spectrum disorder, evaluating them at 2, 4, and 10 years of age. The researchers found that early motor functioning predicted later skills in mathematics, suggesting that interventions targeting motor skills may improve later academic achievement in mathematics in children with autism."



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