

**EFFECTS OF SUPERBRAIN YOGA EXERCISE ON THE BEHAVIORAL INDICATORS LEADING TO ATTENTION DEFICIT WITH HYPERACTIVITY DISORDER (ADHD): A PRE-POST COMPARATIVE STUDY**

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 Study conducted during April-October 2018

**Background:** ADHD is one of the most common disorders in childhood, affecting 8 to 11 percent of school-age children. There is a call for safe, low-cost and adjuvant non-pharmacologic interventions that can improve behavior, social interaction and school performance.

**Purpose:** The impact of learning difficulties on mental health and high prevalence of ADHD in Uruguay call for brief, safe, low-cost therapeutic interventions (Viola et al 2008). To gather evidence on the efficacy of superbrian yoga exercise to improve classroom behaviors involved in ADHD..

**Method:** Measure behavior variables with Conners Teachers Rating Scale – Hyperactivity Index(CTRS-HI Spanish, abbreviated 10-item version -Conners 3AI) at Baseline, after 2 months and after 5 months of daily school-day practice (5 days a week) 7 to 21 times/day. Behavior descriptors: 1) Constantly fidgeting; 2) Temper outbursts, explosive, unpredictable behavior; 3) Inattentive, easily distracted; 4) Disturbs other children; 5) Appears as angry or withdrawn; 6) Mood changes quickly and drastically; 7) Restless or overactive; 8) Excitable, impulsive; 9) Fails to finish things he/she starts; 10) Easily frustrated. Teachers must rate this behavior as “Not at all”(Score = 0); “Just a little” (Score = 1); “Pretty much” (Score = 2); “Very much” (Score = 3). Maximum potential score: 30. Clinical population would rate above 17 (no scores provided to teachers).

**Sample:** 90 school children in state-run school in Uruguay. Medium/low social economic demographics.

**Measurement Tool:** Conners 3-AI, Conners Hyperactivity Index

QUESTIONARIO DE CONDUCTA DE CONNERS PARA MAESTROS  
 (Conners 3-AI, HI)  
 (C.C.E.; Teacher's Questionnaire, C. Keith Conners) Forma Abreviada.

Nombre completo del niño(a):	
Fecha de nacimiento (d/m/a):	
Educación (años cumplidos):	
Sexo:	
Doc. Ident. No.:	
Nivel y año escolar (Ej.: Primaria, 4º):	
Nombre de la Escuela:	
Nombre completo del padre, madre o responsable:	
Nombre completo del (a) Maestro(a):	
Fecha de aplicación: (d/m/a):	

	Nada	Poco	Bastante	Mucho
1. Tiene excesiva inquietud motora.				
2. Tiene explosiones impetuosas de mal genio.				
3. Si distrae fácilmente, tiene escasa atención.				
4. Molesta frecuentemente a otros niños.				
5. Tiene aspecto enfadado, huraño.				
6. Cambia bruscamente sus estados de ánimo.				
7. Interrumpe siempre en movimiento.				
8. Es impulsivo e irritable.				
9. No termina las tareas que empieza.				
10. Sus esfuerzos se frustran fácilmente.				
TOTAL (añadir en blanco para el investigador)				

The 55 students in the sample where proper practice of Superbrain Yoga was ascertained improved their classroom behavior score around 60% after 2 months of daily practice and almost 80% after 5 months.

No aim at diagnosis, just classroom behavior description.



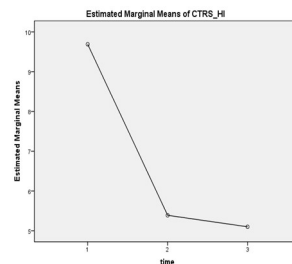
**Independent variable:** Superbrain Yoga Exercise: go to squatting position while inhaling, stand up again while exhaling, holding earlobes at acupressure point of the brain between thumb and finger of opposite hand.



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**RESULTS**

**Aggregate improvement:** 44.4% at 2 months; 47.4% at 5 mos.



CTRS-HI mean scores at **baseline**, then at **2 months of practice**, then at **5 months of practice**.

**Improvement for Grades 3 and 4 only:** 62.7% at 2 months; 79.3% at 5 months (this was the only group n=55 where regular proper practice throughout the full 5 months was ascertained).

**Improvement for Grade 5 only:** 60.7% after 2 months (in line with grade 3 and 4); 66.3% after 5 months. Grade teacher frequent absences could account for improvement slowdown vs. grades 3 and 4.

**CONCLUSIONS:** This study seems to indicate that regular practice of Superbrain Yoga© improves classroom behaviors involved in ADHD in school children. The performance of grades 3 and 4 seems to show that overall behavior improvement could be as high as 79% if proper practice is ascertained throughout the whole 5 months. Significant overall results were evident after barely 2 months of practice. Grade 5's outcome may indicate that if the regular practice is suspended, the children may bounce back to previous patterns of disruptive behavior. **Practical significance is of utmost importance, considering SBY low cost in energy, time and money.** Randomized Control Trial under way in 2019 school year (March-December, 2019) in 2 schools, with a sample close to 300 students.

**REFERENCES.** Choa KS (2005) *Superbrain Yoga*. IISPF:Manila; Viola, L. Garrido, G. & Varela, A (2008) *Estudio epidemiológico sobre la salud mental de los niños uruguayos*. Clínica de Psiquiatría Pediátrica, Facultad de Medicina, UDELAR, Montevideo, Uruguay; Sciberras, E., Lucas, N., Efron, D., Gold, L., Hiscock, H., Nicholson, J.M. (2017) Health care costs associated with parent-reported ADHD: a longitudinal Australian population-based study. *J Atten Disord* 2017; 21:1063-1072.