



SUPERBRAIN YOGA RESEARCH IN CHILDREN

Improving the Academic and Behavioral Performance in Adolescents

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Background:

The teenage brain in its complexity contains billions of connections among its parts and governs countless actions, involuntary and voluntary, physical, mental and emotional. Scientists discovered that the teenage brain undergoes an intense overproduction of gray matter (brain tissue that does the thinking) followed by a "pruning" period during which the brain discards gray matter at a rapid rate. The parts of the brain that is used in organization, planning and strategizing are not completely matured yet. As such, the teenage years can be tumultuous times. This turmoil often associated with adolescence can result in behavioral and emotional difficulties. However, there still remains much to understand and explore about the teenage brain. Knowledge about the changes and behaviors during adolescence encouraged us to apply the Superbrain Yoga in this age group.

Objective:

A study was conducted in the school system in Norristown, Pennsylvania in adolescents to assess the impact of Superbrain Yoga in the behavioral and academic performances of adolescent children. The Superbrain Yoga was incorporated in the educational school process.

Methods:

The first research study on Superbrain Yoga was initially conducted in late 2003 and has just concluded its third year (2006) of research. Adolescent children in the middle school performed Superbrain Yoga in the classrooms regularly and were compared with controls. Standardized tests (Gates MacGinitie - 1st Year; Terra Nova - 2nd Year; District Mandated Tests - 3rd Year) were completed on children involved in the study before and after performing Superbrain Yoga for about 7 to 8 months.

Results:

The first year study included fifty-one (51) middle school students experiencing emotional, academic and behavioral problems. Two classes totaling thirty-five (35) served as the experimental group, while sixteen (16)

served as the control group. The Gates-Mac-Ginitie Standardized Test that determines the general reading achievement through its vocabulary and comprehension scores was used to evaluate the effectiveness of the study. In that year, eighty three percent (83%) of the students in the experimental group improved their standardized tests scores. The average percentage point change in scores was twenty-three points (23.90). In the control group only fifty percent (50%) of the control group improved their scores with an average percentage change of fourteen points (14). Seventeen students from the first year of the study moved to higher performance levels (basic to proficient) while only six from the control group experienced a significant shift. Students fully participating in this brain based exercise maintained or improved their test scores. In the experimental group one student qualified as gifted and six of ten students inducted into National Junior Honor Society for the following school year were from the experimental group. In the second year of study twenty-one (21) students participated in the study. The Terra Nova and standardized tests generated by the district were used as the measurement tools with scores in reading improving seventy nine point two percent (79.2%) while the scores in language improved sixty seven percent (67%).

Performance Levels of Standardized Tests Before and After Superbrain Yoga
Second Year Study in 2004-2005

Performance Levels	Before Superbrain Yoga	After Superbrain Yoga
Advanced Level	0	2
Proficient Level	8	13
Basic Level	9	6
Below Basic Level	3	0
Total	42.86%	71.43%

In the third year of study, up to sixty-eight students in eight classes of eight grade students were included in the study.
District Mandated Standardized Tests – Reading

Before and After SuperYoga - Third Year Study in 2005-2006

Experimental Group Performing Superbrain Yoga

Performance Levels	1st Marking Period	3rd Marking Period
Percentage of proficient students	3.03%	54.55%
Advanced Level	0	2

Proficient Level	8	13
Basic Level	9	6
Below Basic Level	3	0

Control Group Not Performing Superbrain Yoga

Performance Levels	1st Marking Period	3rd (Present) Marking Period
Percentage of proficient students	20.20%	45.378%

Students experiencing SBY- proficiency levels improved 51.52% over three marking period's. Students not experiencing SBY performance levels improved to proficiency 25.17% over three marking periods.

Discussion:

In comparing the classes I teach implementing Super Brain Yoga and the classes I teach without the exercise I have experienced the following:

Engagement Level –

Students are much easier to engage in an academic lesson. More students take risks in completing assignments on their own or with a partner while the students not experiencing SBE either refuse to do the assignment at all or before reading the assignment ask the teacher to explain the work.

Socialization and Self-Regulation –

In the current school setting there is a high level of reactivity. The students exchange verbal threats with each other frequently and when a teacher tries to redirect the behaviors the students are so focused on each other that they do not hear nor see the teacher. In the classes performing the SBY students seem to have a greater space between stimulus and response. In that space not only does the teacher have an opportunity to redirect the students but often the students can determine the consequence and in that understanding make a different choice of responses. Students performing the SBY take a greater degree of accountability for their behavior than those who do not and are more willing to make a plan to practice habits that will eliminate their initial reactions. There seems to be a greater sense of future as opposed to the students who are focused on their immediate needs.

Retention –

Students not only retain the information taught at a higher level but apply it in other areas. The students see the SBY as a tool and ask to use it before test to

improve their performance level. The learning that occurred after the SBY is successfully applied to the tests measuring their performance as well as their content classes where students performing the SBY are engaged socialize peacefully and productively while maintaining a greater degree of focus. Bloom's Taxonomy is an instruction tool that can be used to move the students to higher order thinking skills. There are a number of levels and as the instruction is directed at each level the students learn to master complex instruction. In a class where the students were not performing the exercise I have yet to move the students up the ladder of learning. As the assignments become more complex the students not performing the exercise yet covering the same material have higher level of resistance and frustration with the instruction. Majority of them quit rather than try to excel. Less material is covered over a longer period of time.

Conclusion:

Over a three-year study and application of Superbrain Yoga, we can conclude that there is a positive relationship and significant improvement in the academic, behavioral performance of middle school children. I have worked with teenagers for fifteen years and in comparing my experiences over the past three years and seeing the number of lives this exercise has touched, I understand the implications of this exercise as a tool for transformation. Year after year I have seen students tap into their innate gifts when a physical, mental, or emotional factor was regulated while performing Master Choa Kok Sui's Superbrain Yoga. Regardless of the social situation adolescence is a turbulent time in itself. For years people have said the ages between 12 and 22 is a time where teenagers struggle and the latest brain imaging shows that there is a high level of activity in the teenage brain. It is a crucial time of life and a great opportunity to strengthen skills and to overcome weaknesses.

Kim Siar has been teaching in the Norristown School District, Norristown Pa, for fifteen years. She now serves the role as Instructional Coach and Brain-Based Learning Facilitator with a great interest in providing tools that will empower teens to experience a love for life long learning.



SUPERBRAIN YOGA RESEARCH IN CHILDREN

Superbrain Yoga and Neurodevelopmental Disorders in Children

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Background:

Neurodevelopmental disorders in children can have lifetime effects on the ability to communicate process and respond to sensory information and form social relationships. A spectrum of conditions affecting children (ADHD, Autism, PDD etc) have a wide range of presenting symptoms and experience challenges that range widely in severity. Many sources now accept an autism epidemic in the United States as well as other neurodevelopmental disorders in children. The prevalence of autism has risen from one in about 2,500 children in the 1980's to one in about 250 in 1996. National research indicates that early, intensive, sustained and appropriate intervention can result in significant improvements in the quality of life and level of independent functioning of children with neurodevelopmental disorders. It is along this line that the Superbrain Yoga study was initiated in Northern New Jersey.

Objective:

The second Superbrain Yoga Research Study was conducted in Northern New Jersey in children with moderate to severe neurodevelopmental disorders including Autism, ADD, PDD, Traumatic Brain Injury and Learning Disorder.

Methods:

Superbrain Yoga was performed by children with various neurodevelopmental disorders with ages ranging from 5 to 18 years either in the self-contained classrooms, therapy sessions or at home. We are presenting case studies where children performed Superbrain Yoga on a regular basis and incorporated it in their daily activities.. The DTVP-2 (Developmental Test Visual Perception), a standardized battery of tests measuring visual-perception and visual-motor abilities was completed before and after Superbrain Yoga for 7 months. Significant behavioral observations were likewise noted.

Results:

Case Study 1 - Dyslexia and Emotional Tantrums: JR is six-year old and the first of twins. JR, who is in regular school, is diagnosed to be dyslexic and emotionally disturbed. He displays global delays in all areas and would frequently have emotional outbursts and temper tantrums in school and home.

DTVP-2 Before Superbrain Yoga Study

Subtest	Raw Score	Age Equivalent	Percentile
Eye Hand Coordination	110	4y 8m	25%
Copying	13	5y 1 m	37%
Spatial Relations	17	5y 2m	37%
Visual Motor Speed	3	4y 9m	25%

DTPV-2 After 6 Months of Superbrain Yoga

Subtest	Raw Score	Age Equivalent	Percentile
Eye Hand Coordination	138	5y 9m	37%
Copying	26	8y 1 m	84%
Spatial Relations	40	9y 7m	95%
Visual Motor Speed	13	8y 2m	84%

Following Superbrain Yoga, JR is now able to write and recognize all letters in the alphabet with no difficulties. He knows all sounds related to the letters along with beginning to blend them to begin reading. His teacher has noted that he is one of the best students in the classroom and is so pleased with his progress. His overall concentration and focus has improved. He has not had any emotional outbursts or temper tantrums for the past 7-months.

Case Study 2 - Autism:

MR is JR's autistic twin brother and is attending a special education school. He is unable to sit for longer than 5 minutes without behavioral over reactions and self-stimulatory behaviors including; pinching, chinning, biting, screaming, head butting, and pushing self into people and objects.

MR has not slept through the nights since he was a baby but after doing the Superbrain Yoga in less than three weeks, he started sleeping better. Now, after regular Superbrain Yoga for 7 months he sleeps with no disruptions. Now, after three months he sleeps with no disruptions. His social skills have improved

dramatically; he is playing appropriately with his toys and even talks them. He is expressing his needs through the use of his toys as if they were people. His parents have noted his eye contact has improved and he is looking at them longer and more frequently. He is able to sit and attend for forty-five minutes with little to no self-stimulatory behaviors or overreactions. During tabletop activities, he is focused to the same task for 10-15 minutes before needed to change the task. He is writing his name and able to recognize all letters, colors and numbers. His overall attention and concentration has improved and he is engaging in more age appropriate desktop skills.

Case Study 3

Traumatic Brain Injury, Absent Corpus Callosum and Enlarged Ventricles: BB is a seven year-old with the diagnosis of traumatic brain injury and CNS abnormalities. He has an IQ of 79 (borderline normal). He continues to struggle with perception, memory and overall learning. His attention span is fleeting and he is extremely distractible. Retention of new information is poor and he has extreme difficulty recalling details. Although BB is able to recognize all of his colors and shapes, recognizing letters continues to prove problematic (consistently knowing 4); however, able to write all with visual cues. He was unable to follow more than one step commands without visual cues. He was extremely behavioral frequently acting out and refusing to do anything asked of him. He would isolate himself with all around him and "tune out" any and all verbal directives. It was extremely difficult to get him to attend and engage one on-one never mind a group.

Following regular Superbrain Yoga, BB is now able to recognize 20 out of 26 letters consistently compared to 4 in the beginning of the year. Listening has improved and he is able to attend groups within the classroom with little to no difficulty. The teacher has noted that he has an improved sense of self-esteem; trying new things he would usually have avoided. The teacher is readily asked if there is anything he can do to help her or his classmates. Social skills are improving and expression of his feelings and emotions are more appropriate and he is no longer showing defiant behaviors. An improvement in his overall demeanor have been noted by parents, teachers, and therapists.

Following Superbrain Yoga, JR is now able to write and recognize all letters in the alphabet with no difficulties. He knows all sounds related to the letters along with beginning to blend them to begin reading. His teacher has noted that he is one of the best students in the classroom and is so pleased with his progress. His overall concentration and focus has improved. He has not had any emotional outbursts or temper tantrums for the past 7-months.

DTVP-2 Before Superbrain Yoga Study

Subtest	Raw Score	Age Equivalent	Percentile
Eye Hand Coordination	131	5y 5m	16%

Copying	20	6y 5m	30%
Spatial Relations	40	9y 7m	84%
Visual Motor Speed	0	<3y 11 m	50%

DTPV-2 After 6 Months of Superbrain Yoga

Subtest	Raw Score	Age Equivalent	Percentile
Eye Hand Coordination	152	6y 7m	37%
Copying	31	10y 2m	75%
Spatial Relations	44	>11 y2m	95%
Visual Motor Speed	12	7y 9m	50%

Case Study 4

Pervasive Developmental Delay and Attention Deficit Hyperactivity Disorder: RS has been diagnosed with PDD and ADHA and has an overall IQ of 73 (borderline). He engages in repetitive actions, is resistant to change, displays unusual responses to the slightest sensory input and lacks responsiveness to others. RS is consistently engaging in self-stimulatory behaviors such as mouth noises, echolalia, talking to self, hand flapping, running, jumping, spinning, and crashing. He craves and needs this input secondary to his inability to process vestibular and proprioceptive input. During desktop activities he is often found playing with his hands or other small objects, stomping his feet or falling out of his seat. Secondary to his hyperactivity, RS is unable to fully attend to teacher's directions and concentrate during school work. The overall quality of his work decreases with his distractibility, impulsivity, and inability to wait his turn, therefore performance in all areas is hindered. Following Superbrain Yoga, sensory regulation has improved and he appears more calm and focused. For the first time since RS has started school, he has been unable to read but after about a month of completing the exercise consistently in the classroom, RS appears calmer and more focused.

One day after completing the Superbrain Yoga, he got up and walked across the room reading all of words on the board; no one knowing he possessed these abilities. Secondary to his increased arousal state and inability to regulate himself, RS never truly expressed his strengths. He is showing overall academic improvements and more self control.

DTVP-2 Before Superbrain Yoga Study

Subtest	Raw Score	Age Equivalent	Percentile
Eye Hand Coordination	125	5y 2m	9%
Copying	17	5y 9m	25%
Spatial Relations	20	5y 5m	9%
Visual Motor Speed	0	<3y 11 m	1 %

DTPV-2 After 6 Months of Superbrain Yoga

Subtest	Raw Score	Age Equivalent	Percentile
Eye Hand Coordination	158	7y 6m	50%
Copying	22	6y 11m	37%
Spatial Relations	31	6y 4m	16%
Visual Motor Speed	21	7y 9m	84%

Conclusion:

After a 7 month study and application of Superbrain Yoga in children with moderate to severe neurodevelopmental disabilities, we can conclude that there have been significant improvement in the sensory processing, visual-perception, visual-motor, speech, language, communication and social behavior in these children. Superbrain Yoga exercises on these children can be a critical component in the overall therapy as it allows the family to participate in the therapy of their child.

Raina Koterba - is a practicing Occupational Therapist. Combining a unique intuitive gift with being a professional therapist and energy healer, Raina strives to reach out to parents and children on how to improve their lives through the science of energy healing and Superbrain Yoga.



SUPERBRAIN YOGA EXERCISE

- A Digital Brain Mapping Study

Dr. Ramesh

Dr Ramesh presented a paper at the World Pranic Hearers convention in Mumbai India May 2006, discussing a comparative digital brain map study of Super Brain yoga Exercise. This pilot study shows that there is an increase in amplitude and frequency of alpha waves in certain regions of brain.

Alpha Brain wave is a relaxed concentrated state of mind typical of a brain wave. It allows total concentration and synchronization of the left and right brains. This is the proper state for reading, listening and other forms of information input. People who have more alpha brain waves have less anxiety and stress related diseases & correspondingly strong immune system.

Functioning at the alpha brain wave pattern increases the healing processes of the body. It is also the most effective for reprogramming your inner conscious levels.

Scientists have shown that highly creative people have a big burst of alpha brain waves mostly on the left side of the brain. Peak performance is another activity for which alpha brain waves are helpful.

This pilot study indicates that you can increase your alpha waves by Super Brain Yoga Exercise.