TO FIND THE EFFECTIVENESS OF CHILD POSE ASANA AND
SUPER BRAIN YOGA IN IMPROVING MEMORY AND
CONCENTRATION AMONG PHYSIOTHERAPY STUDENTS

1*Jyothi Seshan, 2Dr. P. Senthil Selvam and 3Dr. M.S. Sundaram

1M.P.T (Ortho), Asst. Prof in School of Physiotherapy, VISTAS, Thalambur, Chennai.
2M.P.T (Ortho), Ph. D, Prof & HOD in School of Physiotherapy, VISTAS, Thalambur, Chennai.
3M.P.T (Sports), Ph. D, Prof in, School of Physiotherapy VISTAS, Thalambur, Chennai.

ABSTRACT

Most of the students in professionals have mental stress and tension which leads to a lack of memory and concentration in studies. Based on the Yoga concept, to improve memory and concentration, Super brain yoga and Child pose asana used in this study. The study is to find the effectiveness of Child pose asana and Super brain yoga in improving memory and concentration among students. Aim of the Study: The study aims to find the effectiveness of Child pose asana and Super brain yoga in improving memory and concentration among students.

Methodology

STUDY DESIGN: Experimental design.
STUDY TYPE: Comparative study.
STUDY SAMPLE: 100 students.
STUDY SETTING: School of Physiotherapy, VISTAS.

Procedure: Inclusion criteria: Age group of 18+ years to 24 years, Gender: both males and females. Subjects who are willing to participate. Exclusion criteria: Subjects with injuries in brain or head, fractures of the spine, any lesions in ENT. Subjects are included based upon inclusion criteria. Then, the subjects are asked to answer a questionnaire of the Beck anxiety scale and Beck Depression scale as outcome measures used to interpreted IQ. Then, the subjects are asked to answer a questionnaire of Memory functioning questionnaire (MFQ) and Safe Concentration and Attention test (SCAAT) used as an outcome measure. Based
upon inclusion criteria, students were asked to do super brain yoga or Thoppukarnam with 21 times given for one group of 50 students. In other groups, 50 students have given a Child pose asana with 8 times holding 30 seconds of each exercise. **Result:** The result shows that the mean value for Memory functioning questionnaire – 57.9, Safe Concentration and Attention test – 8. **Conclusion:** The study was significantly proved that the super brain yoga was more effective for improving memory and concentration with IQ than child pose asana among students.

**KEYWORDS:** Super brain yoga, Child pose asana, IQ test, Memory functioning questionnaire, Safe Concentration and Attention test.

**INTRODUCTION**

In this population, Physiotherapy students become more mentally stressed, and tensions that have a negative impact leads to a lack of concentration and memory in their studies. Yoga is an ancient technique that enhances memory and concentration in studies.[1]

Ancient traditional Yoga is referred to as World Health Exercise or Asana, which has been encouraged by many people and in practicing by many people so far. Based upon this, the National Institutes of Health Committees formed yoga as Complementary and Alternative Medicine (CAM). Collins. C has been stated in the Yoga Institution, prevention medicine and treatment as a regular practice of yoga promotes strength, endurance, flexibility and facilitates characteristics of friendliness, compassion, and greater self-control while cultivating a sense of calmness and well-being. Yoga is a form of mind-body fitness that involves a combination of muscular activities and an internal directed mindful focus on awareness of the self, the breath, and energy.[1]

Pushpendra Kumar, (2016), has been stated as, yoga is widely used to improve health and to attenuate or cure various conditions, and Asana in various posture used to develop physical strength, flexibility, and endurance. Furthermore, yoga has been reduced hypertension and cardiac inflammation, stabilize the sympathetic nervous system and improve psychological health and cardiac function.

Arora. S, Bhattacharjee. J has been stated in the Modulation of an immune response in stress by Yoga as a regular practice of yoga produces a physiological state opposite to that of the
flight-or-fight stress response and with that interruption in the stress response, a sense of balance and union between the mind and body achieved.

Super Brain Yoga is a simple principle of ear acupuncture and improves energy movement in the body. Exercise of Super brain yoga involves squeezing one's earlobes with thumb and forefinger in a particular position and squatting with controlled breathing.\cite{11} This exercise improves cognition and academic performance. Super brain yoga or Thoppukarnam which the Indian traditional worship of Lord Ganesh used repetitions 18, 108, or 1008 and also used as punishment for repetition for 108.

Super Brain Yoga has been proven in many research studies, which will improve the cognition level, especially with school-going children and also in adult, this yoga practice leads to benefits in psychological states in healthy individuals. Also, some studies stated as, Super Brain Yoga had improved the attention level, reduced anxiety, and depression.\cite{2} The physiology in Super Brain Yoga had been energized and activated in the left brain and the pituitary glands by squeezing the right and left earlobes. Also, it activates various Chakras, which will absorb, digest and allocate prana to the different parts of the body, leads to the proper functioning of human metabolic activities. The energy tapped moves in the basic and sex chakras through the major energy centers and finally up into the Crown Chakra that controls the pineal gland and overall brain health.\cite{1}

Several research studies stated as, practicing Super Brain Yoga leads to activating Alpha wave in the brain immediately after performing Super Brain Yoga for one minute and also helps the children population as challenged by attention deficit hyperactive disorder (ADHD), autism, and speech delay. Super Brain Yoga will enhance short-term memory, selective attention, visuospatial ability, and academic performance among school students.\cite{6}

Super Brain Yoga can make a significant decrease in the academic anxiety of the adolescent population, by enhancing cognitive functioning and improve psychological states.\cite{10}

Child pose asana or Balasana or Spine-Lengthening asana used for relaxing the body and mind. Balasana which a traditional Muslim prayer poses to worship god.

In child pose asana, while doing a procedure with controlled breathing will improve concentration. Also, Balasana had improved mind calming and reducing fatigue.\cite{20}
AIM OF THE STUDY
The aim of the study is to find the effectiveness of child pose asana and super brain yoga in improving memory and concentration among students.

NEED OF THE STUDY
- To improve Memory and Concentration with IQ level among Medical Students.

METHODOLOGY
Study type: Experimental study
Study Design: Comparative study
Study Duration: 1 month
Study Setting: Vels University, School of Physiotherapy, VISTAS, Thalambur campus.
Sample Size: 100 students

SAMPLE SELECTION
Inclusion Criteria
- Age group - above 18 years to 24 years.
- Gender – both male and female.
- Students who were poor in studies and lacking of concentration.

Exclusion Criteria
- Students with injuries in brain or head.
- Fracture of spine, lower limbs and upper limbs.
- Any lesion – infection or inflammation in ENT.

OUTCOME MEASURE
- Identifying Memory and Concentration level with IQ testing for Medical Students.

TOOLS USED
- Memory functioning questionnaire (MFQ).
- Safe Concentration and Attention test (SCAAT).
- IQ – Beck’s Depression test.
PROCEDURE

Based upon the inclusion criteria, students were taken and categorised into two groups. Group -1 – 50 students performed Super brain yoga and Group – 2 – 50 students performed Child Pose Asana.

Procedure performing Super brain yoga, instructions given to the students, as following, make the student stand straight toward sunrise direction, ask them to squeezing right earlobe with left hand – thumb on the outer and index finger behind and then squeezing left earlobe with right hand - thumb on the outer and index finger behind. While, inhale through the nose as you sit down and exhale through the mouth as you come up. Practice this procedure for 21 repetitions for 1 month. Each student asked to fill the questionnaire as MFQ, SCAAT and Back’s depression test for IQ testing before and after performing the Super brain yoga.

Procedure performing Child pose asana, instruction given to the students, as following, Kneel with your buttocks on or near your heels and with your legs slightly apart. Bend from the hips—forward and down—folding your upper body onto your thighs. The forehead rests on the floor or on a folded blanket or towel. Place your arms on the floor next to your legs, palms up. If you wish, you can also extend your arms on the floor in front of you, palms down, with elbows relaxed. Let your shoulders round. Breathe deeply and relax. Remain in the pose for 1 to 2 minutes. Raise your upper body and return to a kneeling position. Practice this procedure for 8 repetitions for 1 month. Each student asked to fill the questionnaire as MFQ, SCAAT and Back’s depression test for IQ testing before and after performing the Child pose asana.

Students practicing Super brain yoga
Students practicing Child pose asana
RESULTS

The study statistical analysed by using Unpaired T – test.

Table 1: Group -1- Pre- test of Super brain yoga performed students.

<table>
<thead>
<tr>
<th>SBY</th>
<th>N - sample size</th>
<th>Mean value</th>
<th>SD value</th>
<th>T – test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>50</td>
<td>40.7</td>
<td>8.66</td>
<td>3.34</td>
</tr>
<tr>
<td>Concentration</td>
<td>50</td>
<td>5.12</td>
<td>2.48</td>
<td></td>
</tr>
<tr>
<td>IQ – testing</td>
<td>50</td>
<td>20.6</td>
<td>8.75</td>
<td></td>
</tr>
</tbody>
</table>

Chart 1: Group -1- Pre- test of Super brain yoga performed students.

Table 2: Group -1- Pre- test of Child pose asana performed students.

<table>
<thead>
<tr>
<th>CPA</th>
<th>N - sample size</th>
<th>Mean value</th>
<th>SD value</th>
<th>T – test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>50</td>
<td>30.9</td>
<td>8.56</td>
<td></td>
</tr>
<tr>
<td>Concentration</td>
<td>50</td>
<td>5.28</td>
<td>2.31</td>
<td>2.47</td>
</tr>
<tr>
<td>IQ – testing</td>
<td>50</td>
<td>20.6</td>
<td>8.75</td>
<td></td>
</tr>
</tbody>
</table>
Table 3: Post- test of Super brain yoga performed students.

<table>
<thead>
<tr>
<th>SBY</th>
<th>N - sample size</th>
<th>Mean value</th>
<th>SD value</th>
<th>T – test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>50</td>
<td>57.9</td>
<td>5.10</td>
<td></td>
</tr>
<tr>
<td>Concentration</td>
<td>50</td>
<td>8</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>IQ – testing</td>
<td>50</td>
<td>5.22</td>
<td>2.72</td>
<td></td>
</tr>
</tbody>
</table>

Chart 2: Group -1- Pre- test of Child pose asana performed students.

Chart 3: Post- test of Super brain yoga performed students.
Table 4: Post – test of Child pose asana performed students.

<table>
<thead>
<tr>
<th>CPA</th>
<th>N - sample size</th>
<th>Mean value</th>
<th>SD value</th>
<th>T – test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>50</td>
<td>47.2</td>
<td>5.23</td>
<td>10.2</td>
</tr>
<tr>
<td>Concentration</td>
<td>50</td>
<td>7.44</td>
<td>1.14</td>
<td></td>
</tr>
<tr>
<td>IQ – testing</td>
<td>50</td>
<td>5.22</td>
<td>2.72</td>
<td></td>
</tr>
</tbody>
</table>

Chart 4: Post – test of Child pose asana performed students.

In this study, Table -1 interpreted as pre- test for Super brain yoga performed students, Memory - mean value is 40.7 and SD value is 8.66 and Concentration – mean value is 5.12 and SD value is 2.48.

Table-2 interpreted as pre- test for Child pose asana performed students, Memory - mean value is 30.9 and SD value is 8.56 and Concentration – mean value is 5.28 and SD value is 2.31. For IQ test using Beck’s Depression scale interpreted for pre- test mean value is 20.6 and SD value is 8.75. The T- test value for pre-test of Memory and Concentration, t value is 3.34.

Table – 3 interpreted as post- test for Super brain yoga performed students, Memory – mean value is 57.9 and SD value is 5.10 and Concentration – mean value is 8 and SD value is 0.82.

Table – 4 interpreted as post- test for Child pose asana performed students, Memory – mean value is 47.2 and SD value is 5.23 and Concentration – mean value is 7.44 and SD value is 1.14. For IQ test using Beck’s Depression scale interpreted for post- test mean value is 5.22
and SD value is 2.72. The T-test value for post-test of Memory and Concentration, t value is 13.5.

DISCUSSION
The study evidently seen that students performed Super brain yoga were confidently improved with memory and concentration than students performed Child pose asana. The mechanism of Super brain yoga, by performing Thoppukarnam, which holding the earlobes of both sides will connects the left brain and the pituitary gland will lead to increases the energy and activates the brain for memory and attention in cognition, which is also know as Auriculotherapy. Also, the purpose of Super brain yoga practices will enhance the qualitative and quantitative Pranic energy or Bioplasmic energy in the brain.

Srikanth N Jois in 2017, had stated as, the great Indian Rishis have developed the technique to increase the intelligence of people based on the principle of ear acupuncture and the science of prana or energy movement through various chakras. The chakras absorb, digest and allocate prana to the different parts of the body and for proper functioning of human metabolic activities. The Super brain yoga improve energy trapped in the basic and sex chakras through the major energy systems and into the crown chakra that controls the pineal gland and brain health. The observation stated that Alpha wave activity in brain increases immediately after performing the Super brain yoga for one minute, and helps for the children with attention deficit hyperactive disorder (ADHD).

Sheela Joice. P.P in 2018, had stated as practicing yoga were improved the sensitivity of postsynaptic membrane and the effective inhibition of the distracting signals, which may be responsible for the improved cognitive performance.

Angelica Chandrasekeran, in 2017, had stated as, practicing Thoppukarnam were enhanced attention, mental concentration, state mindfulness, and state anxiety in young adult population. Further studies stated as, improving session of Thoppukarnam were reduces the state of anxiety, which will improve cognitive function and psychological states in young adult population.

Also, the study evidently interpreted as students performing Child pose asana or Balasana were rejuvenating pose which completely relaxes the back and neck muscles and stretches the
spine. During this asana, spine goes for flexion, sacroiliac joint nutation, hip flexion and adduction, knee flexion and ankle plantar flexion.

Further studies stated as, the child pose asana brings the sitting bones to the heels and the forehead to the floor. The muscles have been lengthened- the extensors of the spine, gluteus maximus, piriformis and other rotators, hamstrings, gluteus medius and minimus (due to hip adduction position), tibialis anterior, peroneus tertius, extensor digitorum longus and brevis, and extensor hallucis longus and brevis in the feet.

Other studies stated as, widening the knees (hip abduction position), which create more neutral, extension in the spine, extending the arms overhead, clasping the heels with the hands, crossing the arms under the forehead, and turning the head to one side will also create more neutral.

Some studies stated as, there is congestion in the fronts of the hip joints. It can be caused by using the hip flexors to pull the body down toward the thighs, rather than allowing gravity to create that action. Also, if the extensors of the toes are tight or if there is a lack of mobility in the bones of the feet, restriction can also be felt in the tops of the feet. In addition, weakness in the intrinsic muscles of the feet often results in cramping in this and similar positions (such as virasana and vajrasana). Also, few studies stated as, the pose can feel suffocating to the subjects with breathing difficulties.

Numerous muscles, including the spinal extensors, hamstrings and Gluteus Medius will elongate and work simultaneously. This action will allow the sitting bones and the head to safely reach the floor. Students are encouraged to widen the knees, which may allow for more expansion in the spine and make room for the belly.\[21\]

Kaminoff states that a student might feel tightness in the hip joints. Gravity might prove helpful in pulling the body down instead of the muscles. Balasana is used as a resting pose so the participant can focus on breathing. Kaminoff suggests the pose might constrict breathing and cause a feeling of suffocation in a student who is new to the posture. He suggests more movement in the rib cage and at the back of the waist to allow for a deeper intake of breath.\[22\]

Few studies state as, with 104 Students may find the physical benefits of Balasana to include: reduction in head, neck and chest pain. The singing-yogi might also feel an expansion in the
hips and lower back. It is possible that Balasana can also assist with expanding the shoulders, while calming the mind and reducing fatigue.[23]

Based upon the Memory functioning question and Safe Concentration and Attention test, statistically proven that, there was a drastic improvement in Memory and Concentration with IQ improvement in students after practicing Super brain yoga for one month than in practicing Child pose asana.

CONCLUSION
The study statistically proven that practicing Super brain yoga for improving Memory and Concentration with IQ level improvement among student population have been drastically improved than performing the Child pose asana.

ACKNOWLEDGMENT
First and foremost, I would like to thank the ALMIGHTY who have given me the power to believe in myself and pursue my dreams who is very kind enough to reveal me his great wisdom, good health and all the needful towards the completion of my research project.

I take immense pleasure to express my sincere and profound gratitude to my project guide and mentor Dr. P. Senthil Selvam Ph.D., HOD & PROF, School of Physiotherapy, VISTAS for his support, encouragement, motivation and exemplary guidance throughout the course of my project work. His moral support and continuous guidance enabled me to complete my work successfully.

I am grateful for the co-operation and constant encouragement from my honourable Head of the Department and co-guide, Dr. P. Senthil Selvam Ph.D., School of Physiotherapy, VISTAS. His regular suggestion made my work easy and proficient.

I would hereby take this opportunity for expressing my sincerest thanks to all my faculties whose working with me and gave me conceptual understanding and clarity of comprehension and their support and encouragement.

I would extremely grateful to my parents and my family for their love, prayer and sacrifices for educating me for the future who has supported me throughout my academic trajectory despite the self-alienation that came as a result of pursuing my goal.
I sincerely acknowledge my students for all the support and motivation in all my efforts during my research project work completion.

REFERENCES
1. Sui Choa Kok, Super brain yoga, institute for inner studies publication foundation, 2013.


