

## **SUPER BRAIN YOGA ON WORKING MEMORY AMONG STUDENTS AT NURSING COLLEGE**

**Dr. Anitha Rajendrababu<sup>1</sup>, Ida Sherlee.J<sup>2</sup>**

<sup>1</sup>Professor cum Principal, Rajalakshmi College of Nursing, Chennai, India

<sup>2</sup>Assistant Professor, Rajalakshmi College of Nursing, Chennai, India

### **ABSTRACT:**

**Background:** Yoga is a traditional practice from the ancient Indian culture and is considered to be the sign of holistic living. That focuses on bringing harmony between mind and body. Super brain yoga is adapted from “Thoppukarna yoga” which practiced for a period of several months has a positive impact on social behavior in children with Autism and attention deficit hyperactivity disorders.

**Objectives:** the study aimed to assess the level of knowledge on super brain yoga and to assess the effectiveness of super brain yoga on working memory among the nursing students.

**Materials and Methods:** Quasi- experimental research design was adopted for this study. 80 first year and second year students were selected as samples by using simple random sampling technique .out of which 40 in experimental & 40 in control group was allotted. The data collection instrument consists of 2 parts, Demographic variables & N-Back Test for memory function.

**Results and discussion:** The results of the present study demonstrated the effectiveness of super brain yoga on working memory was revealed by the paired t-test 1back calculated value t-3.36 was statistically significant at the level of  $p > 0.05$ . 2back calculated t' value was 6.57 and calculated t' value of 3 back test was 4.88 with the level of significance  $p < 0.05$ .

**Index Terms**—Super Brain yoga, n back test, Working memory

### **1. INTRODUCTION**

The human mind being a lot of exceptional and complicated than any current computer, it becomes necessary to amplify its true capability for higher work yield and broad prosperity. There has been consistent exploration around here for an identical rationalization. The neurotransmitters - purpose association of the neurons within the mind ought to be created and preserved for the neural structure to stay solid and caution over the course of life. various ways to advance mind welfare are accounted for. Among them Super mind Yoga (SBY) is one in all them. it's started by pressing ear needle medical aid focuses by fingers with hands express the chest and includes fourteen squats with recommended reposeful. This easy strategy of SBY offers advanced blessings for understudies, nevertheless in addition for grown-ups searching for mind health. [1]The Super mind follow somewhat cleans and stimulates the energy habitats needed for the neural structure to effectively work. Chakras or spinning energy focuses assimilate, digest and disperse prana to the varied items of the body and are accountable for the suitable operating of the human. once the energy gets up to the brow and crown chakras, it's become unpretentious pranic energy, that is employed by the mind for its legitimate operating. [1] SBY may likewise be taken a goose at from the aim in it being a sort of actual activity. analysis has ascertained that there's a helpful outcome of any actual add any developing thought and upgrade of mental execution and mind perform.[2] Studies in addition demonstrate that organized activity expands one's attention.[3] SBY being polished systematically turns into a planned activity and what is more a lively work conducive towards the neural structure. Working memory frames a middle part of the leader capability of the mind. It goes regarding as a transient memory cradle, concisely holding the information, operating with its process.[4,5] Performance of errands that attract remembering may well be dilated through targeted energy exercise.[6] a large vary of tests exists within the writing to quantify remembering. The n-back task may be a substantial proportion of remembering because it includes dynamic practices whereas responsive every item.[7] the twin n-back remembering making ready task, at the start bestowed by Jaeggi and partners, has gotten distinguished thought for performing on remembering and completely different elements of mental performance potential. The essential purpose of this planned study was to survey the impact of transient act of super mind yoga on the a part of human comprehension, to be specific, thought management and dealing memory. The ex gratia purpose was to seem at the impact this intercession on human comprehension. An Indian concentrate by Chandrasekeran et al. (2014) on Thoppukaranam, that may be a near variation of super brain yoga, has flaunted to basically have an effect on specific thought and mental states in young adults.[2] but, the continuing logical writing archiving the similar impacts of super brain yoga versus high-impact follow on discernment is yet inadequate. latent period is characterised because the time span between the conveyance of a tactile improvement and engine reaction. it's a proportion of tangible engine coordination also as interior handling speed within the brain.[8,9] it would

likewise be thought-about as a record of animal tissue excitement (readiness) and may be a easy harmless appraisal of fringe and focal brain structures. follow is understood to any develop latent period.[10] A lot of noteworthy level of readiness and higher sturdy coordination ar the explanations attributable to the unmatched presentation of the athletic gathering. Materials and Methods: An interventional study was completed at MS Ramaiah Medical faculty, Bengaluru. This study was allowed endorsement by the committee of MS Ramaiah Medical faculty. during this review, forty solid understudies were non-commissioned associated haphazardly relegated to super brain yoga and simple squats bunches with the help of an arbitrary variety table. In lightweight of Chandrasekaran et al. study, associate example size of fifteen was shown up at for every gathering. associate example size of fifteen for every gathering accomplishes a force of eightieth, set at the best certainty level of ninety fifth with an effect size of zero.78.[2] In this review, understudies were separated into two gatherings, every enclosed 40nursing understudies. They were all deeply energetic individuals, and educated assent was noninheritable from them subsequently exploratory convention was created sense of thoroughly. The understudies with following incorporation measures were remembered for the review: (i)students of I and II year nursing understudies and understudies UN agency don't seem to be really sound were prohibited from the review. Evaluation of visual latent period (VRT) and hear-able latent period (ART) was finished utilizing a natively planned convenient reaction instrument contraption, with a least count of 1/1000 s and controlled by 2 powered AA batteries. Hear-able and obvious prompts comprised of snaps and a blaze of inexperienced lightweight, separately. Subjects were initial familiar with to the gear with a coaching meeting. the smallest amount of 3 progressive accounts was taken because the latent period. Evaluation of visual remembering was finished utilizing the n-back task. during this computer primarily based check, a randomised series of exposure placements were introduced on a screen, every successively in shut progression. the themes were told to answer with a left depression as quick and exactly as may extremely be expected, on a picture within the event that it had recently appeared n-outlines antecedently. for instance, in an exceedingly 2-back check, the topic is anticipated to faucet on a particular image forward it had recently appeared 2 casings antecedently. Consequently, forward that the image of a fish is trailed by a picture of cake, that is then trailed by the image of a fish all over again, the topic is anticipated to faucet on this last edge since it had recently appeared 2 casings antecedently. the themes were tried for 2-back and 3-back, loads. Subjects were initial familiar with to the endeavor with a coaching meeting. each preliminary started with a middle obsession cross on the screen for five hundred ms, trailed by the image improvement therein space for five hundred ms, trailed by a 2000 ms bury upgrade span. the amount of right reactions created was consequently determined (in rate) toward the end of each preliminary. the standard score for 3 progressive preliminaries at a given trip load was taken because the functioning memory score. people from the super mind yoga were expected to perform their suggested follow conventions at a correct time each morning for associate mixture of a few month, for one thing like five days per week. Consistence was secure through everyday electronic updates shipped off the understudies, that was then followed up orally by the specialist within the category that day. The accounts needed on the principal day of testing comprised the gauge for one or the opposite gathering. succeeding accounts were taken toward the end of the primary, second, third, and fourth weeks. The super neural structure yoga routine embraced is delineated within the book by Master Sui[2]: the topic stands inform toward the East, with the feet shoulder dimension separated and also the tongue contacting the highest of the mouth. the correct ear flap is crushed between the left thumb and also the left finger. The left ear flap is ironed between the correct thumb and right pointer. whereas pressing the ear flaps, the thumbs ar externally and also the pointers within. throughout the time spent holding the ear, the appendages ar crossed with the correct lower arm before the left lower arm. the topic breathes in whereas hunching down and breathes out whereas ascending duplicate. three arrangements of twenty one redundancies of this exercise were done atleast five days per week for a substantial length of your time. The memory boundaries were recorded toward the end of every progressive week. The benchmark cluster wasn't directed any mediation. They followed the quality practices.

## **2. RESULT AND DISCUSSION**

In experimental group majority are in 26(65%) in age group 18-19 years, 14(35%) were in the age group of 16-17. In control group majority of 33(82.5%) in the age group 18-19 years, 5(12.5%) were in the age group of above 19 years and 2(5%) were in the age group of 16-17 years. In both groups majority are in females 29(72.5%),36 (90%) of females

In experimental group 37(92.5) were already have knowledge and 3(7.5) were don't have knowledge about super brain yoga. In control group 32(80%) knowledge about the super brain yoga & 8(20%) were already have knowledge. In Experimental group majority of them did super brain yoga 29(72.5) and 11(27.5) were not already did super brain yoga. In control group majority 22(55%) were not already did super brain yoga and 18(45%) were already did super brain yoga.

**Table 1: Frequency and percentage distribution of demographic variables among experimental and control group**

| S.NO |                             | Demographic Variables | Experimental Group 1 | Percentage | Control Group 2 | Percentage |
|------|-----------------------------|-----------------------|----------------------|------------|-----------------|------------|
| 1.   |                             | Age in years          |                      |            |                 |            |
| a)   | 16-17 years                 |                       | 14                   | 35%        | 2               | 5%         |
| b)   | 18-19 years                 |                       | 26                   | 65%        | 33              | 82.5%      |
| c)   | Above 19 years              |                       | -                    | -          | 5               | 12.5%      |
| 2.   |                             | Gender                |                      |            |                 |            |
| a)   | Male                        |                       | 11                   | 27.5       | 4               | 10%        |
| b)   | Female                      |                       | 29                   | 72.5       | 36              | 90%        |
| 3.   |                             | Type of living area   |                      |            |                 |            |
| a)   | Urban                       |                       | 11                   | 27.5%      | 16              | 40%        |
| b)   | Rural                       |                       | 21                   | 52.5%      | 18              | 45%        |
| c)   | Semi-Urban                  |                       | 8                    | 20%        | 6               | 15%        |
| 4.   |                             | Education status      |                      |            |                 |            |
| a)   | 1 <sup>st</sup> Year        |                       | 40                   | 100%       | -               | -          |
| b)   | 2 <sup>nd</sup> Year        |                       | -                    | -          | 40              | 100%       |
| c)   | 3 <sup>RD</sup> Year        |                       | -                    | -          | -               | -          |
| d)   | 4 <sup>th</sup> Year        |                       | -                    | -          | -               | -          |
| 5.   |                             | Fathers Education     |                      |            |                 |            |
| a)   | Uneducated                  |                       | 11                   | 27.5%      | 6               | 15%        |
| b)   | Primary School              | 5                     | 12.5%                | 9          | 22.5%           |            |
| c)   | High School                 | 11                    | 27.5%                | 6          | 15%             |            |
| d)   | Higher Secondary            | 5                     | 12.5%                | 14         | 35%             |            |
| e)   | Degree                      | 8                     | 20%                  | 5          | 12.5%           |            |
| 6.   |                             | Mothers Education     |                      |            |                 |            |
| a)   | Uneducated                  |                       | 10                   | 25%        | 5               | 12.5%      |
| b)   | Primary School              | 9                     | 22.55%               | 16         | 40%             |            |
| c)   | Higher Secondary            | 13                    | 32.55%               | 16         | 40%             |            |
| d)   | Degree                      | 8                     | 20%                  | 3          | 7.5%            |            |
| 7.   |                             | Fathers Occupation    |                      |            |                 |            |
| a)   | Government                  |                       | 7                    | 17.5%      | 7               | 17.5%      |
| b)   | Private                     |                       | 5                    | 12.5%      | 9               | 22.5%      |
| c)   | Daily Wages                 |                       | 28                   | 70%        | 24              | 60%        |
| 8.   |                             | Fathers Income        |                      |            |                 |            |
| a)   | Less than Rs.10, 000/-Month | 28                    | 70%                  | 26         | 65%             |            |
| b)   | Rs.11, 000 - 15,000/-Month  | 6                     | 15%                  | 8          | 20%             |            |
| c)   | Rs.16, 000 - 20,000/-Month  | 1                     | 2.5%                 | 4          | 10%             |            |
| d)   | Above Rs.20, 000/-Month     | 5                     | 12.55                | 2          | 5%              |            |

(n=80)

**Table-2 comparison of mean and standard deviation of effectiveness of super brain yoga among nursing students**

| Mean Group                | Standard deviation |         |         |         |         |         |
|---------------------------|--------------------|---------|---------|---------|---------|---------|
|                           | 1 back             | 2 back  | 3 back  | 1 back  | 2 back  | 3 back  |
| <b>Experimental group</b> |                    |         |         |         |         |         |
| i) Pre test               | 1012.04            | 1014.17 | 1017.57 | 1106.18 | 1105.54 | 2814.29 |
| ii) Post test             | 682.08             | 839.67  | 1010.41 | 753.96  | 889.60  | 1177.67 |
| <b>Control group</b>      |                    |         |         |         |         |         |
| i)Pre test                | 882.49             | 767.65  | 963.14  | 333.45  | 1669.34 | 668.63  |
| ii) Post test             | 1042.06            | 1206.55 | 1074.55 | 430.44  | 945.71  | 11755.1 |

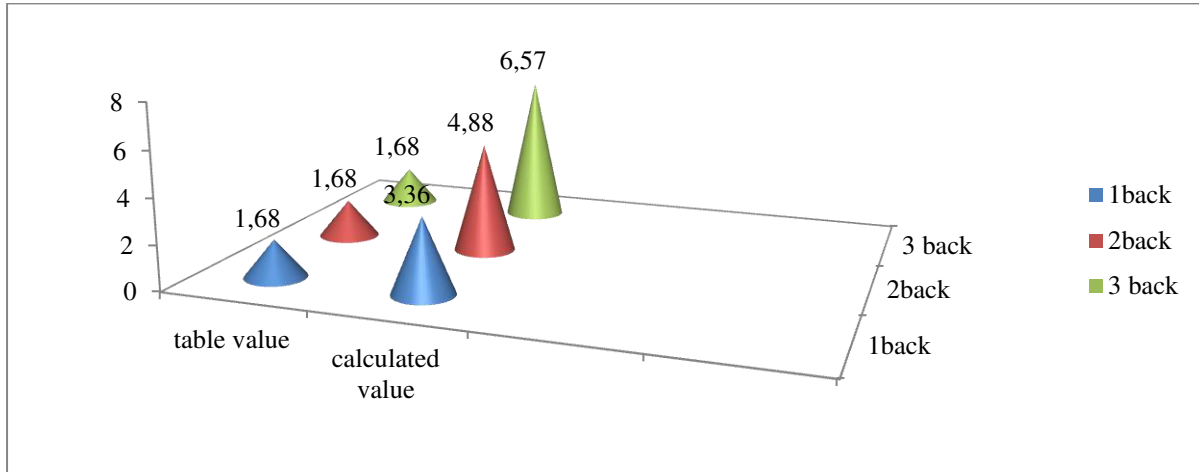
In experimental group pretest mean in 1 back is 1012.04, 2 back is 1014.17 and 3back is 1017.57. And post test mean in 1 back is 682.08, 2back is 839.67 and 3 back is 1010.41 & The experimental group standard deviation in pre test 1 back is 1106.18,2 back is 1105.54 and 3 back is 2814.29. Standard deviation of post test 1 back is 753.96,2 back is 889.60 and 3 back is 1177.67.

**Table-3 comparison of paired t-test of effectiveness of super brain yoga among experimental and control group.**

| Paired t-test Group | 1 back 2 back      |      | 3 back |      |
|---------------------|--------------------|------|--------|------|
|                     | Experimental group | 1.68 | 4.88   | 1.68 |
| Control group       | 1.68               | 1.68 | 0.01   | 1.68 |
|                     | 1.20               |      |        | 0.44 |

In Paired 't' test experimental groups 1 back calculated value (3.36) was greater than table value (1.68). 2back calculated value (4.88) was greater than table value(1.68).3 back calculated value (6.57) was greater than table value (1.68) with the level of significance  $p < 0.05$ .

In control group 1 back calculated value (1.20) was less than table value (1.68). 2 back calculated value(0.01) was less than table value (0.01).And 3 back calculated value (0.44) was less than table value(1.68) with the level of significance  $p > 0.05$ .



### 3. DISCUSSION

The point of the review was to survey the viability of super cerebrum yoga among nursing understudies in Thandalam town. We likewise tried to decide the information in regards to super mind yoga. The investigation showed, in regards to the degree of information about the super cerebrum yoga in exploratory gathering pre test 1back mean was (1012.04), 2back mean was (1014.17) and 3back mean was (1015.57). And the 1back standard deviation was (1106.18), 2back standard deviation was (1105.54), 3back standard deviation was (2814.29).

In control bunch pre test 1 back mean was 882.49, 2 back mean was 767.65 and 3 back mean was 963.14. And the 1 back standard deviation was 333.45, 2 back standard deviation was 1669.34, 3 back standard deviation was 668.63.

This study upheld by a relative report directed by Joseph Ivin Thomas, Venkatesh (2017). The improvement was more articulated for the n-back task scores in the superbrain yoga bunch (gauge:  $83.75 \pm 7.65\%$ , week-4:  $94.50 \pm 6.42\%$ )

Lancy D' Souza, et.al (2017). This study demonstrates that super cerebrum yoga works on the momentary memory and particular consideration of the understudies

In pre test mean for exploratory gathering 1back was 1012.04, 2back was 1014.17, 3back was 1017.57. And post test mean in 1back was 682.08, 2back was 839.67, 3back was 1010.4 and pre trial of control bunch 1back was 1106.18, 2back was 1105.54, 3back was 2814.29. And post test 1back was 753.96, 2back was 889.60, 3back was 1177.67.

### REFERENCES

- [1]. Hillman CH, Castelli DM, Buck SM. Aerobic fitness and neurocognitive function in healthy preadolescent children. *Medicine and Science in Sports and Exercise* 2005, 37, 67–74.
- [2]. Sui ChoaKok, Superbrain Yoga, (Institute for Inner studies Publication Foundation, India Pvt Ltd., Bengaluru India), 2013
- [3]. Budde H, Voelcker-Rehage C, PietraByk-Kendziorra S, Ribeiro P, Tidow G. Acute coordinative exercise improves attentional performance in adolescents. *Neuroscience Letters* 2008, 441, 219-223.
- [4]. Diamond A. Executive functions. *Annu Rev Psychol.* 2013;64:135- 68.
- [5]. Cowan N. What are the differences between long-term, short-term, and working memory? *Prog Brain Res.* 2008;169:323-38.
- [6]. Lo Bue-Estes C, Willer B, Burton H, Leddy JJ, Wilding GE, Horvath PJ. Short-term exercise to exhaustion and its effects on cognitive function in young women. *Percept Mot Skills.* 2008;107(3):933-45.
- [7]. Kane MJ, Conway AR, Miura TK, Colflesh GJ. Working memory, attention control, and the N-back task: A question of construct validity. *J Exp Psychol Learn Mem Cogn.* 2007;33(3):615-22.
- [8]. Venkatesh D, Ramachandra DL, Baboo NS, Rajan BK. Impact of psychological stress, gender and colour on visual response latency. *Indian J Physiol Pharmacol.* 2002;46(3):333-7.
- [9]. Lofthus GK. Sensory motor performance and limb preference. *Percept Mot Skills.* 1981;52:688-93.

- [10]. Gavkare AM, Nanaware NL, Surdi AD. Auditory reaction time, visual reaction time and whole body reaction time in athletes. *Indian Med Gaz.* 2013;6:214-9.
- [11]. Joseph Ivin Thomas, Venkatesh D (2017). A **comparative study of the effect of super brain yoga and aerobic exercise on cognitive function**, volume-7(9), Page no: 895-899, retrieved on 15<sup>th</sup> may 2019 from <http://www.nipp.com>
- [12]. Arpith Jacob, crystal D.D' souza(2011) **Aerobic fitness and cognitive function in economically underprivileged children**, volume-10(20), page no: 51-56, retrieved on 26<sup>th</sup> June 2019 from <http://www.researchgate.net>