Estimating the Impact of Yoga Practices on the Consciousness and Cognitive Development of People

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Abstract **- Yoga was used in India as both a tool and an intention. A good summary of both Patanjali Yoga Sutras gives. With respect to yoga psychology, we must differentiate between the area it deals with and the field of research that is commonly correlated with what we normally refer to as psychology. In recent years, there has been a strong trend in enhancing the cognitive and consciousness, including many research into the possible benefits of computerized cognizance and perception. Contemporary yoga studies centered on these developments from the psychological viewpoint of the West. Some Yoga texts relate to the significance of mental disease and the use of such methods of mental illnesses care. Instead, various terms found in contemporary psychology do not appear to have a shared source in ancient experience. The goal of this research is to explore the effect of Yoga on people's perception and cognitive growth.**

Index Terms **- Yoga Practices. Cognitive Development, Consciousness, Mental Health, etc.**

I.INTRODUCTION

The term "yoga," which means to combine with, to direct and to concentrate one's attention, comes from a Sanskrit root "yuja." Yoga is now seen as comprehensive approach to wellness in the Western world and is listed as a type of complementary and alternative medicine in the national health institutes. Yoga is an eight-sided form or limb exercise (Ashtanga). “After them, some perceptual and personality adjustments arise in practicers' state of consciousness. In ancient Indian philosophy, yoga has its philosophical context. There are various western schools, including Iyengar and Viniyoga. Their concentration on relative substance of physical postures and activities (asanas), intense relaxation and mediation practices, which encourage mindfulness, and eventually deeper states of consciousness. There are several different forms of theoretical and professional yoga, each with its own distinctive focus. A very popular word used in our daily life is personality. It shows us what kind of person you are. We know that in most cases a person normally behaves consistently. Personality growth is an essential matter. Personality continues to evolve from infancy, but during puberty it assumes tremendous priority as personality reorganization happens. There are multiple attitude dimensions. Those aspects apply to our actions physically, morally, psychologically, socially and spiritually. Yoga plays an important part in a holistic personality growth.

1.1 MENTAL HEALTH AND YOGA

The need for a viable solution to mental wellbeing is severe as mental health issues escalate worldwide and existing allopathic recovery systems are poor in terms of leading people to a state of mental well-being. Stress reduction will effectively enhance well-being and reduce illness. By 2020, the World Health Organization estimates that after ischemic cardiovascular disease, downward developments will be the second greatest sponsor of the worldwide disease burden (refer to). In comparison, stress is evaluated at a greater pace than historically. Despite these increases, recovery schemes usually contain prescription medications that are unsuitable to combat further depression or enhance emotional well-being. Yoga is gaining prevalence in the world as an open, satisfactory and analytical exercise. Individuals utilize yoga as a consequence of inclination to enhance emotional health: self-treatment rather than therapeutic mediation, seen greater viability than medication, fewer reactions, avoidance of prescription response. Yoga has mild symptoms and is practical in comparison to psychotherapy and pharmacology. The added bonus of Yoga is that it increases health and strengthens faith.

Yoga has been found to enhance emotional happiness in safe and ill persons. An audit study shows that yoga is as feasible or superior to all used, for example tension, personal happiness, psychosis, heart shifts, and pneumonic ability, to boost a range of mental and physical health figures. Yoga is the practice of quieting the mind as Patanjali Sutras observes. Positive mental wellbeing a condition of well-being in which each individual understands their own capacities, can adapt to the ordinary stresses of life, can work beneficially and productively, and can make a commitment to their locale" In multiple investigations, yoga increased the psychological satisfaction of pregnant women and improved interpersonal interactions. Concentrates in recent years have demonstrated that yoga may enhance mental wellbeing during care for breast cancer, as does personal satisfaction linked to health in patients who have been antipsychotic stabilized.

1.2 MINDFULNESS, COGNITION AND YOGA

But the physical exercise and activity have become known in Western nations. Yoga is inferior to Ancient Indian awareness. The practice of physical yoga involves pranayama, dhyana (meditation) and asanas (postures). Apparels to take senses back (pratyahara), center mind (dharana), and establish unwavering (dhyana) consciousness embodied by committed yoga practice. The physical and cognitive benefits of yoga and concentration may be because of additives like pranayama and parasympathical sensory system induction. Reflective or in-depth routines. Extended body observation. Rising utilitarian availability within the Basal ganglia. Yoga contains comprehensive, and very unusual, breath-related innovations. Yoga undoubtedly has multiple health advantages, including improved versatility, coordination, relaxing and physical endurance. In either event, yoga often tends to provide possible therapeutic benefits by taking account of concentration preparation including mediation practice as well as the complex combination of proprioception and interception. The conventional practice of awareness-raising capabilities generates consciousness and a substantial focus by having the current moment note without a decision.

1.3COGNITIVE ASPECTS OF YOGA PSYCHOLOGY

Cognitive function involves the mental activity of a person, including recollection, consideration, language generation and comprehension. Cognitive development starts at an early age and is influenced by several causes, such as postnats, psychosocial needs, loss of healthy care, family stressors, ecological stressors and maternal distress. Instead of the metropolitan pre-adolescents, inexperienced regional children would be vulnerable to bad financial conditions. Low household efficiency may have a detrimental effect on child development, contributing to developmental failures. “Discoveries from a report indicated, just as early anxiety undermines cognitive function at the age of five, the perception of impassive financial difficulties. However, both extreme and chronic consumption behaviors of oxygen support children's official potential, as demonstrated by a continued experimental study. Official capacities relate to the perceptual procedures that are essential for rational, organized observation and behavior. There is scientifically evidence that yogic activities enhance the quality of bodies, emotional wellbeing, endurance, cardiovascular system, respiratory system, improve recovery and treatment of addiction, anxiety, relieve tension, mitigate chronic suffering, depression, improve sleep habits, improve and raise self happiness and well-being. Previous studies indicate that yoga decreases depression in younger students and increases their academic results. In such a particular situation, old classical yoga practice will help enhance emotional wellbeing and advance cognitive abilities. Yoga implies association between the individual self (Jiva-atman) and the supernatural self” (Paramaatman). The term 'yoga' is derived from "yuj" ("Yuj") means tie, render association, and power. Patanjali characterizes Yoga as "limitation of the wheels of consciousness and ways of euphoric self-greatness or precise transmutation of consciousness to the point of freedom from the spell of ego personality" The influence of the mind on the body are evidently more prevailing than those of the body on the mind are various physical, emotional and other-worldly benefits. “It helps to rub inside of the organs delicately and programmed and then increases the work of the circulatory, metabolic, endocrine, respiratory, excretory, and nervous systems. According to an investigation carried out in a subsidiary classroom, first findings show that yoga may conduct protective or avoidance work to maintain psychiatric wellbeing.

II. REVIEW OF LITERATURE

Farah M Shroff and Mani Asgarpour (2017)It claimed that successful approaches to the promotion of population mental wellbeing are urgent, as mental health issues are on the increase globally and existing allopathic treatment regimes are not adequate to make people feel better (citation). Stress control effectively promotes well-being and disease prevention. Yoga is gaining in popularity worldwide as a discipline that is open, appropriate and cost-effective. People resort to yoga to enhance emotional wellbeing regardless of their expectations for: self-treatment rather than therapeutic care. Considered greater effectiveness than medicine. In contrast to pharmacological therapies and psychotherapy, yoga is minimal and cost-effective. The added value of yoga being that it enhances the health and facilitates individuality. This will quickly address yoga evidence as a means of improving mental wellbeing, avoiding disease and curing depression.

Rashmi Chaudhary et al (2020)The effects of yoga on teenage emotional control, self-esteem and sentiments were studied. Study representatives include 110 students aged 13-18 and studying in Mandi District High Schools (Himachal Pradesh). The study was made up of 52 yoga practitioners and 58 yoga practitioners. The primary data was gathered using standardized tools. Yoga teens were shown to vary dramatically from the non-yoga population in terms of emotional control, self-evaluation and feeling." The essential influence of yoga on adolescents' emotional control, self-esteem and emotions requires attention of political manufacturers to initiate yong at school levels by utilizing formal yoga curricula and by encouraging students to study yoga at an early age.

Natasha Mahajan and Vaishali Jadhav (2020) stated that College students are dependent upon a significant time of psychological development, experiencing a thorough trial study, and concentrating how to work freely. It has been exhibited that physical exercises, including running and bicycling, support well-being and smooth strain. Understudies at the college additionally have poor physical movement rates. Yoga is an old mental and physical exercise which influences the state of mind and stress. Be that as it may, concentrates in peer-evaluated diaries looking at the psychophysiological impacts of yoga are phenomenal. The objective of this examination is to build up starter proof for the psychophysiological impacts of yoga on worry in understudies at school and youthful grown-ups. An accentuation has likewise been put on the psychological and physical well-being of clinical understudies. The current survey article proposed that yoga effectively affects a psychophysiological level that prompts lower pressure rates in college students. It is evident from the analysis of current scientific literature on the application of yoga in students that yoga is a self-practiced, low-cost, healthy, efficient, and appropriate method for the benefit of the student's population. The students report positive results in their physical, psychosocial, and emotional well-being.

Shivaji Chobe et al (2020)Study the impact on memory in older people with moderate cognitive disability of Yoga and Ayurveda Rasayana joint action. Detailed examination of the cognitive tests of the three classes (IY, AR, and IY plus AR) with the exception of the reverse digit analysis revealed substantial time-maintain influence ($p<0.05$). The post-hoc test Bonferroni demonstrates a substantial gap in all variables before the post. For Rey's verbal learning trial strikes, F(2), 69, 1⁄4 4,376 (P<0,016), Rey's Verbal Learning Auditory Test Average, F(2,69) 1⁄4,727 (0,012), Digit Backward Test (2,69) 1⁄4,766 (0,005), there was a large community disparity in the intergroup analyzes after eight weeks. "The research shows that both Ayurveda Rasayana and Integrated Yoga intervention have been effective in enhancing the cognitive capacity of elderly people with MCI. Compared with the individual response of elderly MCI patients, the combination Ayurveda Rasayana and Yoga treatment greatly increased the learning, concentration and working memory.

Xin Qi et al (2020) aimed to compare the psychological effects of meditation- and breathing-focused yoga practice in undergraduate students. The repeated-measure MANCOVA revealed significant group differences with a median effect size [Wilks' lambda, $\Lambda = 0.90$, $F(3, 80) = 3.10$, $p = 0.031$, $\eta 2 = 0.104$]. Subsequent univariate analyses showed that students in the breathing-focused yoga group had significant higher work intentions [$F(1, 82) = 5.22$; $p = 0.025$; $\eta 2p = 0.060$] and mindfulness [$F(1, 82) = 6.33$; $p = 0.014$; $\eta 2p = 0.072$] but marginally lower stress [$F(1, 82) = 4.20$; $p = 0.044$; $\eta 2p = 0.049$] than students in the meditation-focused yoga group. The study concludes that Yoga practice with a focus on breathing is more effective than that with a focus on

meditation for undergraduates to retain energy for work, keep attention and awareness, and reduce stress.

III. OBJECTIVE OF THE STUDY

The main Objectives of the Research Study are stated as follows:

- To study the concept of Yoga and its impact on Mental Health.
- To study the relation between mindfulness, cognition and yoga.
- To study the cognitive aspects of yoga psychology.
- To examine theImpact of Yoga Practices on the Consciousness and Cognitive Development of People.

IV. RESEARCH METHODOLOGY

The multiple measure design was used. Consciousness Quotient Inventory (CQ-i) was administered in pre-test, mid test and post-test.

The CQ-i evaluates the global consciousness level of an individual. The construct of CQ-i is based on 6 factors: Cognitive Consciousness, Physical Consciousness Emotional Consciousness, Social – Relational Consciousness, Spiritual Consciousness, Self-Consciousness; and also provides a general consciousness quotient. The secondary factors of CQ-i are self-reflectiveness, internal state awareness, autonomy, mindfulness, positive relations, personal growth, with others, purpose in life, verbal expression, and openness toward new experiences.

Phase I and phase II was split into two stages. To evaluate attendance memory, the Frieburg Mindfulness Inventory (FMI) was added. The FMI is a 14-point inventory assessing consciousness awareness. The inventory consists of 62 items, with the answers calculated in the six points equivalent form of Likert Scale from 1 (very disagreeable) to 6. FMI was administered at the end of Phase I and Phase II (strongly agree). There are eight reverse posts. The method is more than pleased with its reliability study (N=62 Alpha = Cronbach = 0.920). CQ-i does not explicitly calculate consciousness but through inferences from conducts and the values of life that are measures of knowledge.

V. ANALYSIS AND INTERPRETATIONS

Data was analyzed using Statistical Package for Social Sciences, Version16.0.The p values are reported for all effects and effect sizes are reported as d, r calculated from t, z values respectively and eta-squared for F-value.

The consciousness scores over three measures are presented in Table 1. The analysis of scores on baseline measure shows there were no differences between experimental and control group (t=1.07, p=.28). A major purpose of this study was to examine the effect of yoga and meditation on consciousness over time. There was effect of experiment over time, $F(2, 36) = 3.37$, $p = .038$, $\eta^2 = .06$ and no change in control group, $F<1$. The experimental group improved from pre-test to mid-test (p=.002, t=3.400, d= 0.55). The improvement in this group was also observed in post-test (t = 3.135, p=.003, d = 0.51) from the baseline measure (Fig. 1). The control group showed no significant difference from initial scores to mid-test measure (t= 0.58, p=.567) and to post-test measure (t=.021, p=.983).

Table 1: Consciousness scores over repeated measures

Group	Pre-test		Mid-test		Post-test	
	M	SD	M	SD	M	SD
Experimental Group	261.11	34.39	278.93	30.13	278.64	33.69
Control Group	270.30	24.99	272.90	23.22	270.20	27.96

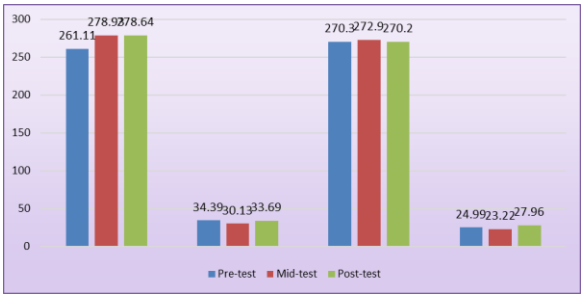

Figure 1: Consciousness scores of experimental and control groups over repeated measures.

The error bars represent standard errors. * p = .002 and # p = .003 compared to baseline measure.

The mediation education before action could theoretically impact outcomes for the study community. This variable was then regulated by stratified random assignment. Table 2 displays the mean outcomes of both categories. The strata-wise gain in time is seen in fig. 2. The study indicates that

the awareness of pre-initiates (z = 2.04, p = .041, r =.58) and the first initiates (z = 2,35, p =.01 and r =.71) improved considerably after the intervention. Although a medium number of second initiates has risen but the gap is not important, z = 1.42, p = 1.15.

Table 2: Strata-wise Means (standard deviations) of consciousness scores over repeated measures

	Pre-test	Mid-test	Post-test
First initiates	262.62 (26.30)	278.46 (27.49)	279.62 (26.05)
Second initiates	280.45 (26.87)	289.82 (32.73)	293.18 (41.73)
Pre-initiates	241.75 (39.59)	267.75 (29.02)	264.25 (29.13)

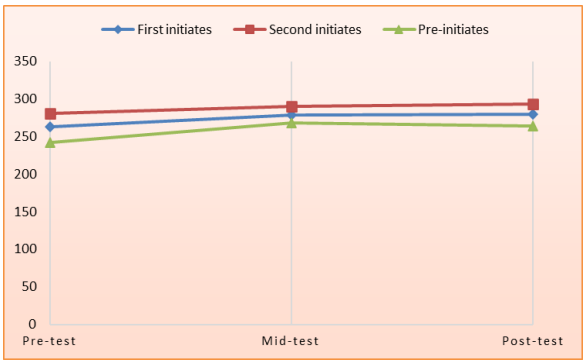

Figure 2: Gain in consciousness scores over pre-test, mid-test and post-test of pre-initiates, first initiates and second Initiates.

Error bars reflect the standard errors. # p<.05 compared to baseline measure.

The scores were evaluated in the dimension to assess the shift in the basic dimension of consciousness by experiments (Table 3). Consciousness ratings improve dramatically from pre-test to post-test on certain dimensions (Fig. 3). For mental consciousness (t=0.76, p=.45) and moral consciousness (t=0.63, p=0.52), the gap in mean consciousness scores during pre-test and post-test is not significant. The social awareness (t=3.53, p=.001; r =.73) and self-consciousness (t=2.56; p=.015, d=.447) improved substantially from pre-tests to mid-tests. There is also a substantial variation in the scores between a post evaluation (t=4.56, p=.000, d=.80) and self-awareness (t=3.11, p=.004, d = .61).” This distinction is significant. “For physical consciousness (t=1,87; p=0,070) and emotional consciousness (t=1,88; p=0,070), the discrepancy in pre-test and mid-test values is not important. The physical consciousness values (t=2.28, p=0.029, d =0.43) was substantially improved in the pre-test to the post-test (t=2.57, p=.015, d =0.36).

Table 3: Means (standard deviations) of consciousness scores for different dimensions

Consciousness Dimensions	Pre-test		Mid-test		Post-test	
	M	SD	M	SD	M	SD
Emotional	42.08	6.18	44.08	5.22	44.36	6.28
Physical	33.44	5.68	35.78	6.54	35.97	6.00
Spiritual	57.81	9.58	59.44	9.32	58.69	10.13
Mental	37.50	6.07	39.67	6.43	38.69	8.65
Self	51.39	9.90	55.61	7.79	56.72	7.23
Social	38.89	6.47	43.78	6.85	44.19	6.67

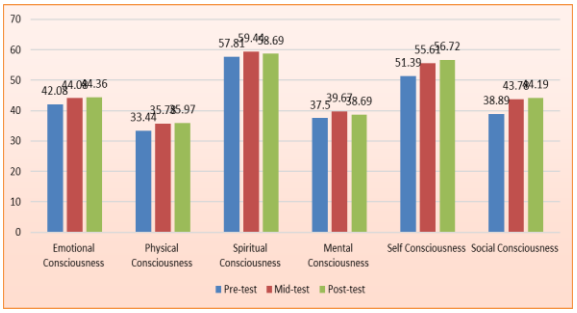

Figure 3: Dimension-wise mean consciousness scores of experimental groups in pre-test, mid-test and post-test.

Error bars reflect the standard errors. * p<.001 compared to baseline measure. # p<.05 compared to baseline measure.

The analysis of scores on FMI in two phases is presented in Table 4. The first phase was 11 weeks of yoga and meditation practice and second phase was 20 weeks of intervention. The difference in mean scores on FMI of control group in phase I and phase II is not significant (t= 0.72, p=.48). There is significant difference in mindfulness scores of experimental groups in Phase I and Phase II (t = 2.41, p=.021, d = 0.35). Fig.4 reveals that there is effect of experiment on mindfulness (t= 2.16, p =.036, d = 0.59).

Table 4: Mindfulness scores of participants

Group	Phase I		Phase II	
	M	SD	M	SD
Experimental Group	40.44	6.687	42.56	5.43
Control Group	39.05	4.66	39.65	4.44

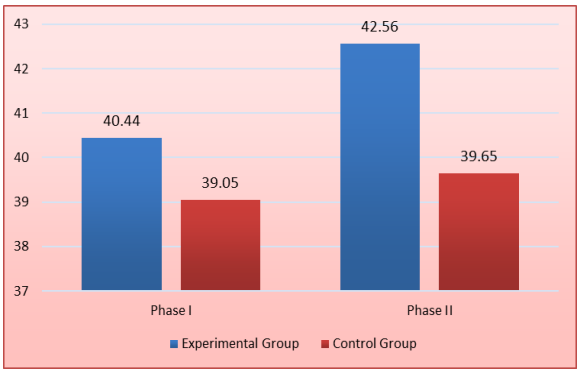

Figure 4: Mean scores of experimental and control Group on Freiburg's Mindfulness Inventory (FMI).
Error bars reflect the standard errors. * p<.05 compared to phase I. # p<.05 compared to control group.

Table 5 presents strata-wise mindfulness scores. There is significant difference in the scores on FMI of pre-initiates in Phase I and Phase II (z=1.99, p = .046, r = .29). The difference in mindfulness scores of first and second initiates is not statistically significant.Fig.5 reveals that although there was notable difference in mindfulness of pre-initiates from first and second initiates in phase I of experiment, but in phase II this difference has reduced to a considerable extent.

Table 5: Strata-wise Means (standard deviations) of mindfulness scores

Groups	Phase I		Phase II	
	M	SD	M	SD
First Initiates	39.67	7.18	42.07	5.44
Second Initiates	44.40	5.21	44.90	6.19
Pre-Initiates	37.91	6.00	41.09	4.39

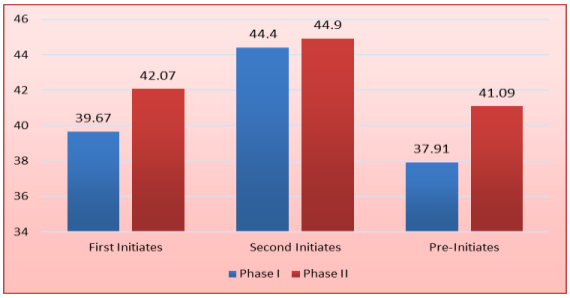

Figure 5: Mean scores on FMI of pre-Initiates, first initiates and second initiates in phase I and phase II of experiment.
Error bars reflect standard errors. * p<.05 as compared to phase I. # p<.05 compared to second initiates. Further, to examine the relationship between mindfulness and consciousness a correlational approach was employed. The analysis reveals that mindfulness scores are positively correlated to all dimensions of consciousness. There is significant correlation of mindfulness scores with social consciousness (r = 0.39, p = .019), mental consciousness (r= 0.43, p = .009), spiritual consciousness (r= 0.34, p = .045) and self-consciousness (r= 0.35, p = .040). The correlation of mindfulness scores with physical consciousness (r = 0.15, p = .393) and emotional consciousness (r = 0.26, p = .125) is not significant. The overall scores of mindfulness and consciousness have significant correlation (r = 0.44, p = .036).

The association study reveals that high levels of emotional, moral, social and self-esteem are associated with great knowledge. These findings reinforce the belief that sensitivity would favorably interact with awareness. Treatment is a condition of mind intrinsically.

VI. CONCLUSION

In this analysis, and the influence of yoga and meditation as stated in other studies, the change in various aspects of the consciousness is responsible for the betterment of cognitive functions and consciousness as a whole. In this mediation activity, the outcomes are extremely positive and can change the social, self, bodily, and emotional awareness of a person, who can then become a failing state. While more study is needed, the impact of activities on consciousness and perception is segregated. Larger and more systematic study is highly encouraged, since yoga can theoretically be extended as a healthy and supportive, inexpensive therapy, achievable as self-care treatment at least in part, provide a lifetime conductual ability, enhance self efficacy and self-confidence, and is often correlated with beneficial additional therapies. There is an undeniable connection between an individual's general physical and mental wellbeing and an inner harmony and well-being yoga." Yoga suspends emotional fluctuations and we survive better and fewer by behaving deliberately. Future studies into a wider demographic and a longer follow up time are important for the findings of the current study to be identified and extended.

REFERENCES

[1] Farah M Shroff and Mani Asgarpour (2017) "Yoga and Mental Health: A Review" Journal of

Physiotherapy & Physical Rehabilitation. Volume 2, Issue 1, 1000132. ISSN:2573-0312.

[2] Janjhua Y, Chaudhary R, Sharma N, Kumar K. (2020) "A study on effect of yoga on emotional regulation, self-esteem, and feelings of adolescents". J Family Med Prim Care [serial online] 2020 [cited 2021 Jan 31]; 9:3381-6. Available from: https://www.jfmpc.com/text.asp?2020/9/7/3381/290760

[3] Mahajan N, Jadhav V. (2020) "Perceived benefits of yoga among students". Innovations in Pharmaceuticals and Pharmacotherapy. 2020;8(2):21-27.

[4] Philips, K. H., Brintz, C. E., Moss, K., and Gaylord, S. A. (2019). Didgeridoo sound meditation for stress reduction and mood enhancement in undergraduates: a randomized controlled trial. Glob. Adv. Health Med. 8, 1–10. doi: 10.1177/2164956119879367

[5] Shastri, V. V., Hankey, A., Sharma, B., and Patra, S. (2017). Investigation of yoga pranayama and vedic mathematics on mindfulness, aggression and emotion regulation. Int. J. Yoga 10, 138–144. doi: 10.4103/0973-6131.213470

[6] Shivaji Chobe, Sanjib Kumar Patra, Meenakshi Chobe, Kashinath Metri (2020) "Effect of integrated Yoga and Ayurveda Rasayana on cognitive functions in elderly with mild cognitive impairment" Journal of Ayurveda and Integrative Medicine. https://doi.org/10.1016/j.jaim.2020.11.003

[7] Tellhed, U., Daukantaitë, D., Maddux, R. E., Svensson, T., and Melander, O. (2019). Yogic breathing and mindfulness as stress coping mediate positive health outcomes of yoga. Mindfulness 10, 2703–2715. doi: 10.1007 /s12671-019-01225-4

[8] Tong, J., Qi, X., He, Z., Chen, S., Pederson, S. J., Cooley, P. D., et al. (2020). The immediate and durable effects of yoga and physical fitness exercises on stress. J. Am. Coll. Heath 1–9. doi: 10.1080/07448481.2019.1705840

[9] Wheeler, E. A., Santoro, A. N., and Bembenek, A. F. (2019). Separating the "limbs" of yoga: limited effects on stress and mood. J. Relig. Health 58, 2277–2287. doi: 10.1007/s10943-017-0482-1

[10] Wielgosz, J., Goldberg, S. B., Kral, T. R. A., Dunne, J. D., and Davidson, R. J. (2019). Mindfulness meditation and psychopathology. Annu. Rev. Clin. Psychol. 15, 285–316. doi: 10.1146/annurev-clinpsy-021815-093423

[11] Xin Qi, Jiajin Tong, Senlin Chen, Zhonghui He, and Xiangyi Zhu (2020) "Comparing the Psychological Effects of Meditation- and Breathing-Focused Yoga Practice in Undergraduate Students" Front. Psychol. 11:560152. Doi: https://doi.org/10.3389/fpsyg. 2020.560152

[12] Zaccaro, A., Piarulli, A., Laurino, M., Garbella, E., Menicucci, D., Neri, B., et al. (2018). How breath-control can change your life: a systematic review on psycho-physiological correlates of slow breathing. Front. Hum. Neurosci. 12:353. doi: 10.3389/fnhum.2018.00353