



## STUDY OF EFFECT OF PRACTICE OF PRANAYAMA AND YOGA ON MENTAL HEALTH, EMOTIONAL INTELLIGENCE AND RESILIENCE OF ADOLESCENTS

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Constantly engaged in yoking his mind-intellect complex to the self, the yogi becomes free from all imperfections in due course and effortlessly enjoys the highest bliss of contact with Brahman, the supreme reality. The self-realized yogi now observes all beings in his self and his self in all beings, achieving equal vision in all that he perceives. (Bhagavad-Gītā, VI. 28 and 29.)

### ABSTRACT

Discovering and promoting ways that improve adolescents' psychological fitness has been a recurrent concern in the field of health and psychology. Adolescence, as a period of transition, is highly prone to have mental health risks and unhealthy behaviour patterns. Thus, it is the right time to promote healthy practices to prevent problems of health and behaviour in adulthood. As Yoga provides practical solutions for mental health, we anticipated that exposure to it should improve psychological fitness among adolescents.

In order to achieve mental, spiritual, and physical well-being, yoga seeks to achieve harmony between the internal and external surroundings. It improves subjective wellbeing and happiness as well as mental health. The present study looked on the relationship between yoga and emotional intelligence in this context. The 1200 individuals in the current study, 600 of whom had never done yoga and 600 who had, were chosen by convenience sampling. Data were gathered using a semi-structured interview schedule and the Schutte Self Report Emotional Intelligence Test. The data were analysed using the Mann-Whitney U test, Kruskal-Wallis H test, and Spearman's rank order correlation. The results demonstrate that there are significant differences in emotional intelligence between yoga practitioners and non-practitioners. There are yoga practitioners.

**Keywords** – Emotional Intelligence, Yoga, Resilience, Pranayama

### OBJECTIVES OF THE STUDY

The objectives of the current research work are as follows:

1. To study the facts about Yoga and Pranayama.

2. To analyse the influence of Yoga on emotional intelligence among adolescents.
3. To study the impact of Yoga on mental health and resilience of adolescents.

**Introduction-** According to research by Cornell university of New York, mental health problems affect one in every five young people at any given time. Since to face all the problems such as: strain, tension, depression, anxiety and more our intellectual level adolescents are targeted first. Yoga in its original sense was devised as a method of spiritual awakening but of late it is being accepted as a science of health. Currently yoga is being taken as a therapeutical agent for health. It not only prevents and cures the disease but also helps in maintenance of positive health. Yoga lays great emphasis on strengthening inherent defensive mechanisms of human body and mind rather than attaching and eradicating individual offending factor. It develops immunity and resistance in human body and helps the body and mind in attaining homeostatic balance. The strengthening of defence mechanism and harmony between mind and body prevents onset of disease. The aim of yoga therefore is also the attainment of physical, mental, social, and spiritual health.

Adolescence is the best time for teaching strategies of self-control and self-regulation. It is also a phase that is more amenable to learning and more receptive to corrective changes if provided by Adolescence is the best time for teaching strategies of self-control and self-regulation. It is also a phase that is more amenable to learning and more receptive to corrective changes if provided by intervention programs to improve their mental health.

Yoga as holistic intervention in which each pupil can find his/her unique trajectory of change and improvement is now considered as an important intervention for promoting psychological health. Yoga shows a reduction in anxiety, depression, psychological distress in high-risk adolescents. Studies also report positive correlation of yoga with self-concept and well-being in adolescents.

School meditation programmes have positive effects on behavioural, psychological, and physiological outcomes. Additional research on yoga interventions in schools indicates that the practise has beneficial impacts on a variety of traits, including focus, attention, mood, anxiety, working memory, anger, and self-esteem. Numerous studies indicate that yoga is generally successful in enhancing children's and adolescents' physical and mental health.

In the available yoga research studies on adolescents, the yoga intervention of 3-4 months duration is used in the school setting as part of curriculum or before/after school hours with yoga sessions ranging from 2 to 3 hours per week for a homogeneous sample. Most of them were conducted with special education, high-risk samples, and small sample size. According to a literature review, residential yoga intervention studies are very few .

An important research question in this area relates to whether yoga offers any benefits for student psychological fitness in a setting different than school setting. Thus, the present study is to explore effect of short-term residential yoga intervention program on psychological fitness of adolescents. An objective was also to examine the effects of residential yoga on psychological fitness across different age groups. The present study is a part of a mega study to assess overall fitness among adolescents registered in the Clinical Trials Registry of India bearing the trail number CTRI/2018/02/011709.

## YOGA AND LIFE

Yoga is one of the six foundations of Indian philosophy and has been used for millennia to study, explain, and experience the complexities of the mind and human existence. Patanjali's Yoga sutras outline a skilful way of conducting life that fosters moderation and harmony. The Yoga way of life encompasses the philosophy of **Karma Yoga** (path of detached action), **Jnana Yoga** (knowledge of self), **Bhakti Yoga** (trust in the supreme order) and **Raja Yoga** (asana, pranayama, meditation, etc). The various meditation techniques work at the mental level, all these practices are intended to develop a certain type of awareness within oneself which in turn brings about a change in their emotional functions. Many researchers have noted the benefits of exercise in

diminishing the stress response. Yoga has been recommended and studied in relationship to stress, although the studies are less scientifically replicable. Nonetheless, several researchers claim highly beneficial results from Yoga practice in alleviating stress and its effects. According to Srinivas (2014), a series of techniques collectively known under the general label, Yoga presents a rich source for generating indigenous organizational development techniques. Yoga offers a well formulated approach to planned change. The findings from empirical studies on Yoga revealed that long-term practitioners of Yoga had acquired a remarkable voluntary control over their autonomic processes which helped them in coping with psychological stress. Many of the yoga-based programs that have been widely studied in the use of stress reduction are being formulated and customized as per the corporate needs. The mindfulness-based stress reduction program includes guided instruction in mindfulness meditation practices, yoga and gentle stretching, inquiry exercises to enhance awareness, individual instruction, group dialogue and home assignments. The Yoga classes are to be designed incorporating breathing techniques exercises for strength, vitality, and flexibility, guided relaxation, and meditation. Meditation has proved to be of great help to combat stress and revitalize the mind. After doing meditation for 10 to 20 minutes once or twice a day, stress is seemed to be drifting away with positive energy. Meditation that cultivates mindfulness is particularly effective at reducing stress, anxiety, depression, and other negative emotions. Meditation is a skill tool for Life Enhancement, Workplace Efficiency, Stress Management, Emotional and Spiritual Fulfillment. It helps in balancing mind and body and increases mental alertness, concentration – resulting in clarity of decision making. A recent survey found that 60% of general practitioners wanted educational material to help in the management of stress, and that 28% of those seeking education were experiencing significant levels of stress. Experiments have shown that meditators maintained psychological equilibrium under stress more effectively than non- meditators. The art of meditation has made its way into the corporate environment and is one of the best ways to reduce stress in the schools. Most of the schools are offering meditation programs on-site to their employees to help them reduce stress. Meditation workshops have become a valuable training tool in the workplace because meditation has so many practical applications. It is a skill that can be easily learned and can be done anywhere, anytime stress occurs — walking down the hall, at a worker's desk, or in a stressful meeting. Even a few minutes of meditation done throughout the day can make a huge difference in a student's attitude, productivity, and effectiveness. Stress tends to be either ignored or dismissed by the very people who are best placed to do something about it – managing and senior directors, personnel and training managers, occupational health workers, and departmental managers and supervisors. The opportunity exists for employers and employees to get together and make way for changes that will reduce stress related illness. Richard Geller (2012) is president of Med Works Corporate Meditation Programs in Brookline, a company that focuses exclusively on offering stress-reduction meditation programs on-site in the corporate environment in the metro (Boston area). The idea behind meditation is to consciously relax your body and focus your thoughts on one thing for a sustained period. Based on the various clinical relaxation researches conducted by various psychologists worldwide, it is considered that breathing is an important component of the relaxation response. Author reports that certain meditation styles bring some biochemical and physical changes in the body, which may be collectively referred to as the "relaxation response" that includes changes in metabolism, heart rate, respiration, blood pressure, and brain chemistry. Change must come from the top, and it is therefore imperative for managers to recognize that they have a legal and moral responsibility to protect the physical and mental wellbeing of their workers (Clark, 2012). It is the top management people who can motivate organizations to explore the stress factors in their work environments, and to take steps to reduce and prevent it along with the maintenance of the health and wellbeing of employees. Here I am going to give small description concern with the relation of stress management by yoga. Study Yourself. Keep in mind that no matter how well you condition your nervous system, you also need to change the way you perceive stress. You can start this process by practicing svadhyaya, or self-observation. —There is a connection between how you experience a forward bend and how you react to the world, says Elissa Cobb, a Phoenix Rising Yoga practitioner and the author of *The Forgotten Body*. Take Paschimottanasana (Seated Forward Bend) a pose that can produce strong sensations in even the most flexible practitioners. One common response is to ignore sensations and force yourself forward, fighting against your tight hamstrings. Another is to come out of the pose to avoid the challenge entirely. Both strategies are variations on the same theme: fight-or-flight. In all likelihood, they create

tense muscles and rapid or held breathing—not to mention a total lack of joy. Paying attention to how your body and mind react to the —stress of Paschimottanasana or any pose offers clues about how you typically react to stress in your life. By training yourself to actively observe while staying calm in poses, you'll be able to do the same thing when difficult sensations, thoughts, or emotions arise in the face of stress. Instead of going into your habitual reaction mode, you'll notice what's happening while staying present enough to choose an appropriate response. When it comes to transforming your own response to stress, it's tempting to search for that one pose or breathing exercise that will work its magic. But there isn't one magic pose. The process is a gradual exploration rather than an easy solution. —If you're practicing yoga every day, you're preparing for what life brings. You don't have to have a strategy for what yoga technique you'll use in a difficult situation. According to Weintraub, when challenges arrive, they will begin to flow through you but not overwhelm you. —When life hits, it doesn't explode or roll over us. We're not so caught up in the stress of it, but we're present for it. This is the real story of how yoga can help you manage stress. It doesn't just provide ways to burn through stress or escape from it. It doesn't only offer stress-reduction techniques for anxious moments. It goes deeper, transforming how the mind and body intuitively respond to stress. Just as the body can learn a new standing posture that eventually becomes ingrained, so the mind can learn new thought patterns, and the nervous system can learn new ways of reacting to stress. The result: When you roll up your mat and walk out the door, you can more skilfully take on whatever life brings.

Today's rapidly expanding scientific and technological world treats humans with the same respect as always. Its objectives are improbable and unsatisfying. An enormous rise in public and professional interest in physical activity and health is a direct outcome of the mechanisms of modern living, the forced restriction of physical activity that results in century life, and an increase in leisure time. The notion that staying physically active can improve how one looks, feels, and maintains good health seems to be "turning on" among people. (2013) Yoga Vidhya Gurukul.

Today yoga, being a subject of varied interests, has gained worldwide popularity. Recent research trends have shown that it can serve as an applied science in a number of fields such as education, physical education and sports, (Health and family welfare, psychology and medicine and also one of the valuable means for the development of human resources for better performance and productivity) However, it has generally been believed that yoga is a spiritual science having emancipation as its goals and hence cannot be treated only as a therapy. (Khosravi, 2015) It is now being realized in all parts of the globe that yoga is not only for better development of mind, socio-control (spiritual or moral) but a therapy. Yoga is the science of right living and, as such, is intended to be incorporated into daily life. It works on all aspects of the person: the physical, vital, mental, emotional, psychic, and spiritual. Yoga aims at bringing the different bodily functions into perfect coordination so that they work for the good of the whole body. Yoga focuses on harmony between mind and body. Yoga derives its philosophy from Indian metaphysical beliefs. The word yoga comes from Sanskrit language and means union or merger. The ultimate aim of this philosophy is to strike a balance between mind and body and attain self-enlightenment. To achieve this, yoga uses movement, breath, posture, relaxation and meditation in order to establish a healthy, lively and balanced approach to life. (Saraswati, 1996) 3 As per shiv samihita, Shiva says, I have studied all religions and given the best out of them as yoga and in relation to Pranayam or the breath control, he says, "if you control the mind, you control the breath."

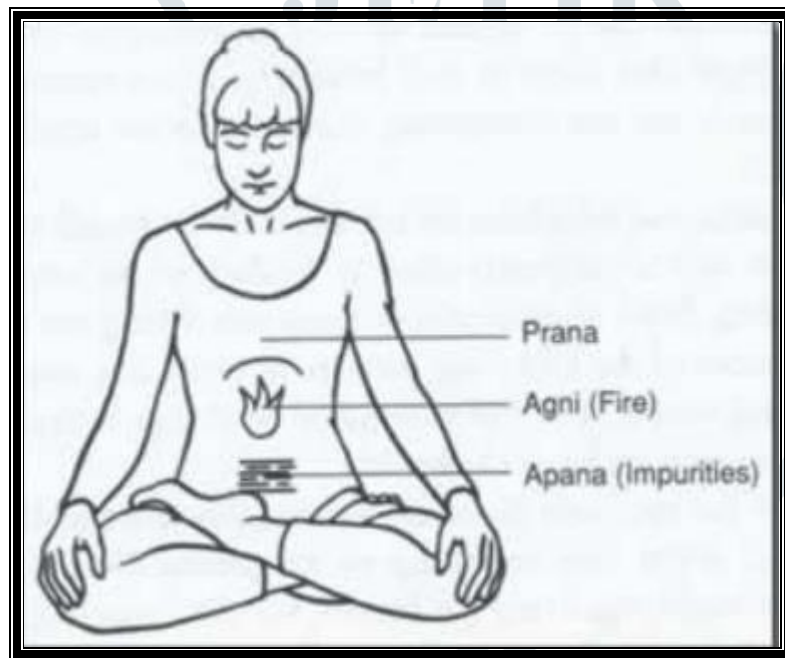
## PRANAYAMA

Pranayama is a Sanskrit word meaning "extension of the prana or breath" or, "extension of the life force". The word is composed of two Sanskrit words, Prana, life force, or vital energy, particularly, the breath, and "ayama", to extend or draw out. (Not 'restrain, or control' as is often translated from 'yam' instead of 'ayāma'). Pranayama means a pause in the movement of breath. In the Sutras the word Prana occurs by itself only once and the wording of Sutras is so clear that by no stretch of thoughts can the word Prana there be taken to refer to anything aspect breath. In addition to this the word Prana occurs twice in the sutras every time being compounded with

the word Ayama. Here again the wording of the original author, Patanjali is very clear. He positively refers to respiratory moments. The most imperative commentators Patanjali's Sutras have invariably explained Prana to mean breath. (Hartranft, 2003).

In the language of the later yogic literature Pranayama is called Kumbhaka. It is interesting to note here that Patanjali does not use the terms Recaka (Exhalation), Kumbhaka (pause) and puraka (inhalation) anywhere in his sutras, although he does pass on to these actions. His oldest commentator Vyasa, who lived in the first century, A.D. also, does not use the terms Recaka, Kumbhaka and Puraka. This circumstance clearly shows that this nomenclature was introduced at a later date. Tracing the history of the development, of not only these terms but many others used in the Yoga Sastra, would be a fruitful research problem for a student of yogic literature. The duration of Pranayama should be judged mentally. Both the physical culturists and the spiritual culturists should practice Pranayama with maximum concentration. The mind should very closely follow the movement of breath. In numbering the Matras the concentration of the breath is troubled. Again, the spirit culturist, as he advances, is required to concentrate on different points either inside the body or outside it. In this work the numbering of the Matras causes a little distraction. Those that can manage the numbering business without allowing their attention being affected, may take it if they so choose.

In a discussion of Pranayama reference to Nadis is absolutely essential. Hence we proceed to a consideration of these. Figure 1.1- Pranayama (Source: the fit Indian website)



Patanjali in his text of Yoga Sutras mentioned Pranayama as means of attaining higher states of awareness, he mentions the holding of breath as important practice of reaching Samadhi. Hatha Yoga also talks about 8 types of Pranayama which will make the body and mind healthy. Five types of pranas are answerable for various pranic activities in the body, they are Prana, Apana, Vyan, Udana & Samana. Out of these Prana and Apana are most important. Prana is upward flowing and Apana is downward flowing. Practice of Pranayama achieves the balance in the activities of these pranas, which results in healthy body and mind.

### Types of Pranayama

1. Quiet Breathing, Deep Breathing, Fast Breathing
2. Tribandha and Pranayama
3. Nadi Shuddhi Pranayama (Alternate nostril breathing - I)

4. Anulom - Vilom (Alternate Nostril Breathing - II)
5. Suryan Bhedan Pranayama (Right Nostril Breathing)
6. Ujjayi Pranayama
7. Bhramari Pranayama
8. Pranayama from Hatha Yoga

**Quiet Breathing** =All the inside activities of the body are due to the ever-going process of combustion or oxidation in the body. And this process of combustion works with the help of the respiration and the blood circulation. Therefore, the moment there is internal or external movement of the body, it affects the process of blood circulation and respiration. As a result of this increasing the speed of the breathing provides the needed oxygen for the concerned movements. The speed of the breathing is increased in accompaniment to the speed of the movements of the body. Therefore, it is noticed that the breathing is smooth or quiet when there is no bodily movement or when it is in its normal or relaxed state. Such breathing is called Quiet Breathing.

**Deep Breathing** - Since we want to control the breathing after studying the process or system of respiration, it is better to try deep breathing as the first state in that direction. We do not control the process of quiet breathing. But the control is to be exercised while practicing deep breathing. For this, two things are to be considered chiefly: First, the movements concerned with inhaling and exhaling are to be controlled in order to further slowdown the breathing, at the same time the need of oxygen for the body is to be lessened, so that the speed of breathing can further, slowdown. The constitution of the body is such that if the need or use of oxygen is not reduced, it becomes difficult or rather impossible to control the process of breathing. The easy way to reduce the need of oxygen is to stop the movements of the body and try to relax all the muscles. Obviously, while practicing deep breathing, it is necessary to keep the body in the stable and relaxed position. And this is possible in any sitting position of meditation. However, Padmasana is the best Asana position. The other preferable Asanas in sitting position are Vajrasana and Swastikasana. But once the Asana is taken up, it should be blissfully stabilized until the study of breathing is over. Any strain anywhere will cause distraction in breathing. Therefore, the Asana position should be stable and pleasant, while doing meditation. The hands should be in Dhyana Mudra. The straight upright position of the neck, the spine and closed eyes help in attaining concentration without making any movements. Relax the muscles and concentrate fully on breathing. This will slow down the breathing and bring it to a particular point of speed and will get stabilized at that point. This is the ideal state of smooth breathing. This is free from any control. No movement is seen on the chest. It is confined to the movement of the muscles of the abdomen and the lungs. After having such smooth breathing for some time, the movements of the abdomen and the lungs should be brought under the control of the mind, and the movement should further be slowed. The practice of deep breathing begins after deliberately having inhaling and exhaling at ease. Initially one should practice prolonged inhaling and prolonged exhaling. The constant practice enables the person in having repetition of such prolonged inhaling and exhaling. After some time, it becomes difficult to have more repetitions of prolonged inhaling and exhaling. At such point one should come to natural smooth breathing. After some rest, deep breathing should begin again. Practicing deep breathing in this way for some days, attempt should be made to bring time limit to the 9 period of inhaling and exhaling. Initially one should practice prolonged inhaling and prolonged exhaling. The constant practice enables the person in having repetitions of such prolonged inhaling and exhaling. After some time it becomes difficult to have more repetitions of prolonged inhaling and exhaling. At such point one should come to natural smooth breathing; after some rest, deep breathing should begin again. Practicing deep breathing in this way for some days, attempt should be made to bring time limit to the period of inhaling and exhaling. Initially equal time should be allotted for inhaling and exhaling. That is, the time given to inhaling, the same amount of time is given to exhaling. This is called deep breathing, with equal time and speed: "Samakal, Samagati, Deergh Shwasan". While practicing deep breathing, the numbers should be counted mentally. For instance, if inhaling takes four counts, the same period should be taken for exhaling. On such occasion normally it is noticed that exhaling completes at the

second or the third point. So one should be alert regarding the speed of exhaling right from the beginning and try to maintain the balance. Of course, after a few days' practice one successfully adapts this system. To maintain the time record, one can use the second system in a watch. The study of deep breathing with equal time and speed should continue for 10 to 15 minutes without pause. Apparently, this system seems easy, but that is not so. One finds oneself out of breathing. But as said earlier constant practice helps in acquiring this system successfully. After practicing deep breathing with equal time and speed successfully, one should start studying it by increasing the time for exhaling. If inhaling (Puraka) is in four seconds, then exhaling (Rechaka) shall take 5 to 6 seconds instead of four. These need special efforts. When a person succeeds in doing inhaling and exhaling at the ratio of 1: 1 for 10 to 15 minutes, he should double the time for exhalation. The ideal ratio for inhaling-exhaling is 1: 2. Many times or Pranayama also the same ratio is stated. If the period for inhaling goes up to four seconds, then exhaling should be lengthened up to eight seconds. But both the operations should have the equal speed. That is, the speed of inhaling from the first second to the fourth one and the speed of exhaling from the first second to the eighth one should be the same. Of course it is not possible until one acquires control over the breathing system. One should practice deep breathing in the aforementioned way for 10 to 15 minutes at a stretch. In deep breathing one can further progress by increasing the period of inhaling and 10 proportionately that of exhaling. That is the period of inhaling can be increased gradually from five to fifteen seconds and naturally that of exhaling from ten to thirty seconds. Observing this system carefully one can have as many repetitions as one can. In this system holding of breath is not included and hence this operational system is written as 1:0:2. The practice of deep breathing not only strengthens the lungs but also greatly helps in increasing the concentration of the mind. Then, there is a tremendous increase in zeal in day-to-day work owing to the good breathing and nice blood circulations, the twin gifts of deep breathing. Besides one starts acquiring control over the process of breathing. iii. Fast Breathing When the speed of quiet breathing is deliberately reduced, the result is deep breathing; on the contrary, if that speed is willfully increased, then the result is fast breathing. However, here the short, timed inhaling-exhaling is not implied. It is expected that one should increase the speed of breathing by inhaling and exhaling fully. One has to practice continuing the cycle of quick breathing with constant practice. This sort of breathing is easy to understand & easy to practice. Naturally, its benefits are also limited. The fast breathing clears the nasal passage and gives a good exercise to the parts involved in the breathing system. At times while practicing quick breathing, one feels whirling sensation in the head. But one should not bother about it. On such occasions, stop fast breathing and begin quiet breathing. There occurs no problem, once there is sufficient practice and habit of this type of breathing. This breathing is also practiced in Padmasana or Vajrasana. Before actually beginning the study of deep breathing, one should practice quick breathing for 2-3 minutes in order to get the nasal passage cleared, fast breathing need not be done for a longer period.”(Rosen, 2002) 11

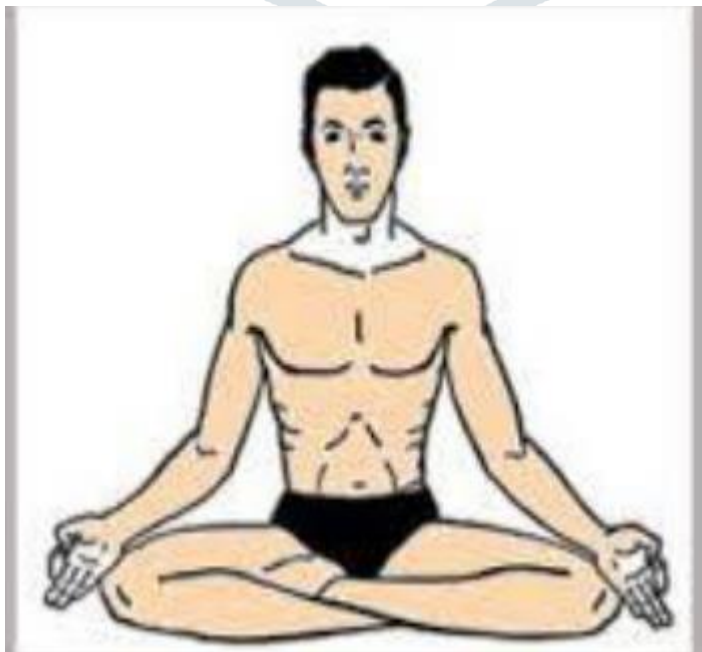


Figure 1.2- Pranayama Posture (Source: <http://masteringyog.org>)

After examining and understanding these basic systems of breathing, let us turn to the supplementary types of breathing: The breathing passage in the nasal cavity is divided into two owing to the mid partition between two nasal cavities, viz. the left and the right.

**Anuloma Viloma-** (Alternate Nostril Breathing) “Right nostril is Pingala Nadi (Sun principle or body), left nostril represents Ida nadi (moon principle or mind). In alternate nostril breathing, one inhales through right and exhales through left then inhales through left and exhales through right nostril.

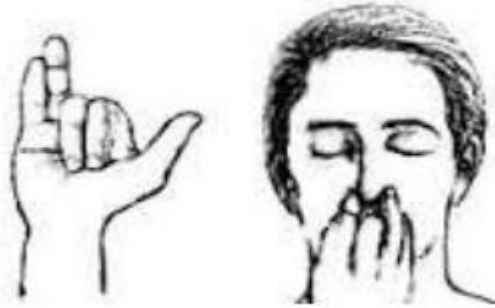


Figure 1.5- finger position for Anulom-vilom

**Bhramari Pranayama** -The original word in the term Bhramari is Bhramar (humming bee). This Pranayama relates to the word bhramar, i. e. the sound that bhramar emits. The characteristic of this Pranayama is to create a sound like that of the humming bee while performing Pooraka or Rechaka. Hence, we can state that the name is quite appropriate. The earlier dos and don'ts and cautions apply to this type too. The Pranayama should be studied while sitting in asanas such as Padmasan or Simhasan. Since the left or right nostril is not to be used independently, there is no need for Pranavmudra. The entire action is with both the nostrils.



Figure 1.7- Bhramari Pranayama



## MATERIALS AND METHODS

The 8-hour class room yoga sessions consisted of roughly 2 hours of Asana practices, 2 hours of Jnana Yoga sessions, 1 hour each of Pranayama (breathing exercises coupled with body movements), Meditation, Relaxation and Bhakti Yoga. The sessions were designed with a mix of events to make the program interesting. Detailed schedule is given below in [Table/Fig-1].

TIME	SESSION	DETAILS
5 am	-	Wake up
5:30am to 5:45am	Session 1	Morning Prayer
5:45am to 6:45am	Session 2	Asana practice (physical postures)
6:45am to 7:30am	Session 3	Meditation
7:30am to 8:15am	-	Breakfast
8:15am-9:00am	Session 4	Social works
9:00am- 10:00am	-	Bath and wash
10:00am-11:00am	Session 5	Lectures on concepts of Yoga
11:00am-12:00pm	Session 6	Pranayama practice
12:00pm- 1:00pm	-	Lunch
1:00pm-2:00 pm	Session 7	Relaxation (Deep relaxation technique, Quick relaxation technique, Instant relaxation technique)
2:00pm-3:30pm	Session 8	Indoor activities (parables, creativity, chanting)
3:30pm-4:30 pm	Session 9	Asana practice
4:30 pm – 5:00pm	-	Evening tea, Snacks
5:00 pm to 6:15 pm	-	Free time
6:15pm-7:15pm	- Dinner	
7:15pm- 8:30pm	Session 10	Happy assembly
8:30pm-9:00pm	Session 11	Tranquilizing pranayama and meditation
9:00pm-9:15pm	-	Milk snacks
9:15pm-9:30pm	Session 12	Diary writing
9:30 pm	-	Sleep

**Assessment-**Assessment of psychological fitness parameters were done using following psychometric tools: • Schutte Emotional Intelligence Scale (SEIS): This self-reported scale is based on Salovey and Mayer's (1990) original model of EI. This is a 33-item scale with test-retest reliability of 0.78 for total scale scores. Each item has a 5-point Likert's rating from 1 (strongly disagree) to 5 (strongly agree). Some item has reverse coding. The total score ranges between 33 to 165, high score indicates more characteristic EI.

**DISCUSSION** The present study demonstrated the positive effects of short-term integrated yoga module program on psychological fitness in residential setting within summer break. Results suggest that yoga is an acceptable practice in residential camp by adolescents. Present study showed significant improvement in EI. Yoga practices may significantly influence the process of self-awareness and self-control. Previous research indicates improved EI through 20 minutes of meditation over eight weekly sessions in graduate students. Evidence suggests increased self-awareness, EI, and social skills in response to sitting meditation in youth. Significant change was seen in overall emotion regulation and strategies. Pranayama, breathing practices, chanting and meditation, yama-niyama concept driven creativity and games especially designed for emotional

development may have accounted for these positive changes and enhanced coping abilities in the present study. Results of present study on emotion regulation is in line with previous study done on 159 students with yoga-based intervention in classroom setting.

**Analytical Framework:** The Analysis of Variance test, Chi-Square test, correlation analysis to the emotional intelligence of selected adolescents before and after yoga practice have been applied.

Mental effects of Yoga practice Therapeutic effects of Yoga are not only physical, but also psychological. Yoga being a practice of mind and body integration fosters a balance in physical and mental health. The body-mind harmony is also helpful in times of stress/trauma. The peace and calm experienced through Yoga can help a person deal resiliently with adverse circumstances.

Constant exposure to stress and anxiety can lead to various adverse consequences for physical and mental health. A review article by Li and Goldsmith (2012) has studied the effect of Yoga on stress and anxiety. Out of the 35 articles reviewed, 25 reported a significant decrease in anxiety and stress. In a systematic review by Chong, Tsunaka, Tsang, Chan, and Cheung (2011), it was found that Yoga was as effective in reducing stress as other active control interventions like relaxation, Cognitive Behavioral Therapy (CBT) or dance.

Along with stress, depression is a highly common mental health disorder in the treatment of which Yoga has been found effective. Many studies have been conducted to evaluate the impact of Yoga in reducing the symptoms of depression. A systematic review by Pilkington, Kirkwood, Rampes, and Richardson (2005), evaluated the effectiveness of Yoga interventions for depressive disorders. Randomized Controlled Trials reviewed pointed out initially towards potential benefits of Yoga practice for depression. According to Uebelacker et al.'s (2010) critical review on effects of Hatha Yoga for depression, RCTs of better quality found beneficial effects of Yoga on mental health.

A detailed review by Da Silva, Ravindran, and Ravindran (2009), concluded that there is substantial evidence for establishing the effectiveness of Yoga as a helpful intervention for various depressive disorders and it is superior to no treatment and progressive muscle relaxation. It may as well be beneficial for reducing mood and anxiety symptoms related to medical illness. In another study, Iyengar Yoga as a complimentary therapy led to significant reductions in depression, anger and anxiety of participants. They also rated their moods as better after each Yoga class than before the class commenced. However, the mechanisms by which Iyengar Yoga helped to reduce symptoms of depression still needs to be understood (Shapiro et al., 2007).

Along with depression, Yoga has also been proved as a helpful intervention for the treatment of Post-Traumatic Stress Disorder (PTSD). A review article by Telles, Singh, and Balkrisna (2012) studied the impact of Yoga on PTSD symptomatology after encountering natural calamities like Tsunami and hurricane. Yoga practice was useful in reducing the symptoms of PTSD like fear, anxiety, disturbed sleep, sadness, and perceived stress.

**Effect of Yoga on resilience** The concepts of Yoga and resilience have many similarities as they both indicate towards attaining dynamic equilibrium after a disintegration of harmony at various internal and external levels. A study was conducted by Hartfiel, Havenhand, Khalsa, Clarke, and Krayner (2011) on effect of Yoga for resilience to stress and emotional well-being. Conducted at a British University, the study used a randomized wait list control design. Participants were self-selected i.e. voluntary participation was used. Yoga group was offered six weeks of Dru Yoga training, comprising one 60-minute class per week. Yoga participants at the end of the program felt significantly less anxious. Also, they were feeling less confused and tired and were found to be surer of themselves than before the intervention. They had a greater sense of life purpose and satisfaction and were more self-confident during stressful situations.

An Indian study by Bajaj and Pande (2015) was done on undergraduate students between the age group of 18-23 years. Aim of the study was to investigate the mediating role of resilience in the impact of mindfulness on life satisfaction and affect as indices of subjective wellbeing. As expected, resilience played a significant mediating role. It has been found that awareness and acceptance which are important aspects of practices like

Yoga and mindfulness can foster greater resilience. According to Davidson and Begley (2012), pausing and observing, which are integral aspects of some meditations, can prevent a person from wallowing in a setback. Bouncing back from setbacks is an important aspect of resilience. Mindfulness and related practices can bring about emotional balance and can be instrumental in faster recovery from setbacks.

A study by Jindani, Turner, and Khalsa (2015) attempted to investigate the effect of an 8 session Kundalini Yoga program on resilience. Yoga group showed improvements in resilience whereas control group remained the same. Along with resilience, significant improvements were also observed in measures of sleep, positive affect, perceived stress, and anxiety. Another study by Khalsa (2013) mentioned that Yoga programs conducted in schools are very effective for enhancing students' resilience, mood, affect and self-regulation skills which are helpful for managing their emotions and stress. In a study by Khalsa, Hickey-Schultz, Cohen, Steiner, and Cope (2012), effect of Yoga on adolescents aged between 15-19 years was studied. As a result of 11 weeks of Yoga intervention, students improved on resilience as compared to students who attended a physical education class. This preliminary randomized controlled trial has provided evidence that Yoga can be more beneficial than physical exercise in enhancing resilience of adolescents. Narayanan (2004) attempted to study the efficacy of integral psychotherapeutic intervention in alleviating adolescent students' (9th to 12th grade) psychological disturbances and thus promoting mental health and subjective well-being. The intervention was based on Sri Aurobindo's model of Integral Yoga and dealt with different levels of a person's being including the physical, vital, mental and spiritual aspects of existence. Results proved the efficaciousness of this innovative program in reducing depression, enhancing self-confidence, and feeling of adequacy, general well-being, and positive affect just to name a few factors.

Effects of meditation, Asanas and Pranayama Meditation, Asanas and Pranayama are considered as three integral aspects of Yoga. Their separate and comparative effects have been investigated in many studies. In the present study, all the three aspects were included in the Classical Yoga Intervention (CYI). Following section gives a brief account of relevant literature regarding these three aspects. In various research, it has been found that interventions which include all the three aspects of Yoga practice led to more pronounced effects than interventions with only a few of these aspects (Hagins et al., 2013).

There are different types of meditations which can be broadly classified into Focused Attention (FA) and Open Monitoring (OM) meditation. Mindfulness meditation is an open monitoring meditation which involves moment-to-moment, non-judgmental and non-reactive awareness of one's sensations, feelings and thoughts originating in mind (Kabat-Zinn, 1994). A meta-analysis of physical and psychological benefits of Mindfulness based Stress Reduction (MBSR) showed that there were consistent and relatively high effect sizes showing efficacy of MBSR across diverse samples indicating that it can increase resilience by helping people cope better with distress under daily life and also under extreme conditions of serious disorder/trauma. Consistent and relatively strong effect sizes denoted improvements on a wide spectrum of mental health indicators/measures, depression being one of them (Grossman, Niemann, Schmidt, & Walach, 2004; Kabat-Zinn, Lipworth & Burney, 1985).

Mindfulness meditation is known to be helpful for enhancing the quality of relationships. Loving-kindness meditation has been shown to improve social connectedness (Hutcherson, Seppala, & Gross, 2008). A study by Carson, Carson, Gil, and Baucom (2004) demonstrated a positive relation between mindfulness practice and relationship enhancement in couples by increasing closeness, acceptance and relationship satisfaction. Meditation research has been done on beginners and advanced meditators to detect the differences in activation of various brain patterns. Beginners get positive effects of meditation even after brief training. Levels of stress hormone Cortisol, anger, anxiety and depression reduced in Chinese undergraduate students after just 5 days of meditation training for 20 minutes a day as compared to the group which got relaxation training (Tang et al., 2007). This result shows that meditation has a differential effect than just physical and mental relaxation. Another study done on beginners showed that meditation has an impact on brain and antibodies production by the immune system and showed higher activation in the brain area related to positive affect (Davidson et al.,

2003). Advanced meditators showed activation in the part of the brain related to identifying emotional cues which is a sign of increased empathic awareness (Lutz, Slagter, Dunne, & Davidson, 2008).

## Resilience

Resilience can be defined as significant positive adaptation despite challenging/stressful situations. It is the ability to thrive in the face of adversity. Resilience is conceptualized as a dynamic developmental process which varies with time, age, cultural context, gender and might as well vary within an individual subjected to various life circumstances (Connor & Davidson, 2003). In the present study, resilience was measured using the Connor-Davidson Resilience Scale (CD-RISC). So, resilience was operationalized as the total and factor wise score on the CD-RISC. Connor- Davidson Resilience Scale measures resilience across five factors. Factor 1 is Personal Competence, High standards, and Tenacity (PHT) which is concerned with self-efficacy, goal orientation and persistence in efforts in spite of obstacles. Factor 2 is Trust in one's instincts, Tolerance of negative affect, and Strengthening effects of stress (TTS) which measures acting on intuition/ hunch, dealing with painful/ unpleasant feelings and coping with stress. Factor 3 is Positive acceptance of change, and Secure relationships (PS) which assesses adaptation with change and having social support. Factor 4 is Control (C) which measures perceived control over one's life circumstances. Factor 5 of Spiritual Influences (SI) is about faith in God in times of crises and believing that everything happens for a reason.

Aim: To evaluate the effectiveness of short-term residential yoga intervention on psychological constructs in adolescents.

Materials and Methods: A pre, post-yoga interventional study was carried out in a 10-day residential camp. Three independent cohorts of adolescents from India, in three batches (1, 2 and 3), with sample size of 148 (87 boys and 61 girls), 167 (122 boys and 45 girls) and 195 (121 boys and 74 girls), respectively were examined. A holistic integrated yoga module with eight hours of yoga sessions per day was given as an intervention. Emotional Intelligence (EI), emotional regulation strategies, Clinical anger and self-concept parameters were studied using psychometric scales like Schutte Emotional Intelligence Scale (SEIS), Cognitive Emotion Regulation Questionnaire (CERQ-short), Clinical Anger Scale (CAS) and Self-concept Scale respectively. Authorised scales and software were used for assessments and analyses.

Results: Significant ( $p < 0.05$ ) improvements in EI, emotional regulation and anger management were observed in all the three batches. However, no significant improvement was found in self-concept in either of the cohorts. The observation of the results of assessed outcome measures in all the three batches confirms the positive effect of the Yoga Intervention on psychological fitness. The pattern of changes was consistent across all three batches.

Conclusion: Residential Yoga camp improves the psychological fitness, among adolescents. Even short-term courses are effective and induce positive behavioural signatures. Resilience is conceptualized as a dynamic developmental process which varies with time, age, cultural context, gender and might as well vary within an individual subjected to various life circumstances (Connor & Davidson, 2003). In the present study, resilience was measured using the Connor-Davidson Resilience Scale (CD-RISC). So, resilience was operationalized as the total and factor wise score on the CD-RISC. Connor- Davidson Resilience Scale measures resilience across five factors. Factor 1 is Personal Competence, High standards, and Tenacity (PHT) which is concerned with self-efficacy, goal orientation and persistence in efforts in spite of obstacles. Factor 2 is Trust in one's instincts, Tolerance of negative affect, and Strengthening effects of stress (TTS) which measures acting on intuition/ hunch, dealing with painful/ unpleasant feelings and coping with stress. Factor 3 is Positive acceptance of change, and Secure relationships (PS) which assesses adaptation with change and having social support. Factor 4 is Control (C) which measures perceived control over one's life circumstances. Factor 5 of Spiritual Influences (SI) is about faith in God in times of crises and believing that everything happens for a reason.

## Conclusion-

- Yoga intervention is one of the best alternative systems of medicine. Its benefits were plenty for the adolescents to prevent school related problems. So that when the teacher gets an opportunity to work as a school health nurse, she can teach yoga to the adolescents to increase resiliency as a health promoting behaviour.
- The results show that there is significant impact of yoga practices on emotional intelligence, mental health and resilience of adolescents.

## Recommendations

- Education and training can be conducted for the student to identify low resilient students and recognize the importance of yoga intervention.
- Effectiveness of Yoga on resilience study can be replicated to produce more reviews because the investigator found that only minimal number of supportive studies was available.
- Alternate resilience fostering programmes can be conducted to evaluate the effectiveness as a primary intervention for the promotion of psychological wellbeing.

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