International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Effect of Hatha Yoga on Anxiety Among the Secondary School Students in Sonitpur District of Assam

Dr. Reter Potom[1], Mary Hasdak[2], Dr. Kenjir Ringu[3]

[1]Vice Principal, Hills College of Teacher Education, Lekhi
[2]Headmistress, Don Bosco Hr. Sec. School, Satagaon, West Karbi Anglong
[3]Assistant Professor, Department of Education, Neelam Taram Govt. College Yachuli

Abstract

The mental well-being of adolescents is a crucial indicator of a nation's development, as it directly influences their potential to contribute positively to society. In recent times, the increasing dependence on digital devices and the aftermath of the COVID-19 pandemic have led to a rise in anxiety and stress levels among school students. Adolescents today are vulnerable to psychological challenges due to academic pressure, social expectations, and lifestyle changes. In this context, yoga emerges as a holistic, cost-effective, and accessible tool to promote mental and emotional well-being. This study aims to examine the effectiveness of yoga in reducing anxiety among Class X students of St. Mary's School in Sonitpur district, Assam.

An experimental design was employed with randomized control and experimental groups, involving pre-test and post-test measures. The study focused on the impact of yoga with respect to gender and locality (urban/rural). Hatha Yoga, including asanas, pranayama, and meditation, was administered to the experimental group over a fixed period, while the control group received no intervention. Anxiety levels were measured using a standardized anxiety scale. The results are expected to demonstrate a significant reduction in anxiety levels among students practicing yoga, validating the use of yoga as an adjunct therapy for adolescent mental health.

This study emphasizes the necessity of incorporating yoga into school curricula, as outlined by the National Education Policy (NEP) 2020. The findings are anticipated to contribute to educational psychology, inform curriculum planners, and offer practical solutions for managing adolescent anxiety through non-pharmacological means.

Keywords: Anxiety, Hatha Yoga, Class X students, Assam.

1. INTRODUCTION

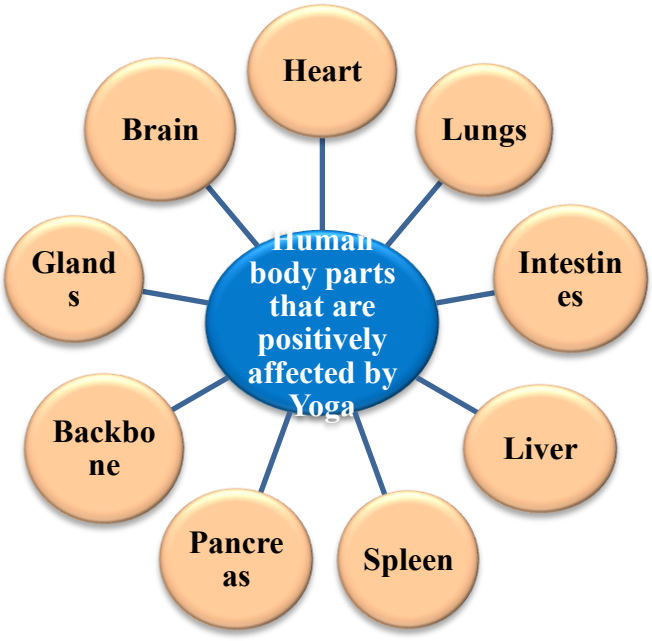
The future of a nation rests on its adolescent's hand. Their mental health is an important indicator of development of any country. Their talents and capabilities have to be nurtured, without which they will have a skewed mode of growth. Hence, they must be enriched with basic rudiments of the world through proper training and equipping them with necessary skills is very essential. So, the role of education and its significance in moulding the future adolescents is unquestionable.

Today, the Digital era has made the students to lead a sedentary lifestyle. On the other hand, the recent deadly Covid-19 pandemic which took the entire world by a storm in 2020 has a significant undesirable impact on mental health of the students leading to stress and anxiety. Students spend most of their time with the digital gadgets for their academic activities, entertainment and social contacts. So, their physical activities get arrested by these devices. This leads to many risk factors in their cognitive, physiological, psychological and social aspects. As a result, they have developed high obesity, poor academic performance, lack of attention and interest to learn, and are contented with indiscipline lifestyle. Today's young students are a vulnerable group, who are continuously put under pressure daily – from changing hormones, social media, heavy timetables to the pressures of exams, and lot of homework with a tight deadline, preparing for various exams, or the pressure of getting good grades in order not to disappoint their parents.

Depression and anxiety are prevalent problems in students across the country. And anxiety is endemic to human existence **(Khan et.al., 2005)** Academics, culture shock, finances, and social life all come together to make the students experience more challenging. If students aren't prepared to cope, they can become easily susceptible to depression and anxiety. Research by **(Streeter et al., (2007)** has found that practicing yoga has an association with increased neurological levels of GABA. Furthermore, this study indicated that yogic practices resulted in greater improvement in mood and greater decreased in anxiety levels, in comparison to the metabolically matched walking intervention **(Streeter et al., 2010).** Such findings led to the present study& research hypothesis of the effectiveness of yoga practice on anxiety.

Yoga is a practical aid, not a religion. Yoga is an ancient art based on harmonizing system for development of the body, mind, and spirit. The regular practice of yoga will not only lead one to a sense of peace and well-being, but will also give a feeling of being at one with the nature. Nowadays, an increasing number of people, particularly those from the West, are turning to yoga in an effort to find relief from long-term health issues and achieve mental tranquillity. By doing physical exercises, one can develop only body muscles. But through Yoga, one achieves the conditioning of even all the internal organs like - heart, brain, spleen, liver, lungs, intestines, etc.

Fig.1 Human body parts that are positively affected by Yoga



Yoga is a perfect way to ensure overall health and physical fitness. Through meditation, breathing exercises (called pranayams); one can banish stress and lead a healthy life. In fact, it is one of the best remedies known to humankind, for curing chronic ailments that are otherwise difficult to be cured by other medications.

Yoga is another form of physical exercise. The amazing thing about Yoga is that, its positive effects on the health and mind are visible over time.

Yoga is a very good practice that has brought unbelievable results in the lives of people who have inculcated this in their daily routine **(Anita, 2014)**. It helps in living a healthy lifestyle and better life forever. In addition to telling the benefits of yoga to our children, we should make regular practice of yoga. Essay on Yoga is a common topic, which can be given to students as a competition. One can use such simple essays available on Yoga and its benefits to promote the essence of essay writing in the children.

Among the various approaches to reduce the level of anxiety, yoga is the one that combines the physical elements of a healthy lifestyle with prescriptions for abiding mental calmness **(Gupta et al., 2006).** Yoga is an ancient art that has aim of bringing the practitioner back to the true self. It was created ultimately to bring us into meditation and hence deeper states of awareness. Even though yoga is an ancient practice, it is pragmatic in its approach. Having emerged in India in the 6th century, classical yoga, as classified by **Patanjali,** the founder of yoga, encompasses eight paths. These include yama (universal ethics), niyama (individual ethics), asanas (postures), pranayama (expansion of life force), prathyhara (withdrawal of senses), dharan.

Although the value of yoga as a more holistic, integral, beneficial and cost-effective therapy for anxiety has long been advocated, there have been very few well designed, scientific studies in this. Therefore, the aim of this research is to evaluate the effectiveness of yoga therapy on anxiety.

The concepts that are involved in this research are:

1. **Yoga -**The word yoga is derived from the Sanskrit root yuj, meaning “to yoke,” or “to unite”. The practice aims to create union between body, mind and spirit, as well as between the individual self and universal consciousness. Such a union tends to neutralize ego-driven thoughts and behaviors, creating a sense of spiritual awakening. References to yoga can be seen in many ancient scriptures like Bhagavad Gita, Mahabharata, the Vedas, etc.

Yoga is essentially an art and science of holistic living; an effective method for improving health in addition to the prevention and management of diseases. Yoga is associated with a healthy and lively lifestyle with a balanced approach to life.

Yoga is a spiritual way of life, practiced by many over millennia. Practitioners have recognized other benefits of the yoga lifestyle, positive effects on the mental faculties being the robust and most consistent.

2. OBJECTIVES OF THE STUDY

1. To study the effect of Hatha Yoga on anxiety of class X students with regard to gender among the class X students of St. Mary’s School, Sonitpur district, Assam.
2. To study the effect of Hatha Yoga on anxiety of class X students with regard to locality among the class X students of St. Mary’s School, Sonitpur district, Assam.

3. HYPOTHESIS

Here the investigator had formed four separate Null hypotheses for both the groups i.e. Control Group and Experimental group.

H_{01}: There is no significant difference in the pre-test and post-test anxiety scores of the experimental group with respect to gender among Class X students of St. Mary's School, Sonitpur district, Assam.

H_{02}: There is no significant difference in the pre-test and post-test anxiety scores of the control group with respect to gender among Class X students of St. Mary's School, Sonitpur district, Assam.

H_{03}: There is no significant difference in the pre-test and post-test anxiety scores between the experimental and control groups with respect to gender among Class X students of St. Mary's School, Sonitpur District, Assam.

H_{04}: There is no significant difference in the pre-test and post-test anxiety scores of the experimental group with respect to locality among Class X students of St. Mary's School, Sonitpur district, Assam.

H_{05}: There is no significant difference in the pre-test and post-test anxiety scores of the Control group with respect to locality among Class X students of St. Mary's School, Sonitpur district, Assam.

H_{06}: There is no significant difference in the pre-test and post-test anxiety scores between the experimental and control groups with respect to Locality among Class X students of St. Mary's School, Sonitpur District, Assam.

4. NEED AND SIGNIFICANCE OF THE STUDY

The significance of yoga education in present-day life is copious and has been recognized all over the world as an important tool for healthy lifestyle. There has been an increase in number of people practicing yoga. According to a study conducted in 2017, over half of the 200 million Yoga practitioners are Indians. Also, since the past recent years there has been a major development in the yoga industry, thus leading to increase in demand for yoga instructors, private lessons and yoga therapy. Studies have shown various physical and mental health benefits of Yoga and with the hectic and busy lifestyle of young adults in India they will be able to improve their mental health with a strategy like yoga as it is easy, accessible as well as de-stressing.

India is growing rapidly as a global super-power. To face the challenges of the century and to keep up with the pace of the world, maintaining health is of prime importance. Giving thrust to healthy society, Physical Education, Sports and Yoga are of great significance in today's world. To keep up a positive physical and emotional wellness, yoga is an unquestionable requirement in modern age in every sphere of life. The Government of India insists on Physical Fitness, Mental Health and Overall Development of Personality for every citizen. Complimenting to this objective, Yoga now is integrated under the National Education Policy (NEP) 2020 (NEP Healthy, Fit and Stay well) making yoga education part of the school curriculum. Yoga has long been an integral part of health, wellness and physical education in Indian system of Education. It is a great channel of releasing one's stress and anxiety. Yogic practices and the Meditation are very essential because they remove not only all kinds of problems but also increases the performance.

Therefore, the purpose of this study is to understand that whether yoga helps in reducing anxiety in individuals. Hence this study can help us in developing strategies that can benefit individuals who have concerns related to anxiety.

5. SCOPE OF THE STUDY

This study has direct relevance and practical value for the youth of Assam as well as other states of India. Its findings can benefit school teachers, special educators, teacher educators, resource teachers, professionals, researchers, curriculum planners, policymakers, administrators, NGOs, vocational trainers, service providers, parents, and students by informing educational practices, support services, and policy decisions.

6. DELIMITATION OF THE STUDY

- The study is restricted to study the Effect of Hatha Yoga on Anxiety of class X students only.
- The study is delimited to Sonitpur district of Assam, and the samples had been selected on the related & concern population in the Sonitpur district.
- The study is delimited to class X students of St. Mary's School, Sonitpur district, Assam.
- The study is delimited to 60 students (30 boys and 30 girls) only.
- The study is delimited to one demographic variable i.e. locality (Urba and rural) only.
- The study is delimited to 45 minutes of Hatha Yoga for 6 weeks (6 days per week) only.

7. METHODOLOGY OF THE STUDY

Research Designed: This study had been employed "**Pre-test post-test Control Design**" under Experimental Research.

Sampling Designed & Size:

The present study adopted an experimental research design to examine the effect of Hatha Yoga on anxiety among Class X students of St. Mary's School, Sonitpur District, Assam. From a population of 75 students, a sample of 60 students was randomly selected. The selected participants were randomly assigned into two equal groups: an experimental group (n = 30) and a control group (n = 30).

Table: 1 Distribution of the Sample selected from Class X Students of St. Mary's School, Sonitpur District, Assam

Sample	Class	Experimental Group	Control Group	Total
Boys	Class X	15	15	30
Girls	Class X	15	15	30
Total		30	30	60

Sampling Technique: In this, Experimental study was conducted to see the effects of Hatha yoga on anxiety among class X students of St. Mary's School, Sonitpur district of Assam. The researcher applied two Experimental Designs by selecting Two groups randomized Pre-test, Post-test design. So, in this, there were two groups namely - Experimental group and Control group. These two groups were selected randomly and applied Pre-test then treatment of yoga was given, after that Post –test was assessed.

Table:2 Group Design of the study

Group	Pre-test	Treatment	Post-test
Experimental group	$\mathbf{0_1}$	$\mathbf{X_1}$	$\mathbf{0_2}$
Control Group	$\mathbf{0_1}$	$\mathbf{X_2}$	$\mathbf{0_2}$

Here, 0_1 & 0_2 are Pre-test & Post-test respectively.
X_1: It is the Treatment or intervention program (Hatha Yoga)
X_2: Without Treatment

Variables for Study

- Independent variables: Hatha Yoga
- Dependent Variables: Anxiety

Tool for Measurement: The Self-Report Anxiety Scale (SAS), developed by William Zung in 1971, was the tool used for this study to measure and compare the level of anxiety for both Experimental and Control group.

Validation of Tool for treatment: The preliminary step of the data collection process includes making a work plan for administering the tools to the concerned sample; obtain permission from the concerned authorities for carrying out the investigation. The authority of the school selected for the study was contacted during class hours allotted earlier for the purpose. Selected, participants were informed of the time and place of the intervention.

Participation in the Yoga series was free of charge and the class was offered in the campus. All classes were held from Monday to Saturday mornings during the class hours. A series of 9 modules was developed by the researcher, which was held for 45 minutes every day.

All sessions protocols have been documented and planned in such a manner that the program would be successful, beneficial and authentic to get the expected outcome. Then the questionnaire was handed over to the students and the investigator gave the instructions with regard to filling the questionnaire individually.

Steps of the Hatha Yoga Practices

1. Yoga practices in therapy must be tailored to individual needs. Therapists should be clear about what types of yogic practices would be appropriate with regard to each. When an appropriate method, intensity, and duration of activity are chosen, yoga can be made accessible to almost everyone.
2. A tentative yoga and meditation module was developed by the researcher. The yoga classes were developed and implemented over the course of 6 weeks for 45 days. The researcher designed a module focusing on the type of yoga which would reduce anxiety of the students.
3. Initially the students were taught relaxation techniques- Makarasana and Shavasana which are more relaxation poses. These yogic practices included – Om Charan for 3 minutes, Prana Mudra (Invocation of energy) for 3 minutes, physical postures (asanas) – Namaskarasana (prayer pose), Tadasana (Mountain Posture), Padahasthasana (Hand to foot pose), Urshtrasana (camel pose), Pachimotanasana (Back-stretching Posture) very slowly for 8 minutes. Then they were taught breathing techniques (pranayama) – Anulomaviloma and Bhramari pranayama, and were made to practice for 5 minutes. The lessons on Surya Namaskar poses were displayed for 8minutes, followed by side bending Trikonasana for 3 minutes, then the Lotus pose was demonstrated for 5 minutes. A series of Yoga Nidra were done for 5 minutes. And finally for 5 minutes relaxation techniques were introduced to them which included warm-ups sessions, transition to main poses, leading to back bending postures, forward bending postures, twisting postures, Cool down postures and culminating in a relaxation exercise and closing with Meditation.

4. To achieve the purpose of the present study, Hatha yoga training program, was given to the subjects. The details procedures of this training program are prearranged below with details. The Hatha yoga training period was for six weeks and six days a week. The respective trainings were carried out from Monday to Saturday in the morning session only and Sunday was a rest day.

Table:3 Hatha yoga Training Practice Schedule 1-6 weeks

Sl. No	Asanas	Duration
1	Om Mantra Meditation	3 mins
2	Prana Mudra	3 mins
3	Asanas	8mins
4	Breathing Techniques	5mins
5	Surya Namaskar (Poses)	8mins
6	Side bending Trikonasana	3 mins
7	Meditation/Lotus pose	5 mins
8	Yoga Nidra-Savasana	5mins
9	Relaxation	5 mins
Total- 45 Minutes		

Procedures for performing Asanas

a) Meditation & Om Charan

For the **meditation** one has to sit in comfortable posture and has to continuously think about the object of meditation. When one focuses their mind in concentration on an object the mind is transformed into the shape of the object. When mind becomes one with the object, it silences the surface activity of the mind, thereby allowing looking deeper within. Meditation procedures involve diaphragmatic breathing.

b) Tadasana or Mountain pose

Mountain pose, called Tadasana in Sanskrit is a classic pose that acts as the foundation of all standing yoga poses. Tadasana is performed standing with feet slightly apart while keeping the feet balanced on both feet, Inhale and raising of arms above the head. Interlocking of fingers with palms facing up. Exhale and raising of shoulders towards ears, relax all muscles and return to the starting position. Tadasana has several benefits. It helps correct muscles imbalances. Tadasana helps to cultivate stillness, strength and sense of empowerment, symbolic of its namesake. As it is practiced in between all other standing poses, it allows the mind and body to integrate the benefits of the previous asana whilst preparing for the next.

c) Surya Namaskar poses

Sun salutation, also known as Surya Namaskar, is an ancient method consisting of a sequence of yoga asanas or positions performed to reverence the sun. Surya Namaskar steps are divided into twelve postures or asanas performed one after the other in order. The asanas stretch the body while contracting and extending the chest alternately to control respiration.

d) Side bending (Trikonasana)

Trikonasana (triangle poses) and trikonasana with a lateral stretch (a side bending triangle) are different poses with different benefits. They depend, however, on the same groundwork: well-rooted feet and well-aligned legs and pelvis. It is vital to maintain that groundwork as we deviate from the spinal alignment of trikonasana to create its side- bending variant.

Trikonasana yoga or Triangle pose exercise is the standing posture exercise that brings strength, balance, and body flexibility. There are many variations in trikonasana steps or the procedure of trikonasana. Generally, its three types include Baddha Trikonasana, Parivrtta Trikonasana, Utthita Trikonasana.

e) Lotus pose

Lotus position or Padmasana (Sanskrit: romanized: padmāsana) is a cross-legged sitting meditation pose from ancient India, in which each foot is placed on the opposite thigh. It is an ancient asana in yoga, predating hatha yoga, and is widely used for meditation in Hindu, Tantra, Jain, and Buddhist traditions. Variations include easy pose (Sukhasana), half lotus, bound lotus, and psychic union pose. Advanced variations of several other asanas including yoga headstand have the legs in lotus or half lotus. The pose can be uncomfortable for people not used to sitting on the floor, and attempts to force the legs into position can injure the knees.

f) Yoga Nidra

Yoga Nidra means 'Yogic Sleep' i.e. a state of conscious relaxation without effort. Yoga Nidra is performed in Shavasana pose, with the eyes closed. Conscious relaxation of the body and mind is induced by taking in few deep breaths in-and-out. Breaths should be slow and rhythmic. It holds immense benefits for all those who struggle to let go, those who suffer from lack of sleep, trauma, burn-out, and anxiety. It is also highly beneficial and holds great healing power for anyone who wants to experience a deeper sense of peace and re-connect more profoundly with themselves. It also leads one into a state of harmonious, restful being.

g) Relaxation & warm up sessions

Relaxation techniques form a crucial part of the yoga's in the ever straining up environments of modern corporate cultures. Everything in the twenty first century seems to be geared up for tension; one work under tension, one love under tension, one eats under tension, and also rest under tension. The so-called modern man has somewhere lost the ability to relax the natural way. One of the benefits of Hatha Yoga relaxation techniques is that they have the potential to change, alter the perception of the stimulus associated with pain to a ore pleasant one in order to induce relaxation in the mind.

Data analysis

The result of the proposed research was quantitatively analysed. The analysis used here was Inferential Statistics where, there is one Independent Variable having two levels - Experimental group and Control

group. Hence the 't' test as inferential statistics was employed or applied in two independent group t-tests. And for Comparing means - Mean, Standard Deviation and Standard Error of difference were used for computing and testing of formula hypotheses of the study.

8. RESULT & DISCUSSION

Objective:1 To study the effect of Yoga on anxiety of class X students with regard to gender among the class X students of St. Mary's School, Sonitpur district, Assam.

H_{01}: There is no significant difference in the pre-test anxiety scores between the experimental and control groups with respect to gender among Class X students of St. Mary's School, Sonitpur district, Assam.

Table:4 Anxiety scores of Experimental Group with respect to Gender

Group	Gender	N	Mean	SD	df	t-value	Remark
Pre-Test	Male	15	43.33	5.32	28	.68	Not Significant
	Female	15	44.67	5.44			
Post-Test	Male	15	36.00	3.42	28	.54	Not Significant
	Female	15	36.00	3.40			

Interpretation: As per the study, shown in the Table: it has been observed that the mean scores of Pre-test Experimental group in male is 43.33 and female is 44.667 and Standard deviation of male is 5.315 and female is 5.44. It has been evident that average score and standard deviation of female is greater than that of male. The computed't'- value (0.68) is smaller than the critical values (2.76 and 2.05) at 0.05 and 0.01 level of significance respectively. Again, analysis in the Post –Test Experiment reveals that there is difference of mean and standard deviation among male (M=36, SD=3.415) and female (M=36, SD=3.401). The computed't' value (0.536) is less than that of critical values (2.76 and 2.05) at 0.01 and 0.05 level of significance respectively at 28 degree of freedom. So, the null hypothesis is accepted. It indicates that there is no significant difference between male and female in their anxiety before and after the experiment of yoga. However, the mean scores of Pre –test experiment is higher than the post-test experiment in both male and female indicating the effect of yoga in a gradual process.

H_{02}: There is no significant difference in the pre-test and post-test anxiety scores of the control group with respect to gender among Class X students of St. Mary's School, Sonitpur district, Assam.

Table:5 Anxiety scores of Control Group with respect to Gender

Group	Gender	N	Mean	SD	df	t-value	Remark
Pre-Test	Male	15	47.67	4.03	28	1.28	Not Significant
	Female	15	50.33	6.99			
Post-Test	Male	15	47.67	4.03	28	1.36	Not Significant
	Female	15	50.33	6.45			

Interpretation: Again, in the Pre-Test Control group it reveals that the mean scores and Standard Deviation of female students (M=50.333, SD=6.995) is greater than that of male students (M=47.667, SD=4.03). The computed 't'- value (1.279) is less than the critical values (2.76 and 2.05) at 0.01 and 0.05 level of significance respectively. Analysis of Post-Test control group reveals that mean and

standard deviation of female students (M=50.333, SD=6.45) is greater than that of male students (M=47.667. SD=4.03). The computed 't'- value (1.36) is less than the critical values (2.76 and 2.05) at 0.01 and 0.05 level of significance respectively at 28 degree of freedom. So, the null hypothesis is accepted. It indicates there is no significant difference between male and female in their anxiety in the pre-test and post-test control group. And the reason could be the absence of yoga interventions among the control group. The mean value seems to be higher in female group indicating greater level of anxiety among the female.

H_{03}: There is no significant difference in the pre-test and post-test anxiety scores between the experimental and control groups with respect to gender among Class X students of St. Mary's School, Sonitpur District, Assam.

Table:6 Anxiety scores between Experimental and Control Group with respect to Gender

Group	Group	N	Mean	SD	df	t-value	Remark
Pre-Test	Experimental	30	44.00	5.38	58	3.55	Significant
	Control	30	49.00	5.51			
Post-Test	Experimental	30	36.00	3.41	58	11.40	Significant
	Control	30	49.00	5.24			

Interpretation: The pre-test and post-test anxiety scores of students in the experimental and control groups were analyzed with respect to gender to examine the effect of Hatha Yoga. The results showed that the experimental group obtained a mean anxiety score of M = 44.00 (SD = 5.38), whereas the control group recorded a higher mean score of M = 49.00 (SD = 5.51). An independent samples t-test indicated that the obtained value (t = 3.55, df = 58) was greater than the critical value at the 0.05 level of significance, indicating a statistically significant difference between the two groups at the pre-test stage.
Further analysis of the post-test anxiety scores revealed that the experimental group showed a substantial reduction in anxiety (M = 36.00, SD = 3.41), while the control group maintained a higher level of anxiety (M = 49.00, SD = 5.24). The calculated t-value (t = 11.40, df = 58) was found to be significant at the 0.05 level. The obtained t-value for the post-test was found to be higher than the table values at both 0.05 and 0.01 levels of significance, indicating a highly significant difference between the two groups. Hence, the null hypothesis H03 was rejected, suggesting that Hatha Yoga had a significant effect in reducing anxiety levels among students, and this reduction was observed in both male and female students, indicating that Yoga was effective irrespective of gender. This result indicates a significant difference between the experimental and control groups in post-test anxiety scores. The marked reduction in anxiety among the experimental group suggests that the Hatha Yoga intervention was effective in reducing anxiety among Class X students.
Objective:2 To study the effect of Yoga on anxiety of class X students with regard to locality among the class X students of St. Mary's School, Sonitpur district, Assam.

H_{04}: There is no significant difference in the pre-test and post-test anxiety scores of the experimental group with respect to locality among Class X students of St. Mary's School, Sonitpur district, Assam.

Table:7 Anxiety scores of Experimental Group with respect to locality

Group	Locality	N	Mean	SD	df	t-value	Remark
Pre-Test	Rural	15	44.06	5.96	28	0.07	Not Significant
	Urban	15	43.92	4.62			
Post-Test	Rural	15	36.12	4.61	28	0.35	Not Significant
	Urban	15	36.62	3.08			

Interpretation: In Pre-Test Experiment, students residing in rural areas (M=44.059, SD=5.955) have greater mean score and standard deviation compared to urban locality students (M=43.923, SD=4.615) the computed 't'- value (0.07) at 28 degree of freedom is smaller than the critical values (2.76 and 2.05) at 0.05 and 0.01 level of significance respectively. Again, in the Post Test Experiment it is observed that no major difference of mean and standard deviation among students residing in rural (M=36.118, SD=4.61) and in urban areas (M=36.615, SD=3.08). The computed 't'-value (0.353) is less than the critical values ((2.76 and 2.05) at 0.05 and 0.01 level of significance respectively at 28 degree of freedom. So, the null hypothesis is accepted. However, the mean scores in the post test experiment shows that, there is change in the anxiety level among the rural and urban group compared to the pre-test experiment.

H_{05}: There is no significant difference in the pre-test and post-test anxiety scores of the Control group with respect to locality among Class X students of St. Mary's School, Sonitpur district, Assam.

Table:8 Anxiety scores of Control Group with respect to locality

Group	Locality	N	Mean	SD	df	t-value	Remark
Pre-Test	Rural	15	47.00	4.54	28	9.78	Significant
	Urban	15	81.42	12.04			
Post-Test	Rural	15	47.00	4.54	28	9.90	Significant
	Urban	15	78.35	10.77			

Interpretation: In the Pre-test Control group, students residing in urban areas have more mean scores and Standard deviation (M= 81.42, SD=12.04) compared to students residing in rural areas (M=47, SD=4.54) and computed 't' value (9.78) is greater than the critical values (2.76 and 2.05) at 0.05 and 0.01 level of significance for 28 degree of freedom. Whereas, in the post test control group, a major difference of mean and standard deviation is seen among the students residing in urban areas (M=78.35, SD=10.77) and students residing in rural areas (M=47, SD=4.535). The computed 't' value (9.90) is greater than the critical value (2.76 and 2.05) at 0.01 and 0.05 level of significance respectively. So, the null hypothesis is rejected. Hence, it is evident that there is significant difference between pre and post test scores of urban control group. Mean value is higher in urban group as compared to rural group. This can be due to city life and lack of yoga practices.

H06: There is no significant difference in the pre-test and post-test anxiety scores between the experimental and control groups with respect t 72 cality among Class X students of St. Mary's School, Sonitpur District, Assam.

Table:9 Anxiety scores of Experimental and Control Group with respect to locality

Group type	Test	Locality	N	Mean	SD	df	t-value	Remark
Experimental Group	Pre-Test	Rural	15	44.06	5.96	28	0.07	Not Significant
		Urban	15	43.92	4.62			
Experimental Group	Post-Test	Rural	15	36.12	4.61	28	0.35	Not Significant
		Urban	15	36.62	3.08			
Control Group	Pre-Test	Rural	15	47.00	4.54	28	9.78	Significant
		Urban	15	81.42	12.04			
Control Group	Post-Test	Rural	15	47.00	4.54	28	9.90	Significant
		Urban	15	78.35	10.77			

Interpretation: The pre-test and post-test anxiety scores of students in the control group were analysed with respect to locality to examine differences between urban and rural students. In the pre-test, students from urban areas showed a much higher mean anxiety score (M = 81.42, SD = 12.04) compared to students from rural areas (M = 47.00, SD = 4.54). The calculated t-value (t = 9.78, df = 28) was greater than the critical values at both the 0.05 and 0.01 levels of significance, indicating a significant difference between urban and rural students in the pre-test. Similarly, in the post-test, urban students again recorded higher mean anxiety scores (M = 78.35, SD = 10.77) than rural students (M = 47.00, SD = 4.54). The obtained t-value (t = 9.90, df = 28) was also higher than the critical values at both levels of significance. Therefore, the null hypothesis H06 was rejected, indicating that there was a significant difference in anxiety scores with respect to locality. The higher anxiety levels among urban students may be due to factors such as city life pressure and the absence of Yoga practice in the control group.

9. THE MAJOR FINDINGS

- There was no significant difference in anxiety levels between male and female students in the experimental group in both pre-test and post-test. However, anxiety levels reduced after Hatha Yoga practice in both genders.
- There was no significant difference in anxiety levels between male and female students in the control group in both pre-test and post-test. Anxiety levels remained high due to the absence of Yoga intervention.
- A significant difference was found between the experimental and control groups with respect to gender. The experimental group showed lower anxiety levels than the control group after the Yoga intervention.
- There was no significant difference in anxiety levels between rural and urban students in the experimental group in both pre-test and post-test. Yoga was equally effective for students from both localities.
- A significant difference was observed between rural and urban students in the control group. Urban students showed higher anxiety levels than rural students.
- A significant difference was found between the experimental and control groups with respect to locality. Students who practiced Yoga showed reduced anxiety, while students without Yoga intervention showed higher anxiety levels.

10. CONCLUSION:

The practice of yoga shows promise for promoting better population mental health. It is acceptable, accessible, and cost-effective and encourages self-reliance. Yoga is an individual health promoting practice that can be done in groups and supported by communities. Like other holistic practices such as tai chi, qigong, meditation and so forth, it includes a community component. Practicing yoga together, in workplaces, schools and other group settings have shown to promote population mental health. While yoga does not address the social determinants of mental illness it does promote a greater sense of inner peace for those who partake. It appears that deep slow breathing in combination with movement and other aspects of yoga are at the heart of yoga's ability to bring people a greater sense of tranquility. It meets the triple aim of improving health, improving care and reducing cost.

Yoga is a fairly new treatment or practice utilized for more than mind-body fitness in the West. In fact, yoga is being used more and more as an alternative form of treatment for improving many conditions. One way that yoga is used is in individuals with depressive symptoms. Recently, researchers have examined the benefits and effectiveness of depression for managing depressive symptoms.

Yoga is an age-old art but is relevant in present times more than ever before. When it comes to benefits of yoga, this is just the tip of the iceberg. It has multiple gross and fine rewards which can help one live a healthy and joyful life. Therefore, gift your child the abundance of yoga and watch as the benefits slowly unfold! These are the amazing benefits of yoga in schools**.**

Reference

1. Bhakti Yoga Pilgrimage by Dr. Mukhesh Kumar Verma published by AADI BOOKS23/4, Shakti Nagar Delhi
2. CAM and Mental Health. A comparative evidence-based approach to complementary and alternative treatment for mental health conditions. Mental Health America 2016. Retrieved: http://www.mentalhealthamerica. net/sites/default/files/MHA_CAM.pdf
3. Chakraborty, S. (2021). Effect of Yogic Intervention in Psychological Wellbeing (parental
4. psychological distress, anxiety, and self-esteem) of Working Mothers (Doctoral dissertation, Swami Vivekananda Yoga AnusandhanaSamsthana).
5. Choices, N. H. S. (2012). Available online: http://www. nhs. uk/Livewell/Goodfood. Pages/food-labelling. aspx# Nut.
6. Clarke, H. H. (1976). Application of measurement to health and physical education.
7. Cramer, H., Lauche, R., Anheyer, D., Pilkington, K., de Manincor, M., Dobos, G., & Ward, L. (2018). Yoga for anxiety: A systematic review and meta-analysis of randomized controlled trials. Depression and anxiety, 35(9), 830-843.
8. De Manincor, M., Bensoussan, A., Smith, C., Fahey, P., &Bourchier, S. (2015). Establishing key components of yoga interventions for reducing depression and anxiety, and improving well-being: a Delphi method study. BMC Complementary and Alternative Medicine, 15(1), 1-
9. Debra Campbell and Kathleen A Moore (2004). Yoga as a preventative and treatment for depression, anxiety and stress. The international journal of yoga therapy, (53-58)
10. Devi, N. S., Devi, N. J., &Bilagi, A. S. (2015). Efficacy of yoga on self-esteem a depressionof women labourers. Int J Recent Sci Res, 6(12), 7968-71.
11. Farha Khan, Jaishree Jain, Rashmi Gupta, KusumGour (2018). Effect of yoga on anxiety: An interventional study. International multi – speciality journal of health.

12. G Kirkwood, H Rampes, V. Tuffrey, J. Richardson, K Pilkington, and S Ramaratnam (2005) Yoga for anxiety: a systematic review of the research evidence. British journal of Sports medicine.
13. Govindaraj, R., Varambally, S., Sharma, M., &Gangadhar, B. N. (2016). Designing and validation of a yoga-based intervention for schizophrenia. International Review of Psychiatry, 28(3), 323-326.
14. Hasan, M., &Halder, U. K. (2018). Yoga and Salaah: Some theoretical comparisons. Int J Yogic, Hum Mov Sport Sci, 3(1), 477-480.
15. Hasan, M. &Halder, U. K. (2018). Yoga and Salaah: Some theoretical comparisons, International Journal of yogic, Human Movement and Sorts Sciences,3(1):477-480
16. M.JavnbhaktiRHajaziKenari M Ghasmemi Effects of yoga on depression and anxiety of women complement TherapClin
17. Hasanpour- Dehkordi, A., Jivad, N., &Solati, K. (2016). Effects of yoga on physiological indices, anxiety and social functioning in multiple sclerosis patients: A randomized trial. Journal of clinical and diagnostic research: JCDR, 10(6), VC01.
18. Jadhav, S. G., & Havalappanavar, N. B. (2009). Effect of yoga intervention on anxiety and subjective well-being. Journal of the Indian Academy of Applied Psychology, 35(1), 27 31.
19. Janjhua, Y., Chaudhary, R., Sharma, N., & Kumar, K. (2020). A study on effect of yoga on
20. emotional regulation, self-esteem, and feelings of adolescents. Journal of Family Medicine and Primary Care, 9(7), 3381
21. James-Palmer, A., Anderson, E. Z., Zucker, L., Kofman, Y., &Daneault, J. F. (2020). Yoga as an intervention for the reduction of symptoms of anxiety and depression in children and adolescents: a systematic review. Frontiers in pediatrics, 8, 78.
22. Kaley-Isley, L. C., Peterson, J., Fischer, C, & Peterson, E. (2010). Yoga as a complementary therapy for children and adolescents: a guide for clinicians. Psychiatry (Edgmont), 7(8),
23. Khan, M. F., Jain, J., Gupta, R., & Gaur, K. (2018). Effect of yoga on anxiety: An interventional study. life, 1, 2.
24. Khalsa, S. B. S., Shorter, S. M., Cope, S., Wyshak, G., &Sklar, E. (2009). Yoga ameliorates performance anxiety and mood disturbance in young professionalmusicians. Applied psychophysiology and biofeedback, 34, 279-289.
25. Lemay, V., Hoolahan, J., & Buchanan, A. (2019). Impact of a yoga and meditation intervention on students' stress and anxiety levels. American journal of pharmaceutical education, 83(5)
26. Li, A. W., & Goldsmith, C. A. W. (2012). The effects of yoga on anxiety and stress. Alternative Medicine Review, 17(1).
27. Lokesh, K. (1984). Methodology of educational research. Vikas publishing house. ManpreetKhurmi, Gaurav Chaudhari, Prabhjot Kaur, Saeed Ahmed (2015). Therapeutic effects of yoga on mental health and stress.10.13140/2.1.2025.29 (www.researchgate.net/publication)
28. Nagendra, H. R. (2008). Defining yoga. International Journal of Yoga, 1(2), 43.
29. Nanthakumar, C. (2020), "Yoga for anxiety and depression – a literature review" The Journal of Mental Health Training, Education and Practice, Vol. 15 No. 3, pp.157-169.
30. Narendra, B. M., &Rai, S. C. (2019). Effect of Yoga on Anxiety in School Going Children of Age 12-14 Years. Indian Journal of Public Health Research & Development, 10(8).
31. National Health Service, "NHS: your health, your choices," A Guide to Yoga, 2012, http://www.nhs.uk/livewell/fitness/pages/yoga.aspx.View at: Google Scholar.

32. Noggle, J. J., Steiner, N. J., Minami, T., &Khalsa, S. B. S. (2012). Benefits of yoga for psychosocial well-being in a US high school curriculum: A preliminary randomized controlled trial. Journal of Developmental & Behavioral Pediatrics, 33(3), 193-201.
33. Pascazio, L. O. R. E. N. Z. O., Nardone, I. B., Clarici, A. N. D. R. E. A., Enzmann, G. I. U. S. E. P. P. E., Grignetti, M., Panzetta, G. O., &Vecchiet, C. R. I. S. T. I. N. A. (2010, November). Anxiety, depression and emotional profile in renal transplant recipients and healthy subjects: a comparative study. In Transplantation proceedings (Vol. 42, No. 9, pp. 3586-3590). Elsevier.
34. Ruegsegger, G. N., & Booth, F. W. (2018). Health benefits of exercise. Cold Spring Harbor perspectives in medicine, 8(7), a029694.
35. Sellakumar, G. K. (2015). Effect of slow-deep breathing exercise to reduce anxiety among adolescent school students in a selected higher secondary school in Coimbatore, India. Journal of Psychological and Educational Research (JPER), 23(1), 54-72.

36. Shankarapillai, R., Nair, M. A., & George, R. (2012). The effect of yoga in stress reduction for dental students performing their first periodontal surgery: A randomized controlled study. International Journal of Yoga, 5, 48-51
37. Shashi, S. (2018). Yoga as an industry - learning in 2018 and expectations in 2019 - [online] ETHealthworld.com. Available

38. Shohani, M., Badfar, G., Nasirkandy, M. P., Kaikhavani, S., Rahmati, S., Modmeli, Y. & Azami, M. (2018). The effect of yoga on stress, anxiety, and depression in women. International journal of preventive medicine, 9

39. Shohani, M., Badfar, G., Nasirkandy, M. P., Kaikhavani, S., Rahmati, S., Modmeli, Y., Azami, M. (2018).The Effect of Yoga on Stress, Anxiety, and Depression in Women. International journal of preventive medicine, 9, 21. doi:10.4103/ijpvm.IJPVM_242_16

40. Shreve, M., Scott, A., McNeill, C., & Washburn, L. (2021). Using yoga to reduce anxiety in children: exploring school-based yoga among rural third-and fourth-grade students. Journal of Pediatric Health Care, 35(1), 42-52.
41. Streeter, C. C., Whitfield, T. H., Owen, L., Rein, T., Karri, S. K., Yakhkind, A., . . . Jensen, J. E. (2010). Effects of yoga versus walking on mood, anxiety, and brain GABA levels: A randomized controlled MRS study. Journal of Alternative and Complementary Medicine, 16(11), 1145–1152.
42. Tang, H., Da, L., Mao, Y., Li, Y., Li, D., Xu, Z., ...& Zhao, M. (2009). Hepatitis B virus X protein sensitizes cells to starvation-induced autophagy via up-regulation of beclin 1 xpression. Hepatology, 49(1), 60-71.
43. Tejvani, R., Metri, K. G., Agrawal, J., &Nagendra, H. R. (2016). Effect of Yoga on anxiety, depression and self-esteem in orphanage residents: A pilot study. Ayu, 37(1), 22–25. doi:10.4103/ayu.AYU_158_15
44. Umadevi, P., Ramachandra, S., Varambally, S., Philip, M., &Gangadhar, B. N. (2013).
45. Effect of yoga therapy on anxiety and depressive symptoms and quality-of-life among caregivers of in-patients with neurological disorders at a tertiary care center in India: A randomized controlled trial. Indian Journal of Psychiatry (Yoga and Mental Health Supplement), 55, S385-S389

VaNCampfort, D., DeHert, M., Knapen, J., Wampers, M., Demunter, H., Deckx, SProbst, M. (2011). anxiety, psychological stress and positive well-being responses to yoga and aerobic exercise in people with schizophrenia: a pilot study. Disability and Rehabilitation, 33(8), 684–689.

46. Weaver, L. L., &Darragh, A. R. (2015). Systematic review of yoga interventions for anxiety reduction among children and adolescents. The American Journal of Occupational Therapy, 69(6), 6906180070p1-6906180070p9.
47. Young, J. D., Shastri, A. A., Stephanopoulos, G., & Morgan, J. A. (2011). Mapping photoautotrophic metabolism with isotopically nonstationary 13C flux analysis. Metabolic engineering, 13(6), 656-665.