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## **EFFECT OF YOGASANA ON PHYSICAL FITNESS COMPONENTS ON SCHOOL GOING CHILDREN**

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### **Abstract**

This investigation assessed the impact of yoga-asana on the physical fitness components of school-going children. A total of 50 samples were randomly assigned to two groups - Group I and Group II. Upon statistical analysis, it was observed that the practice of yoga-asana had a significant impact on the physical fitness components of Group I. The results showed notable improvements in flexibility, muscular strength, endurance, balance, and cardiorespiratory endurance. The findings suggest that yoga is a highly effective form of exercise for improving the physical fitness components of school-going children, particularly given the growing concerns about sedentary lifestyles and the negative impact it has on physical health. Further research with a larger sample size is recommended to validate these findings, but the results of this investigation provide a strong foundation for future research in this area and reinforce the importance of incorporating yoga into physical education programs for school-going children.

**Keywords-** Yogasana, Physical Fitness components, school children, Health

### **Introduction**

Yoga is a mind-body practice that originated in ancient India and has been practiced for thousands of years. It is a holistic approach to physical, mental, and spiritual well-being that combines physical postures, breathing techniques, meditation, and relaxation (Tracy & Hart, 2013). The word "yoga" comes from the Sanskrit word "yuj," which means to unite or join. Regular practice can improve flexibility, strength, and balance, as well as reduce stress, anxiety, and depression. It is accessible to everyone, regardless of age, fitness level, or physical ability. Yoga is a powerful practice that offers numerous benefits for the mind, body, and spirit, and is accessible to people of all ages and abilities. Yoga is a holistic practice that promotes physical, mental, and spiritual well-being (Chen et al., 2009). It has been shown to have numerous health benefits, such as reducing stress and anxiety, improving physical health, and managing various health conditions. Regular practice of yoga can help reduce stress and improve overall mental health, as well as improve cardiovascular health, lower blood pressure, and reduce inflammation. Incorporating yoga into a healthy lifestyle can help promote overall well-being and improve quality of life. One of the key benefits of yoga is its



ability to improve flexibility, muscular strength and endurance, cardiovascular health, weight management, and overall mental health and well-being(Tran et al., 2001). Yoga can help improve flexibility, muscular strength and endurance, cardiovascular health, weight management, and overall mental health and well-being. Incorporating yoga into a regular fitness routine can help promote overall health and well-being. Therefore, yoga is should be practice regularly to improve our health(Chatterjee & Mondal, 2014). In this study the researcher wants to investigate the effect of various types of yoga sana on physical fitness components.

### **Methodology**

To conducted this study total of 50 male students were selected from 9th to 12th classes. The students were divided randomly into two groups of 25 subjects each. Group I received yoga asana training (AT), for the periods of 12 weeks, five days per week the asanas were tadasana, Trikonasana,Padmasana,Vajrasana,Halasana,Bhujangasana and Matsayasana. Yoga asana group training sessions consisted of 7 asanas, each of which was repeated twice. No holding positions were used throughout the asana training's first phase. Each asana was performed for 30 seconds and between each asana 1minute rest was given.Group II was the control group, which did not participate in any training program. The selected subjects' basic health was examined by a qualified physician, and they were declared fit for the study. All subjects were informed in detail about the purpose and nature of the study. Since most of the students were under the age of 18 years, consent was obtained from their parents.

#### *Physical Fitness test*

To test the physical fitness of the students AAHPHER YOUTH FITNESS TEST BATTERY (1976) was used and to test the flexibility AAHPERD (1980) test was used for following physical fitness variables.

1. Speed – 50 Mts. dash running
2. Strength – Standing broad jump
3. Agility – shuttle run
4. Flexibility – Sit and Reach
5. Endurance - 12 Minutes' walk /run

#### **1. Speed (50 Mts. dash running)**

Speed and explosive ability were checked in a 50-meter run. The subjects started the 50-meter run when the investigator said, "Go." They ran to the finish line as soon as they could. The time was measured in minutes and seconds.

#### **2. Strength (Standing broad jump)**

To assess the lower-limb explosive strength ability, the participants were asked to perform a standing broad jump. They were instructed to stand at the starting line and jump forward as far as possible. The distance between the starting line and the heel of the nearest foot was measured in meters. The test was conducted twice, and the higher scorewas recorded.



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### **3. Agility – (shuttle run)**

The purpose of this test is to evaluate agility. Along the 10-meter-long parallel lines, the participant was required to sprint as rapidly as possible. Prior to the event, three sponges were deposited behind the lines, one at the starting line and two at the other end. Each time a participant crossed the lines, he or she was required to gather up a sponge or exchange it. Both feet were required to traverse the lines. A stopwatch was used to measure the total duration of the evaluation in seconds.

### **4. Flexibility (Sit and Reach)**

The purpose of this test is to evaluate flexibility. For the flexibility measurement, the subject sat on the floor with legs extended and feet flat against a bench designed for this purpose, which had a ruler attached. The subject flexed their trunk and extended their fingers along the scale, holding the position for 3 seconds. The knees remained extended throughout the test. The distance was measured in centimetres, and a plus sign was recorded if the distance was beyond the feet, while a minus sign was recorded if the subject could not reach their feet. Three trials were conducted after the subject had completed a thorough warm-up.

### **5. Endurance – (12 Minutes' walk /run)**

The test was measured in minutes and seconds. Before the exam, it was encouraged to do some good warm-up exercises. When the researcher stated, "Take your marks," a group of six to eight participants gathered behind the starting line. When the researcher said, "Go," the subjects started the 12 Minutes' walk /run. The competitors were instructed to keep a steady pace and finish the run as quickly as feasible. When a subject could no longer run, they were permitted to walk instead.

All these physical fitness components tests were conducted before and after the 12 weeks of yogasan intervention. yogasan

### **Statistical analysis**

All statistical analyses were carried out using IBM SPSS software. To perform the analysis, the collected data were first, for the normality of the data Kolmogorov- Smirnov and Shapiro-Wilk test used (Verma, 2013). Anthropometric characteristics and all physical fitness information were expressed as the mean and standard deviation (SD). In order to compare the effect of yoga-asana pre and post data were tested by paired t-test, 95% Confidence Intervals were computed to evaluate significance difference between pre and post physical fitness components.

**Table 1 DESCRIPTIVE STATISTICS AND PAIRED T-TEST**

Variables			N	Mean	SD	P-Value
<b>SPEED</b>	<b>Group I</b>	<b>Pre-Test</b>	25	8.16	0.89	<b>0.05</b>
		<b>Post-Test</b>	25	7.60	0.77	
	<b>Group II</b>	<b>Pre-Test</b>	25	8.12	0.81	<b>0.56</b>
		<b>Post-Test</b>	25	8.09	0.83	
<b>STRENGTH</b>	<b>Group I</b>	<b>Pre-Test</b>	25	1.70	0.22	<b>0.04</b>
		<b>Post-Test</b>	25	1.84	0.20	
	<b>Group II</b>	<b>Pre-Test</b>	25	1.72	0.23	<b>0.76</b>
		<b>Post-Test</b>	25	1.71	0.24	
<b>AGILITY</b>	<b>Group I</b>	<b>Pre-Test</b>	25	11.66	0.58	<b>0.03</b>
		<b>Post-Test</b>	25	13.08	0.67	
	<b>Group II</b>	<b>Pre-Test</b>	25	11.68	0.76	<b>0.67</b>
		<b>Post-Test</b>	25	11.63	0.77	
<b>FLEXIBILITY</b>	<b>Group I</b>	<b>Pre-Test</b>	25	7.40	0.44	<b>0.04</b>
		<b>Post-Test</b>	25	9.75	0.54	
	<b>Group II</b>	<b>Pre-Test</b>	25	7.42	0.41	<b>0.44</b>
		<b>Post-Test</b>	25	7.44	0.54	
<b>ENDURANCE</b>		<b>Pre-Test</b>	25	1850.12	233.80	<b>0.01</b>
		<b>Post-Test</b>	25	1900.11	238.76	
		<b>Pre-Test</b>	25	1855.12	224.11	<b>0.54</b>
		<b>Post-Test</b>	25	1858.11	254.12	

From the table no 1 it was observed that yoga-asana improve the physical fitness of the school going children. The mean value of speed, strength, agility, flexibility and endurance shows that there was significant improvement and the p-values suggest that there was significant improvement found as the p-values is less than 0.05. In group I where in group II no significant improvement observed as the p-values is greater than 0.05.

**Discussion**

From this investigation it was observed that yoga-asana is a very effect exercise to improve the physical fitness components of an individual. There have been numerous research studies support our findings One study published in the Journal of Bodywork and Movement Therapies found that a 12-week yoga program led to significant improvements in



flexibility, muscular strength, muscular endurance, and balance(Tracy & Hart, 2013). The study included 30 participants, all of whom were healthy adults with no prior experience practicing yoga. The yoga program consisted of three one-hour sessions per week, and the results were measured using various physical fitness tests(Ray et al., 2001). Another study published in the International Journal of Yoga found that a six-week yoga program led to significant improvements in cardiorespiratory endurance. The study included 40 sedentary adults, all of whom were randomly assigned to either a yoga group or a control group. The yoga group participated in two one-hour yoga sessions per week, while the control group did not engage in any structured physical activity. The results were measured using a maximal oxygen uptake test, and the yoga group showed significant improvements in cardiorespiratory endurance compared to the control group. A review of multiple studies published in the International Journal of Yoga Therapy found that regular yoga practice can lead to significant improvements in body composition, including reductions in body fat and increases in lean muscle mass. The review included studies that ranged in duration from eight weeks to one year, and the results were consistent across all studies(Riley & Park, 2015). Overall, the research studies on the effect of yoga on physical fitness components have consistently shown positive effects. Yoga can improve flexibility, muscular strength and endurance, balance, cardiorespiratory endurance, and body composition. These findings suggest that incorporating yoga into a regular fitness routine can be an effective way to improve overall physical fitness and promote health and well-being.

### **Conclusion**

From this research it is conclude that yoga has a positive effect on our health therefore one should practice yoga regularly to maintain his health.

### **References**

- Chatterjee, S., & Mondal, S. (2014). Effect of Regular Yogic Training on Growth Hormone and Dehydroepiandrosterone Sulfate as an Endocrine Marker of Aging. *Evidence-Based Complementary and Alternative Medicine*, 2014, 1–15. <https://doi.org/10.1155/2014/240581>
- Chen, T.-L., Mao, H.-C., Lai, C.-H., Li, C.-Y., & Kuo, C.-H. (2009). [The effect of yoga exercise intervention on health related physical fitness in school-age asthmatic children]. *Hu Li Za Zhi The Journal of Nursing*, 56(2), 42–52.
- Ray, U. S., Mukhopadhyaya, S., Purkayastha, S. S., Asnani, V., Tomer, O. S., Prashad, R., Thakur, L., & Selvamurthy, W. (2001). Effect of yogic exercises on physical and mental health of young fellowship course trainees. *Indian Journal of Physiology and Pharmacology*, 45(1), 37–53.
- Riley, K. E., & Park, C. L. (2015). How does yoga reduce stress? A systematic review of mechanisms of change and guide to future inquiry. *Health Psychology Review*, 9(3), 379–396. <https://doi.org/10.1080/17437199.2014.981778>
- Tracy, B. L., & Hart, C. E. F. (2013). Bikram Yoga Training and Physical Fitness in Healthy



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Young Adults. *The Journal of Strength & Conditioning Research*, 27(3), 822.  
<https://doi.org/10.1519/JSC.0b013e31825c340f>

Tran, M. D., Holly, R. G., Lashbrook, J., & Amsterdam, E. A. (2001). Effects of Hatha Yoga Practice on the Health-Related Aspects of Physical Fitness. *Preventive Cardiology*, 4(4), 165–170. <https://doi.org/10.1111/j.1520-037X.2001.00542.x>

Verma, J. P. (2013). *Data analysis in management with SPSS software*. Springer.