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Effects of an 8-Week Yoga Program on Agility, Flexibility and Strength in Male Students

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Abstract:

This study assessed the effect of selected yogic practices on some physical fitness variables among residential students in Shimla District, Himachal Pradesh. An 8-week yoga training program was conducted for 48 male students from classes 10th, 11th and 12th, during which they were exposed to various 'asanas,' pranayama, and other yogic practices. The variables measured were weight, agility, flexibility, and abdominal strength from the pre- to the post-testing. Weight was not significantly affected by the intervention, while significant positive effects in students were observed for agility, flexibility, and abdominal strength as an outcome of the study. Results indicated significant improvements in agility, flexibility, and abdominal strength among participants. Therefore, this has suggested that regular practice of yoga can benefit various aspects of enhancing boys' physical fitness. This, however, may not impact on their weight.

Keywords: Yogic Practice, Weight, Agility, Flexibility, Abdominal Strength.

Introduction:

Yoga has grown highly popular in our nation and many other areas of the globe. Yogic practices lead to the development of holistic wellness. The term "yoga" refers to a special relationship between the body and the mind, as was said in the introduction. It aids in developing and maintaining a healthy body and a clear mind (Pathare, 2018).

In India, the term yoga refers to an exercise that originated there. According to Sanskrit grammar, this word is derived from the verb root "yuj," which can be found in Sanskrit grammar. Sanskrit literature uses all three meanings of the word "yoga." The first Yuj Samdhau contains the Yuj Samdhau, the second Yuj Sayamane contains the Yuj Sayamane, and the third Yujir Yoge contains the Yujir Yoge. Our understanding is that the first two interpretations are the most accurate. All Yogic schools and literature agree with these meanings because they are the correct interpretations. As the first commentator of Patajalayogastram on Vyāsa, Patajali seems to have embraced the concept of yoga as integration. Patajali is widely considered the founder of the Yogic discipline, as he states in his commentary, "Yoga Shadhi." Samadhi represents the essence of yoga. As per Patanjali, the other meaning of Yuj, which is Yujir Yoge, which in essence means "joining," cannot be accepted as part of the meaning of Yuj. Given that Patañjali's thesis is reliant on Sāṃkhyan metaphysics, and Sāṃkhyan holds the belief that Puruṣa is distinct from Prakṛti, Patañjali's thesis is dependent on Sāṃkhyan metaphysics. There has been an error in identifying Purua as an Indian state (Goel, 2007).

Yogic activities enhance cardiovascular health, including different postures (asanas), breathing methods (pranayama), and meditation. Yogic techniques may enhance erythropoiesis (the synthesis of red blood cells) by enhancing tissue circulation and oxygenation. This impact is particularly relevant for teenagers in residential institutions, where optimal erythrocyte levels are critical for growth and development. This is especially useful for athletic activities since increased haemoglobin levels boost endurance and overall performance. Exercise increases the amount of haemoglobin and erythrocytes in the blood. In addition, blood arteries are shown to keep elasticity and suppleness when stressed systematically, likely owing to the beneficial impact on physical fitness (Lal, 2015). In comparison to the control group, there was a significant improvement in

flexibility, strength and endurance in male students who were practicing yogic activities (Kumaravelu & Das, 2022).

Yoga has gained increased attention for its potential health benefits in recent years. Several physical fitness variables have been studied using yoga practices in Shimla, Himachal Pradesh. This study examines how yoga can enhance strength, flexibility, endurance, and body composition among residential students. Yoga practices have been shown to increase strength, flexibility, endurance, and body composition. Yoga has improved school students' and athletes' physical fitness capacities in Shimla (Divya, 2019). Yoga has also demonstrated physiological effects, resulting in changes in health indices among young people (Saini et al., 2024). This research work intends to analyze the potency of yogic practices in Shimla, not just a way to improve physical fitness but also a holistic development of mental and emotional well-being. Incorporating yoga into their daily routines may lead to healthier lives for young people in this area if they study the influence of these practices (Bhatti & Singh, 2023).

Methodology

In this, Experimental research examined the effects of an 8-week yoga program on agility, flexibility, and strength in male students. Data was obtained from pupils at S.V.M. School, Vikas Nagar, Kasumpti, throughout two stages: pre-test and post-test during the experimental period. A total of 48 male students from the 10th, 11th, and 12th were class chosen as the sample for the research. The sampling process guaranteed that the participants represented the population of interest. All participants were treated with Yoga Abhyāsa (practices) for two months. The Yoga Abhyāsa (practice) was held eight weeks between 8 a.m. and 9:30 a.m. under the direct supervision of a certified yoga instructor. A paired t-test was conducted to examine the Pre and Post-test differences. The significance level is established at 0.05 levels ($p < 0.05$).

Table-I**Schedule Two Months of Training in Yogic Activity**

ACTIVITY	REPETITION	DURATION
Om chanting	3	3 Min.
Warming up exercises	0	7 Min.
Standing Asan	1	10Min.
Laying Asan (prone position)	1	10Min.
Laying Asan (spine position)	1	10Min.
Sitting position	1	10Min.
Pranayama	1	9Min.
Om chanting	3	2Min.

Result

After the eight weeks of yogic exercises, there would be considerable improvement in weight, agility, flexibility and abdominal strength. The data on weight, agility, flexibility and abdominal strength pre and post-tests of the yogic training are examined and shown in Table II.

Table-II**Significance Difference in Mean Scores Between the Pre and Post-Test of Weight, Agility, Flexibility and Abdominal Strength**

Sr. No.	N	Variables	Test	Mean	S. D	S.E.M	Mean Difference (mean loss)	't'	Level of Significance
1	48	Weight	Pre	53.23	7.45	1.08	.229	0.150	Not Significant
			Post	53.00	7.50	1.09			
2	48	Agility	Pre	11.32	1.01	.146	.778	4.56	Significant
			Post	10.54	.651	.089			
3	48	Flexibility	Pre	2.81	1.74	.251	4.04	8.92	Significant
			Post	6.85	2.61	.378			
4	48	Abdominal strength	Pre	27.02	5.94	.858	7.96	6.82	Significant
			Post	34.98	5.46	.789			

Table II shows the acquired t-ratios for mean of pre-test and post-test changes in the selected weight variable the t-value testing the difference between averages from the pre to post-test was determined to be .150, which is not significant, meaning there is no evidence to suggest that there is a significant effect of intervention on the participants' weight; agility the t-value assessing the difference betwixt means from pre to post-tests was calculated to be 4.56, which is significant, suggesting that the intervention had a considerable beneficial influence on the participants' agility; flexibility the t-value assessing the difference among means from pre to post-test stage was estimated to be 8.92, which is significant, showing that the intervention had a major beneficial impact on participants' flexibility; abdominal the t-value measuring the difference between means from pre-test to post-stage was estimated to be 6.82, which is significant, demonstrating that the intervention helped boost abdominal strength—table value of 2.00 at a 0.05 significance level in the pre and post-tests scores. The mean pre-test and post-test scores among groups are shown in a graphical representation in Figure 1.

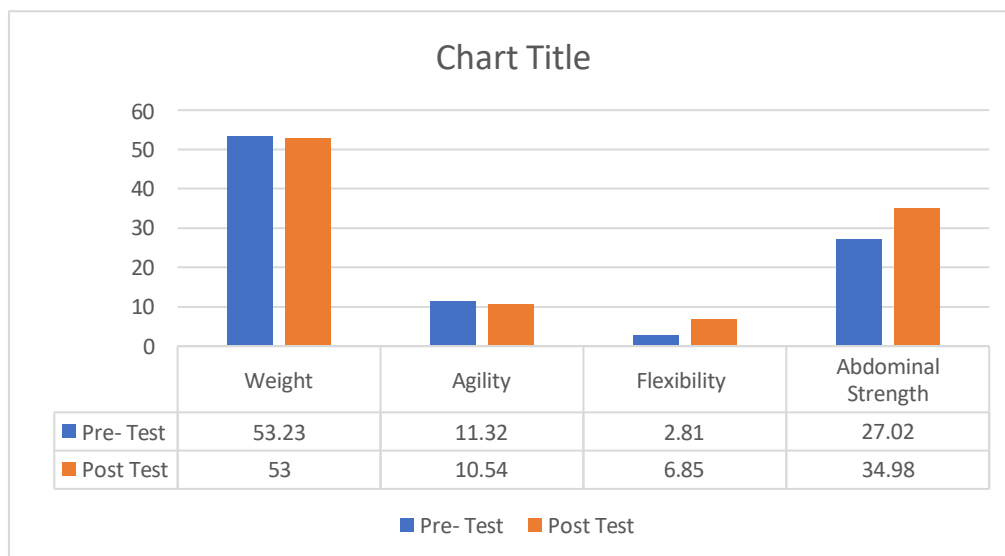


Fig 1: Graphical representation of mean

Discussion:

The findings of the study indicate the presence of both significant and non-significant changes in physical fitness variables. When examining the impact of yoga on the physical fitness factors of the boys who participated, the findings indicated a significant reduction in weight after eight weeks of practicing yoga. When comparing the measurements taken before and after yoga practice, the individuals who participated in yogic training showed notable improvements in several physical fitness factors, including agility, flexibility, and abdominal strength.

Previous studies have shown that students who underwent yogic practices for twelve weeks exhibited significant improvements in strength, endurance, and flexibility compared to a control group which did not take part in any particular training program (Kumaravelu & Das, 2022). In another study, 6-week yogic practices significantly improved muscular strength and endurance, cardiovascular endurance, body composition and flexibility in university-level girls compared to a control group (Dhaliwal et al., 2014). Yogic practices improve flexibility better than aerobic dance (Nithya & Anbalagan, 2017). Practices of yogic activity significantly improve flexibility and muscular strength in tribal students after 12 weeks of training (Giridharaprasath & Murugavel, 2017). Aerobic dance improves cardiovascular endurance and muscular strength/endurance, while yogic practices enhance flexibility, improving body composition among Nicobari women students (Rani & Singh, 2013). A one-month yoga practice significantly improves flexibility, explosive

strength, and cardiovascular endurance (Yadav & Malik, 2015). Yoga practices significantly improve flexibility among Annamalai University students aged 15 to 30 (Suseela & Srilakshmidivi, 2017).

CONCLUSIONS:

The weight of the secondary school boys does not significantly change through the practice of yoga activities over 8 weeks. On the contrary, the weight of secondary school boys has been reduced by 0.229 kg after 8 weeks. The agility of secondary school boys is significantly affected by the practice of yoga exercises over at least 8 weeks. On the contrary, the agility of the secondary school boys increased by 0.778 seconds after 8 weeks. The practice of yoga exercises influences the flexibility of boys in secondary school when done for at least 8 weeks. However, the flexibility of the boys in secondary school increased by 4.04 inches within 8 weeks. The practice of yoga exercises greatly influences the abdominal strength of boys in secondary school if practised for a minimum period of 8 weeks. On the other hand, the abdominal strength of the boys in secondary school increased by 7.96 seconds within 8 weeks.

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