Ilkogretim Online - Elementary Education Online, 2021; Vol 20 (Issue 4): pp. 2973-2977
http://ilkogretim-online.org
doi: 10.17051/ilkonline.2021.04.340

IMPACT OF YOGIC PRACTICES AND RESISTANCE TRAINING ON FLEXIBILITY AND SPEED IN COLLEGE STUDENTS

Dr. C. Suresh, Assistant Professor, Department of Physical Education and Sports Sciences, SRM Institute of Science and Technology, College of Science and Humanities, Kattankulathur, Chengalpattu, Tamilnadu, India. suresh@srmist.edu.in
R. Pravin Raj, M.Phil Research Scholar, Department of Physical Education and Sports Sciences, SRM Institute of Science and Technology, College of Science and Humanities, Kattankulathur, Chengalpattu, Tamilnadu, India. pravinraj8521@gmail.com

ABSTRACT- The purpose of the study was to find out the impact of yogic practices and resistance training on flexibility and speed in college students. Sixty (N=60) college students from V.T.M College of Arts and Science in Arunmanai, Tamilnadu, India were chosen at random. The participants were split into three classes of twenty (n=20) each: yogic practice (n=20), resistance exercise (n=20), and control (n=20). The participants were between the ages of 18 and 21. Selected dependent variables namely such as flexibility and speed. Flexibility tested by sit and reach test unit of measurement in centimeters. Speed tested by 50 meter dash unit of measurement in in seconds. The results were interpreted using descriptive statistics and Covariance Analysis (ANCOVA) and Scheffe's test was used. The 0.05 degree of significance was used in all situations since three groups were compared. It was found that yogic practice enhanced physical health variables such as flexibility in college students significantly. It was discovered that yogic practice greatly improved physical health variables in college students, such as speed. It was discovered that yogic practice greatly enhanced physical health variables in college students, such as agility.

Keywords: Yogic Practices, Resistance Training, Flexibility, Speed.

I. INTRODUCTION:

Many people refer to resistance training as strength training, and it entails the use of barbells, dumbbells, devices, and other equipment to improve health, appearance, and/or sports results. Athletes in a number of sports use resistance exercise as part of their training. Training targets such as enhanced muscle strength, with the right workout dosage, you will achieve muscle hypertrophy, enhanced body structure, and improved athletic efficiency (Lawrence, 2002). All workout programmes, from those targeted toward strength and power sports to those seeking cardiovascular benefits, should include resistance training. Athletes who participate in sports that demand strength and power, such as weight lifting, bodybuilding, and sprinting, must prioritise resistance training. Strength training is beneficial to many other athletes, including those who compete in sports that demand a high level of physical stamina (Homman, 2002).

Muscle hypertrophy, or the enlargement of muscle fibres, may be exacerbated by strength exercise. Furthermore, high-resistance conditioning would prefer faster twitch fibres by shifting the fibre type distribution. Strong training has a neuron-motor effect, so some of the rise in muscle strength can be attributed to changes in the nervous system. Isolated activity activity tends to boost muscle strength in a way that correlates with training patterns (Homman, 2002).

One of the most important factors in deciding an individual's degree of performance is physical health. Physical fitness factors including strength, speed, resilience, versatility, and various coordination skills all play a role in sports performance. Sports are a form of physical activity that is impossible to do without these motor skills. The most significant elements in predicting athletic success are fitness factors. Natural talent is a sign of opportunity, but fundamentals are the bedrock of success.

Flexibility is essential for exercising effectively, comfortably, and enjoyably. Without enough flexibility, one might be unable to stretch properly, overstretch a muscle or ligament, and even feel awkward moving. Flexibility is perhaps the most undervalued aspect of physical exercise, but the effects of lacking it may include pain and discomfort, injury, and poor health.

Flexibility training is important if you are rigid, lack flexibility, have poor posture, or want to strengthen your daily workout routine by increasing your flexibility. Rapid and jerky movements are

common in aerobic and weight-training activities, which can cause joint and muscle fatigue. Stretching exercises, yoga, and Pilates, on the other hand, include incremental movements that can help you achieve greater flexibility (Bompa et al., 2009).

Speed is described as "the ability to shift the whole body quickly from one place to another." Speed is described as the rate of movement, or the time it takes for a body or object to pass between two points. Height is most often identified with running speed, such as in road sprints or rugby. Leg speed, arm speed, and body speed (acceleration) are all needed for soccer kicking, basketball tossing, and fast breaks. Strength and power are linked to speed. In reality, speed is influenced by all skill-related factors. Speed necessitates the rapid expenditure of a significant amount of energy. When it comes to pace, age plays a role (Yobu, 2010).

The significance of speed is determined by two factors. I Stride duration and (ii) Stride frequency are two factors to consider. The pace of an athlete is determined by the cadence at which his or her arms and legs move, as well as the distance covered by each stride. The speed at which players can move their arms and legs has always been a weakness. The creation of a "explosive" stride is emphasised in order to increase speed. In athletics, basic movement patterns like running, hopping, skipping, jumping, shuffling, and back-pedaling are popular (Yobu, 2010).

II. METHODS:

Sixty college students (N=60) were chosen at random from T.M College of Arts and Science in Arunmanai, Tamilnadu, India. The participants were split into three groups at random: yogic (Group I), resistance (Group II), and a control group that did not receive any therapy (Group III). Each class had twenty (n=20) participants. All of the participants were tested for criterion variables such as flexibility and speed, prior to the experiment. For nine weeks, the yogic practices group received instruction three times a week on Mondays, Wednesdays, and Fridays. For nine weeks, the resistance training programme trained three times a week on Tuesdays, Thursdays, and Saturdays. After the study phase ended, both of the participants were tested again for the criteria variables that had been chosen. The discrepancy between the original and final means on criteria variables was used to determine the effect of each subject's treatment. The collected data were evaluated using ANCOVA to determine the statistical importance of the discrepancy. To confirm the theory, the 0.05 standard was used in both situations.

Table - I

COMPUTATION OF ANALYSIS OF COVARIANCE AND POST HOC TEST ON FLEXIBILITY

Means	**YGPG**	**RSTG**	**CG**	**SV**	**SS**	**DF**	**MS**	**'F'**	**Sig**
Pre test	20.95	22.55	22.80	B	40.30	2	20.15	0.58	0.56
SD	2.88	2.67	2.02	W	1959.10	57	34.37		
Post test	23.00	27.70	23.15	B	285.43	2	142.71	4.28*	0.02
SD	2.57	2.39	2.11	W	1898.75	57	33.31		
Adjusted post test	24.08	27.27	22.49	B	1727.95	2	118.78	38.94*	0.00
				W	237.56	56	3.05		

* at 0.05 level.

At beginning, The ratio 'F' was 0.58 on the pre-test means of the groups (f=0.58, p=0.56, p>0.05) not significant. The post test ratio of 'F' of 4,28* was significant in 0.05 level (f=428*, p=0.02, p<0,05). This indicates that the post-test methods of the groups differed significantly.

Modified post test means and analysis of covariance were calculated after taking the pretest and post test means into account. Experimental group I had an adjusted mean of 24.08, experimental group II had a mean of 27.27, and the control group had an adjusted mean of 22.49. On modified means, the obtained 'F' value was 38.94*. Since the relevant 'p' value was less than 0.05, it was determined that there were significant differences between the modified post test means on topic flexibility.

Table - II

Post Hoc Test on Flexibility

YGPG	**RSTG**	**CG**	**MD**	**Sig**
24.08	27.27	-	3.19*	0.00
24.08	-	22.49	1.59*	0.02
	27.27	22.49	4.78*	0.00

* at 0.05 level

The modified means, to be significant at the 0.05 level in a post hoc study. Yogic practice group Vs Resistance training group (MD: 3.19*, p<0.05). Yogic practice group Vs Control group (MD: 1.59*, p<0.05). Resistance training group Vs Control group (MD: 4.78*, p<0.05).

Table - III

COMPUTATION OF ANALYSIS OF COVARIANCE AND POST HOC TEST ON SPEED

Means	**YGPG**	**RSTG**	**CG**	**SV**	**SS**	**DF**	**MS**	**'F'**	**Sig**
Pre test	7.91	7.91	7.90	B	0.00	2	0.00	0.04	0.99
SD	0.40	0.40	0.37	W	8.96	57	0.15		
Post test	7.76	7.59	7.59	B	1.02	2	0.51	2.52	0.08
SD	.42	.53	.53	W	11.56	57	0.20		
Adjusted post test	7.76	7.58	7.92	B	9.51	2	0.54	14.96*	0.00
				W	1.09	56	0.03		

* at 0.05 level.

At beginning, The ratio 'F' was 0.04 on the pre-test means of the groups (f=0.4, p=0.99, p>0.05) not significant. The post test ratio of 'F' of 2.52* was not significant in 0.05 level (f=2.52, p=0.08, p>0,05). This indicates that the post-test methods of the groups not differed significantly.

Modified post test means and analysis of covariance were calculated after taking the pretest and post test means into account. Experimental group I had an adjusted mean speed of 7.76, experimental group II had an adjusted mean speed of 7.58, and the control group had an adjusted mean speed of 7.92. On modified

means, the obtained 'F' value was 14.96*. Since the relevant 'p' value was less than 0.05, it was determined that there were significant differences between the modified post test means on topic speed.

Table - IV

Post Hoc Test on Speed

YGPG	RSTG	CG	MD	Sig
7.76	7.58	-	0.18*	0.02
7.76	-	7.92	0.16*	0.03
-	7.58	7.92	0.34*	0.00

* at 0.05 level

The adjusted means, to be significant at the 0.05 level in a post hoc study. Yogic practice group Vs Resistance training group (MD: 0.18*, $p<0.05$). Yogic practice group Vs Control group (MD: 0.16*, $p<0.05$). Resistance training group Vs Control group (MD: 0.34*, $p<0.05$).

III. Discussion on Findings:

The findings revealed that yogic practice and resistance training enhanced selected criterion variable such as flexibility of college students. The resistance training group performed significantly better than the yogic training group in terms of flexibility according to the post hoc study: the conclusion which is in agreement with those of Ramesh & Ravindran. (2019, Nathan et al., (2005) and Anindya (2018).

After the workout, a certain level of muscle growth allows for more fibres to be at the same rate. As each fibre has the same versatility as the original fibre in that region, the muscle can be expanded. The strength training and yogic exercises also increase the elasticity of the muscles. There are the reasons why training in strength and yoga helps improve flexibility. The findings of the present study proved that, flexibility significantly improved due to yogic practices and resistance training which is in the agreement to the previous researches.

The findings revealed that yogic practice and resistance training enhanced selected criterion variable such as speed of college students. The resistance training group performed significantly better than the yogic training group in terms of speed according to the post hoc study: the conclusion which is in agreement with those of Antonio et al., (2005), Shah et al (2017and Ashok (2017),

Resistance training enhances running economy, maximum sprint pace, and time trial (race) results, according to the findings of the studies. Neuromuscular influences are likely to increase sprint speed as well. Sprint speed and efficiency improvements are what allow you to race faster when combined. Muscle elasticity is also improved through strength exercise and yogic activities. These are the reasons why strength training and yogic practises will help to increase the speed. The findings of the present study proved that, speed significantly improved due to yogic practices and resistance training which is in the agreement to the previous researches.

IV. Conclusion:

It was found that yogic practice enhanced physical health variables such as flexibility in college students significantly. It was discovered that yogic practice greatly improved physical health variables in college

students, such as speed. It was discovered that yogic practice greatly enhanced physical health variables in college students, such as agility.

Author Contributions: CS and PR designed the concept and conducted the study complete the raw data, does statistical analysis, generate the results and drafted the manuscripts. All authors have read and agreed to the published version of the manuscript.

Funding: The research received no funding or support from any of the agencies

Conflicts of Interest: The authors declare no conflict of interest.

Ethical approval: Not applicable

Availability of data: All available data has been presented in the study.

Acknowledgments: Authors wish to thank Dr.R.Mohanakrishnan, Associate Director of Sports, HOD, Department of Physical Education and Sports Sciences, College of Science and Humanities, Kattankulathur, Chengalpattu, Tamilnadu, India for his support towards research.

REFERENCE:

1. Skelton DA, Young A, Greig CA, Malbut KE. Effects of resistance training on strength, power, and selected functional abilities of women aged 75 and older. Journal of the American Geriatrics Society. 1995 Oct;43(10):1081-7.
2. Saroja m. Effects of complex training and the combined effects of complex training and yogic practices on selected physical and physiological variables among college boys. Yoga Mimamsa. 2012 Oct 1;44(3).
3. Ibrahim S, Ahmed SA, Ahmed SM, Ahmed SK. Football Plyometric and sprint training on Hormones and Fitness el-ements among underweight College students. Entomol Appl Sci Lett. 2020;7(3):23-31.
4. Govindasamy K. Effect of yogic practice on selected biochemical variables among obese middle age school boys. International Journal of Yogic, Human Movement and Sports Sciences. 2017;2(2):393-6.
5. Galvão DA, Taaffe DR. Resistance exercise dosage in older adults: single-versus multiset effects on physical performance and body composition. Journal of the American Geriatrics Society. 2005 Dec;53(12):2090-7.