

A Comparative Study of Swimming and Athletics Players for Shoulder and Leg Strengthening through Yogasana

Mr. Amlan Jyoti Borkuch^{1*}, Dr. Anulekha Dey², Dr. Meriline Gogoi³

¹ Student, Amity University

Email : adey@amity.edu

² Assistant Professor, Amity University

Email : adey@amity.edu

³ Assistant Professor, L.N.I.P.E (N.E.R.C) Guwahati

Email :merilinegogoi@gmail.com

Abstract - According to certain theories, yoga poses have an impact on both human physiology and psychology. Several studies have been conducted on the subject of sports, especially in swimming and short distance athletics. In this study, we will evaluate how yoga poses impact the development of shoulder and leg strength as well as the psychological system (age, height, and weight). The result indicates that yoga poses enhance both game performances. Regular yoga practice helps most players increase their stamina and reduce their performance times in comparison to the pre-test. This study attempts to look into how a specific yoga pose influences in swimmers and short distance athletes .

Keywords - shoulder and leg strengthening yogasana, uttanasana, utkatsana, ardha pincha mayurasana, gomukhasana, marjarisana

-----X-----

INTRODUCTION

Learning through physical activity is referred to as physical education. It is a course that is taught at the secondary school level and focuses on helping students create a good, healthy lifestyle through physical activity and the improvement of their physical fitness so that they may go about their daily lives with ease. Not only can adults achieve a healthy lifestyle with the aid of physical education, but children can as well. Regular physical activity has a number of health benefits, including building strong bones and muscles, increasing daily energy, improving coordination, and lowering the risk of developing chronic diseases like diabetes.

SWIMMING

Swimming is a team or individual activity in which the body is propelled through the water by the arms and legs. The activity is performed in swimming pools or bodies of open water (such as a lake or the ocean). One of the most well-liked Olympic sports is competitive swimming, which features a variety of distance events in the butterfly, backstroke,

breaststroke, freestyle, and individual medley strokes. In addition to these individual competitions, a freestyle or medley relay can be entered by four swimmers. Each stroke in swimming has a unique technique, and there are rules regarding the proper form for each stroke during competition. Additionally, there are rules governing the sorts of swimsuits, headgear, jewelry, and injury tape that are acceptable at contests. Swimming has a number of health benefits, even if it is possible for elite swimmers to sustain various injuries from the sport, such as shoulder tendinitis. Competitive swimming typically takes place in a 25- or 50-meter pool and employs a variety of stroke types. Freestyle, butterfly, breaststroke, and backstroke are some of the other strokes that the International Swimming Federation (FINA) officially regulates. The medley events are made up of these four strokes put together. Swimming is a low-impact workout that can strengthen your heart and your muscles. It engages more muscles than other forms of aerobic exercise and calls for a high level of endurance. One of the most popular sports and one of the best activities is swimming.

BUOYANCY

Experience has taught us that a boat of the same size and shape that is lightly loaded is easier to push or pull through the water than one that is highly loaded. as opposed to with their feet pointed straight back. Toeing in, though, shouldn't be done consciously. The angle at which the upper leg and, consequently, the foot should be kept depends on the natural torsion of the femur or the angle at which the upper leg bone is set into the hip joint. The desired degree of toeing in will be obtained naturally if the swimmer just plants his foot or stretches it backward.

ATHLETICS

athletics, Various sporting events are held on a running track and the nearby field. Given that it was a component of the ancient Olympic Games from around 776 BC to AD 393 it is the oldest form of organized sports. Numerous sprint, middle, and long-distance races, relays, hurdling, steeplechase, high jump, pole vault, long jump, triple jump, shot put, discus throw, hammer throw, javelin throw, decathlon, pentathlon, and heptathlon are examples of contemporary events. Marathons, speed walks, and cross-country races—which are infrequently contested on a track—are typically regarded as ancillary events in sports. Events are held both indoors and outdoors, and records are recorded separately. For indoor competitions, several events are modified or deleted. Athletics is the term for a broad range of competitions in walking, running, jumping, and throwing activities. It is often referred to as track and field sports. Even though these competitions are known as track and field (or just track) in the US, they are typically referred to as athletics abroad. This page discusses the history, administration, and organization of sports, the competitive process, the guidelines and tactics for each specific event, and some of the most well-known athletes in each sport. Track and field athletics, which sprang from the most fundamental human activities—running, walking, jumping, and throwing—are the oldest forms of organized sport. The most truly global sport now is athletics, with competitions taking place in almost every nation on Earth. The majority of countries send men's and women's teams to the four-yearly Olympic Games and the official track and field world championships. The European, Commonwealth, African, Pan-American, and Asian championship meets are among the several continental and international competitions that are contested.

YOGA

Yoga is not just a physical activity. Yoga means "union" and promotes the fusion of the mind and body. It promotes transformation based on the values of introspection, honesty, and enlightenment. Vision and transformation are crucial components of the practice. Asana (posture) practice, pranayama, and bandha/mudra exercises are the three main components of hatha yoga.

There are many distinct types of hatha yoga being taught today, and the asana practice is frequently referred to as hatha yoga. Yoga is a discipline or practice with physical, mental, and spiritual components that has its roots in India. Hinduism, Buddhism, and Jainism all have a wide range of schools, rituals, and aims. The most well-known varieties of yoga are Raja and Hatha. Although the Rig Veda mentions pre-Vedic Indian traditions, it is most likely that the ascetic and sramana movements of ancient India are where yoga first emerged. This would place its development between the sixth and fifth century BC.

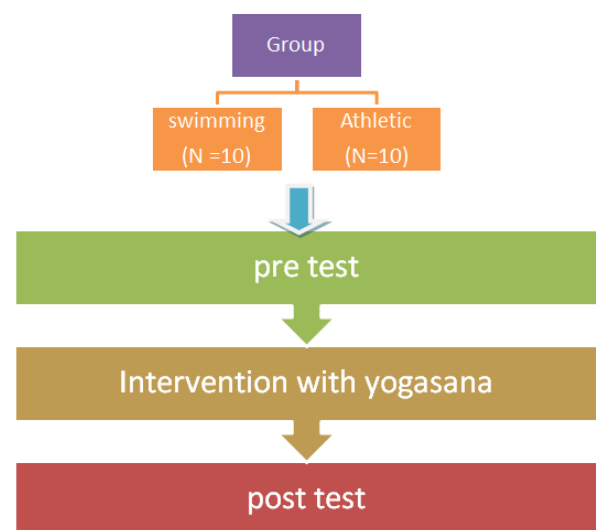
METHODOLOGY

The purpose of this study was to determine whether yogasana intervention would help state level swimmers and athletes perform at a higher level by enhancing certain physiological parameters. The coaches and trainers may use a yoga training intervention for their swimmers and athletes if the study's findings show improvement, which could enhance performance. This chapter has outlined the procedure used to carry out this scientific investigation.

SOURCE OF SUBJECTS

Male and female state-level swimmers and athletes from Assam state made up the study sample. For this study, 10 participant each athletes and swimmers were purposely chosen . The age range of the individuals was between 11 and 12. years old and chosen from jorhat , Assam .The subjects were willing to participate in research project.

This study used purposely group design with two equal-sized groups .



The 20 participants were purposely split into two groups, Group A (swimming) and Group B (athletic), both of which had an equal number of members.

EXPERIMENTAL SESSION

Every practice was introduced gradually and step-by-step. Swimming practises were done in the afternoon hour, while yoga training was done in the morning hour, three days a week for four weeks. Each asana stance was hold for 30 seconds at first and then for 1 minute and all the asana should be perform 3 times . Each exercise was carried out in accordance with the training programme .

ASSESSMENT OF VARIABLES

The following dependent variables were evaluated using standard tests at the baseline and during the training intervention.

Sl no	variable	tool
Demographic variable		
1	Height(cm)	Stadio meter
2	Weight(kg)	Weighing scale
3	Age (years)	Adhar card
Performance variable		
1	100 meter freestyle swimming (Sec.)	Stop watch
2	100 meter sprint (athletic)	Stop watch

This table show the variable use in research and tool

RESULTS AND INTERPRETATION

Standard instruments were used to collect data on the pre determined variables of the state-level swimmers and athletes. After utilizing T-Test to assess the data, the findings have been systematically presented in the form of Tables and Figures.

To end this inquiry, the findings have also been explained, evaluated, and argued logically using scientific reason.

THE DATA'S DESCRIPTIVE STATISTICS ARE SHOWN.

The pre-test scores for the swimming group and the athletic group for Age (A1) were 11.4 (SD=0.52) and 11.66 (SD=0.5) respectively. This finding suggests that the age means of the swimming group and the athletic group were more or less comparable before the test.

However, the swimming group and the athletic group's post-test scores in terms of weight are 11.4 (SD=0.52) and 11.66 (SD=0.5) respectively .This finding shows that both the swimming group's and the athletic group's post-test means.

The pre-test scores for the swimming group and the athletic group for Body height (A2) were 145.9 (SD=3.14) and 143.11 (SD=3.62), respectively. This finding suggests that the pre-test means of Body height for the swimming group and the athletic group

were more or less comparable. However, in terms of body height, the swimming group and the athletic group' post-test scores (Kg) were 145.9 (SD=3.14) and 143.11 (SD=3.62), respectively. This finding suggests that both the swimming group and the athletic group's post-test means for body height were same.

The pre-test scores (Kg) for the swimming group and the athletic group for Body weight (A3) were 145.9 (SD=3.14) and 143.11 (SD=3.62), respectively. This finding suggests that both the swimming group's and the athletic group's pre-test means for Body height were comparable .However, in terms of body weight, the swimming group and the athletic group's post-test scores (Kg) were 145.9 (SD=3.14) and 143.11 (SD=3.62), respectively. This finding suggests that there were similar between the yogasana and the Control post-test means for body weight

Descriptive Analysis of Swimming Performance Data

the pre-test scores (Sec.) for the swimming group and the athletic group were 80.43 (SD=5.10) and 14.65 (SD=0.31), respectively, for performance in the 100 metre freestyle and sprint event (A4). This finding suggests that, in the 100 metre freestyle and sprint events, the pre-test means of the swimming group and the athletic group were more or less comparable .However, the swimming group and the athletic group's post-test scores (Sec.) were 79.37 (SD=5.25) and 14.86 (SD=0.71), respectively. This finding shows that the 100 metre freestyle and sprint event performance post-test means of the swimming group and the athletic group were different.

Central Tendency and Dispersion of the Groups in Swimming Performance in Swimmers

Variable	Group			
	Swimming		Athletic	
	Pre test	Post test	Pre test	Post test
100 metre	80.43 (±5.10)	79.37 (±5.25)	.65 (±0.31)	14.86 (±0.71)

This table shows that 100 m free style performance and sprint performance has improve . which means the pre and post test has significant difference .

DISCUSSION OF RESULTS

Yogasana is typically understood to refer to develop strength. Despite the fact that yogic practices are becoming more and more popular among scientists, there is less experimental support for the effectiveness of yogasana in sports.

There has been sustained evidence that yogasana training may not help some of the state level swimmers' chosen demographic characteristics improve.

Swimming is regarded as one of the best workouts to improve a person's health and fitness. However, because swimmers must perform in the water, a variety of factors affect both athletic performance and competitive swimming. Swimmers and athletes must therefore increase their maximal level of lung function, leg and shoulder strength, and physical fitness to the level needed for swimming. The findings of the current study showed that yogasana training might enhance swimmers' performance in the 100-M ($p=0.0$, $p0.01$) and 100-M sprint ($p=0.02$, $p0.05$) distance races in addition to strengthening their shoulders and legs.

This process appears to have the potential to improve swimming and athletic performance.

Therefore, it is possible that the presence of such a finding was obvious in this piece of study and consequently influenced the overall performance of the state level swimmers and athletes. Yogasana training programme would therefore contribute to improving the state level players' performance abilities, according to the research hypothesis.

CONCLUSION

Demographical data suggests that yogasana training has no effect on the swimmers' age or height. The results show that yoga training improved shoulder and leg capacity and simultaneously decreased performance time in the case of the swimmers' performance ability. Improves swimming performance in the 100-meter sprint and 100-meter freestyle races.

REFERENCES

1. Bell, G. J., Marshall, D., and Alentejano, T. C. (2012). A comparison of synchronized swimmers' and untrained women's physiological reactions to underwater breath holding and arm cranking. *J. Hum. K.* 32, 147
2. J. Armour, P. M. Donnelly, and P. T. Bye (1993). Elite swimmers' huge lungs: an elevated alveolar count? 237–247 in *European Respiration Journal*, 6(2).
3. T. M. Barbosa, R. Fernandes, K. L. Keskinen, P. Colaço, C. Cardoso, J. Silva, & J. P. Vilas-Boas (2006). Analysing the energy costs of competitive swimming techniques. *Inter J Sports Med.*, 27(11), 894–899.
4. The authors are Beutler, E., Beltrami, F. G. . Effects of frequent yoga practise on athletic performance and respiratory control. 11(4) of *PLoS One*: e0153159.
5. Ramanathan, M., Trakroo, M., and Thirusangu, S. (2016). Bhavanani, A. B. effects of a single yoga relaxation session on heart rate and blood pressure in a transgender population. *Int J Physiol*, 4:17–31.
6. R. L. Bijlani (2004). Asanas, Pranayamas, and Kriyas are examples of yogic practises.
7. Bijlani RL, editor. Third edition of *Understanding Medical Physiology*.
8. Ventilation control in top-tier synchronised swimmers. 1019–1024 in *Journal of Applied Physiology*, 63(3).

Corresponding Author

Mr. Amlan Jyoti Borkuch*

Student, Amity University