International Journal of Physiology, Sports and Physical Education

ISSN Print: 2664-7710
ISSN Online: 2664-7729
Impact Factor: RJIF 8.00
IJPSPE 2024; 6(1): 78-80
www.physicaleducationjournal.net
Received: 07-02-2024
Accepted: 11-03-2024

Dr. Amandeep Singh
Associate Professor, Department of Physical Education, Guru Nanak Dev University, Amritsar, Punjab, India

Gagandeep Singh
Assistant Professor, Department of Physical Education, Guru Nanak Dev University, Amritsar, Punjab, India

Corresponding Author:
Gagandeep Singh
Assistant Professor, Department of Physical Education, Guru Nanak Dev University, Amritsar, Punjab, India

Effects of Sitali pranayama technique on resting pulse rate of university students

Dr. Amandeep Singh and Gagandeep Singh

DOI: https://doi.org/10.33545/26647710.2024.v6.i1a.67

Abstract
The current study set out to examine how university-level students analysed the effects of pranayama method on physiological parameters. In 2024, thirty university-level students from Guru Nanak Dev University in Amritsar, Punjab, India were chosen in order to fulfil the study's objectives. The age range of the subject is 18 to 25. The chosen pupils were split into two equal groups, the experimental group and the control group, each with fifteen male students. For eight weeks, the experimental group followed a pranayama programme. Throughout the trial, the control group did not get any training. In this study, the resting pulse rate served as the criteria variable. The resting pulse rate of the chosen participants was assessed using.
The radial artery at the thumb side of the wrist, about an inch from the base of the thumb, was measured using the fingertips of the chosen subjects during their resting pulse rate test. A pre-test was administered prior to the training session, and a post-test was conducted right away following the eight-week training period. Methods of Statistics The means of the pre- and post-test data for the experimental group and the control group were analysed using the "t" ratio. The findings showed that the criterion variable had a substantial difference. The difference is found due to pranayama given to the experimental group on resting pulse rate when compared to control group.

Keywords: Pranayama, Resting Pulse Rate and ‘t’ ratio

Introduction
The benefits of yoga are universal and extend to all age groups. For the philosophically inclined, the study of yoga is fascinating. It is defined as the total realisation of the inherent qualities of the Supreme Being through the silencing of the mind's activities. An essential topic that considers man as a whole is practical holistic philosophy intended to bring about profound state as well. Developing strategies and techniques for improved mental and emotional focus is the goal of yoga. (Malhotra Ajay, 2011) [7]. Sports are becoming an integral element of our culture. All of our social institutions including those related to education, the economy, the arts, politics, the law, mass media, and even foreign diplomacy-are impacted by it and continue to be so. Its scope is quite amazing. Yoga is a set of physical and mental activities that promotes spiritual understanding and calmness. In 2019, K. Alaguraja and colleagues by transforming the human mind and body in a comprehensive manner, yoga therapy, which incorporates asanas and pranayama, is rapidly becoming recognised as an effective preventative measure against physical and psychological problems (Uma & Nagendra, 1989) [9]. (Jackson, 2004) [5]. Yoga is a disciplined pursuit of self-actualization through the awakening of one's own potential. Through this method, the flaws and restrictions can be eliminated, creating a superhuman race. (Vrinte, 2002) [6].Yoga is practiced by helping individuals of all ages. Philosophers find yoga, which is described as the total realisation of the inherent character of the Supreme Being through the silencing of the mind's activities, to be a fascinating subject to study. K. Alaguraja and colleagues (2017) [1] the receptivity of awareness is the foundation of Yoga Nidra science. (Yoga and others, 2018) [3]. A medical condition known as obesity occurs when there is an accumulation of extra body fat that could be harmful to health and cause a decrease in life expectancy or an increase in health issues (WHO 2000) [10].

Statement of the problem
The study's goal was to ascertain how pranayama affected on resting pulse rate among university level Students.

Research Methodology
Selection of subjects
The study's goal was to determine how university students' use of the pranayama technique affected their physiological parameters. Thirty university students were randomly chosen as study subjects in order to meet this goal. The individuals' ages ranged from 18 to 25 years old.

Selection of variable
Independent variable: Pranayama Technique

Dependent variable: Resting Pulse Rate

Experimental design and implementation
The chosen participants were split into two equal groups, each consisting of fifteen participants, for example, an Experimental Group for pranayama practice and a Control Group. For eight weeks, the experimental group practiced pranayama three days a week. Control group: aside from their curriculum-required routine physical exercises, they did not participate in any extra training programmes. The physiological characteristic that was chosen as the criteria variable was the resting pulse rate. Every participant in the two groups underwent testing on a chosen criteria variable. Prior to and right after the training programme, the resting pulse rate was recorded by placing the fingertips on the radial artery at the thumb side of the wrist, about an inch from the base of the thumb test.

Statistical technique
To analyse any significant differences between the groups, if any, the "t" test was employed.

Level of significance
To test the level of significance that was deemed adequate, the 0.05 level of confidence was fixed.

Analysis of the data
The pre-test revealed the relevance of the variation in the experimental group's means. After the data were processed, a dependent "t" test was performed with confidence values of 0.05.

Table 1: Analysis of t-ratio for the Pre and Post Tests of Experimental and Control Group on resting pulse rate Scoring (Number of Beats/one minutes)

Variables	Groups	Standard Deviation		Sd Error	
		Pre	Post	Pre	Post
Resting Pulse Rate	Control Group	3.90	4.46	1.00	1.15
	Experimental Group	4.12	3.96	1.06	1.02

Table 2: Mean values of pre-test and post-test of the control group on Resting pulse rate were 81.40 and 81.20 respectively

Variables	Groups	Mean		Degree of Freedom	"t" ratio
		Pre	Post		
Resting Pulse Rate	Control Group	81.40	81.20	14	0.53
	Experimental Group	81.13	75.87	14	25.53*

Significance at .05 level of confidence
The Table-II shows that the mean values of pre-test and post-test of the control group on Resting pulse rate were 81.40 and 81.20 respectively. The obtained 't' ratio was 0.53, since the obtained 't' ratio was less than the required table value of 2.14 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of the experimental group on Resting pulse rate were 81.13 and 75.87 respectively. The obtained 't' ratio was 25.53* since the obtained 't' ratio was greater than the required table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in resting pulse rate. It may be concluded from the result of the study that experimental group improved in resting pulse rate due to eight weeks of pranayama practice.

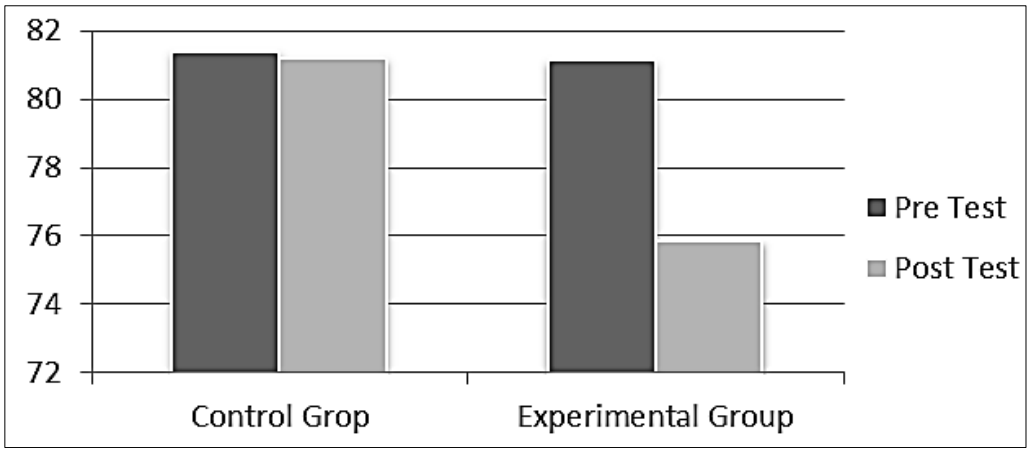

Fig 1: Bar Diagram Showing the Pre and Post Mean Values of Experimental and Control Group on Resting Pulse Rate (Score in Seconds per Minute)

Discussions on Findings

The result of the study indicates that the experimental group, namely pranayama practice group had significantly improved the selected dependent variable, namely Resting pulse rate, when compared to the control group. It is also found that the improvement caused by pranayama practice when compared to the control group.

Conclusions

- There was a significant difference between experimental and control group on Resting pulse rate after the training period.
- There was a significant improvement in Resting pulse rate. However the improvement was in favor of experimental group due to Eight weeks of pranayama practice.

References

1. Alaguraja K, Yoga P. Influence of yoga asana practice on flexibility among obese adolescent university students. Int J Yoga Physiother Phys Educ. 2017;2(7):70-71.
2. Alaguraja K, Yoga P. Effect of yogic practice on resting pulse rate among college students. Indian J Appl Res. 2019;9(7):43-44.
3. Alaguraja K, Yoga P. Effect of core stability training on dynamic strength among college male students. Int J Yogic Human Mov Sports Sci. 2018;3(2):436-437.
4. Alaguraja K, Yoga P, Balamuralikrishnan R, Selvakumar K. A scientific study on efficacy of yogic package on resting pulse rate among obese school students. J Inf Comput Sci. 2019;9(8):483-487. DOI:10.12733.JICS.2019.V9I7.535569.0957.
5. Jackson C. Healing ourselves, healing others: first in a series. Holist Nurs Pract. 2004;18(2):67-81.
6. Vrinte J. The perennial quest for a psychology with a soul: An inquiry into the relevance of Sri Aurobindo's metaphysical yoga psychology in the context of Ken Wilber's integral psychology. Delhi: Motilal Banarsidass Publ; c2002.
7. Malhotra A. Structural yoga; Structural Components of Yoga; c2011.
8. Belfry GR, *et al*. Effects of 14 sessions of short-duration high-intensity exercise on resting pulse rate and performance time of high-intensity cycling. Can Cent Act Aging Sch Kinesiol Univ West Ont Lond J Inf Comput Sci. 2003;9(8):549.
9. Uma K, Nagendra HR, Nagarathna R, Vaidehi S, Seethalakshmi R. The integrated approach of yoga: a therapeutic tool for mentally retarded children: a one-year controlled study. Journal of Intellectual Disability Research. 1989 Oct;33(5):415-21.
10. World Health Organization. The world health report 2000: health systems: improving performance. World Health Organization; c2000.