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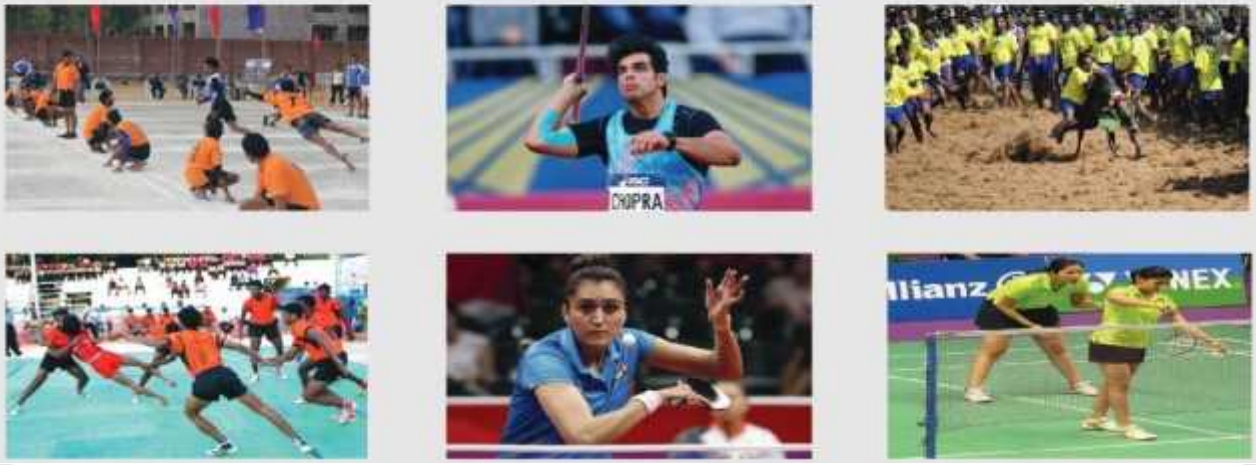

BHARATHIAR NATIONAL JOURNAL OF PHYSICAL EDUCATION AND EXERCISE SCIENCES

BNJPEES

DOUBLE – BLIND REFERRED JOURNAL

DEPARTMENT OF PHYSICAL EDUCATION
BHARATHIAR UNIVERSITY
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From the Editors' Desk

Whilst we are striving hard to manage the new normal post Covid pandemic, there is a great realisation on health fitness and wellness. The department of Physical Education, Bharathiar university with societal responsibility publishes this 10th volume of 'The Bharathiar National Journal of Physical Education and Sports Sciences'. Inspite of the pademic break the editorial team had put in tremendous efforts to bringout this volume of research works and articles.

The Bharathiar National Journal of Physical Education and Exercise Science (BNJPEES) is an open access quarterly journal, double blind refreed journal with ISSN – 0976-3678 which publishes original articles, commentary, editorials, review articles and case reports covering recent innovative high quality researches on sports published by the Department of Physical Education, Bharathiar University Coimbatore since June 2010. The purpose of this journal is to enrich the field of physical education and sport with literary base dynamic latest research and articles. The field of sport and physical education with its dynamic nature needs a literary back up to keep the masses informed of the latest changes that are happening across this field. Since the Sports Climate is experiencing a wide range of change and is very much essential that we stretch ourselves to meet the key challenges on sports and games. Since the inception of the new editorial team from 2019, the journal has been upgraded online to increase the vicinity across the globe and provide a wider citation oppurtunity scling up research heights. The journal has been indexed with google scholar, world cat, core and road.

We appreciate the research scholars for stepping forward to get their works published in our university journal.. After though plagarism check using Ithenticate and Turnitin, the articles are subjected to a double blind refree system for review. Based on the reviewers report the articles are accpeted. Being We are also working hard towards quality control of the articles in par with the international standards.

From the editorial desk we submit to you that BNJPEES, with immense pleasure is working for the development of research in the field of Physical eduaction and sports sciences which is the need of the hour. We encourage the authours to submit evidence based realtime research results which would benefit the society.



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Survey of Job Satisfaction among Physical Education Teaching Profession

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Abstract

Analyze the Survey of Job Satisfaction among the Physical Education Teaching Profession. To achieve the purpose of the study 80 college Physical Education Teaching Profession from Tamil Nadu Physical Education Sports University, Chennai affiliated colleges will be selected for the subjects at randomly. The purpose of the study was the survey of job satisfaction among physical education teaching profession. The subjects were selected from Government, Aided, Autonomous and Self-finance Colleges of Physical Education Teaching Profession. The age of the subjects were ranged from twenty five to sixty two years. The data were collected from the subjects by using Job Satisfaction Scale Questionnaire prepared by Dr. Amar Singh and Dr. T.R. Sharma. The Job Satisfaction Scale Questionnaire will be contained the following factors namely job concrete, job-abstract, psycho-social, economic, community. The result of the study was the physical education teaching professions were higher in psycho-social factor and they were lesser in economic factor. From this survey of study physical education professions were not satisfactions in economically than the other factor.

Keywords: Job Satisfaction, Physical Education Teaching Profession, survey

INTRODUCTION

Teacher job satisfaction is a multifaceted construct that is crucial to teacher commitment, teacher retention, and school effectiveness. Teacher satisfaction is also an essential link in the chain of education reform. Teacher satisfaction influences job performance, and eventually student performance (N. Johansson, 2004)

Job satisfaction is a widely accepted psychological aspect of functioning in any profession. The credit of bringing this term into currency goes to Hoppock. He reviewed a little over thirty contemporary studies and concluded that tho' there was much opinion about job satisfaction yet there was not much factual work done in the field. The summon bonus of the opinions is that job satisfaction is a favorableness with which workers view their job. It results when there is a fit between job requirements and the wants and expectations of employees. In other words, it expresses the extent of match between worker's

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expectations (also aspirations) and the rewards the job provides and the values it creates and gets cherished**.** (Graca Maria, 2002)

For a number of years, also teacher job satisfaction has been recognized as extremely important for implementing any type of education reform, for involving the teacher in life-long learning, for the quality of the teaching-learning process, and for satisfaction with life in general.

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METHODOLOGY

Research methodology involves the systematic procedure by which researcher starts from the initial identification of the problem to its final conclusions. The role of the methodology is to carry on the research work in a scientific and valid manner. To achieve the purpose of the study 80 college Physical Education Teaching Profession from Tamil Nadu Physical Education Sports University, Chennai affiliated colleges will be selected for the subjects at randomly. The purpose of the study was the survey of job satisfaction among physical education teaching profession. The subjects were selected from Government, Aided, Autonomous and Self-finance Colleges of Physical Education Teaching Profession. The age of the subjects were ranged from twenty five to sixty two years.

SELECTION OF VARIABLES AND TEST

The criterion variable was selected for this study job satisfaction of Physical Education Teaching Profession variable and the test are given in table I

TABLE I Selection of Variables and Tests

VARIABLE	TEST (or) TOOLS
Job Satisfaction	Job Satisfaction Scale Questionnaire

Procedure for Collecting Data and Scoring Procedure

The typed questionnaire was personally handed over to the subjects, requesting them to go through the

questionnaire carefully and fill all the details. The questionnaires were given to the subjects and they have taken their own time to fill up the questionnaires and were finally collected. The collected data were classified and completed under given different tables in order to a better understanding. Finally a critical analysis was taken up so as to arrive at definite conclusions. It was assured to the subjects that their response would be kept confidential and therefore they could give honest responses. The scale has both positive and negative statements. Items at Sr. No.4, 13,20,21,27 and 28 are negative, others are all positive. The positive statements carry a weightage of 4, 3, 2, 1, and 0 and the negative ones a weightage of 0,1,2,3, and 4. The total score gives a quick measure of satisfaction / dissatisfaction of a worker towards his job.

RESULTS AND DICUSSION

The collected data were classified and completed under given table II in order to a better understanding.

DISCUSSION ON FINDINGS

Figure I shows that the values of Job Satisfaction of physical education teaching profession.

TABLE II Mean Minimum and Maximum of Job Satisfaction Scores for Physical Education Profession

VARIABLES	MEAN	MINIMUM	MAXIMUM
Job Concrete	13.06	8	20
Job-abstract	14.82	7	19
Psycho-Social	17.75	13	23
Economic	7.08	2	12
Community	12.18	8	19

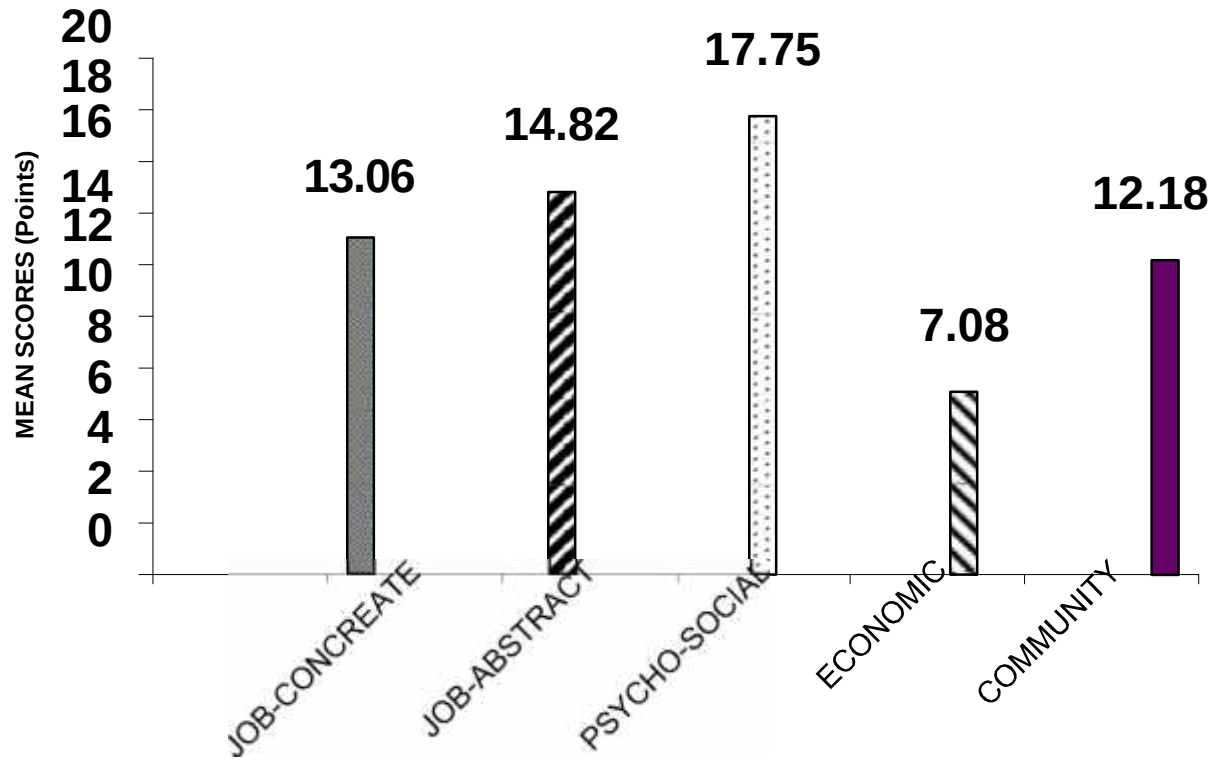

Figure I: Mean Scores of Job Satisfaction for Physical Education Profession

The result of the study was the physical education teaching professions were higher in psycho-social factor and they were lesser in economic factor.(De Cuyper N (2009), Barth RP et al., (2008), Taylor IM (2008), Lindfors PM et al., (2007), Bernabeu-Wittel M, (2005), Macdonald D (1999) From this survey of study physical education professions were not satisfactions in economically than the other factor.

CONCLUSION

On the basis of the results obtained graphical representation of the data on Job satisfaction among Physical Education Teaching Profession were shown. Within the limitation of the present study the following conclusion was drawn.

The result of the study was the physical education teaching professions were higher in psycho-social factor and they were lesser in economic factor. From this survey of study physical education professions were not satisfactions in economically than the other factor.

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BHARATHIAR NATIONAL JOURNAL OF
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ASSESSMENT ON FLEXIBILITY AMONG TEACING STAFFS OF BHARATHIAR UNIVERSITY AND INFLUENCE OF SELECTED YOGIC PRACTICE ON THEM

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Abstract

This study was designed to assess the flexibility among teaching staffs of Bharathiar University and influence of selected yogic practice on them. To achieve the purpose of the study 300 teaching staffs were selected from Bharathiar University, Coimbatore. Flexibility was assessed by sit and reach test. Out of 300 subjects 195 subjects' possess optimum flexibility and remaining 105 subjects do not possess the required flexibility. Forty subjects with poor range (-20 to -9) were selected randomly and assigned them into two equal groups (n=20). Group- I underwent yogic practice and Group - II acted as control group (CG). The training was given to the experimental group for 3 days per week (Monday, Wednesday and Friday) for the period of eight weeks. The control group was not given any sort of training except their routine work. The data collected from the subjects was statistically analysed with't' ratio to find out significant improvement if any at 0.05 level of confidence. The result speculated that the flexibility of the teaching staffs improved significantly due to influence of yogic practice with the limitations of (diet, climate, life style) status and previous training the result of the present study coincide findings of the investigation done by different experts in the field of sports sciences. From the findings it is postulated that yogic practice is suitable mode to bring out desirable changes over flexibility of teaching staffs.

Keywords: Yogic practice, flexibility..

INTRODUCTION

Yoga is becoming popular in different parts of the world. For the restless mind, it gives solace. For the sick, it is a boon. For a common man, it is the fashion of the day to keep him fit and beautiful. Some use it for developing memory, intelligence and creativity. With its multifold advantages, it is becoming a part of education. Specialists use it to unfold the deeper layers of consciousness in their move towards

perfection. Because of its rational basis, the modern medical system has replaced almost all traditional systems of medicine in different parts of the globe. It has proved itself most effective in saving man from the fatal hands of contagious and infectious diseases. However, new widespread psychosomatic ailments are posing a great challenge to the modern medical systems. It is here that yoga appears to make a vital contribution to the modern medical system **(Nagendara, 2005).** The ability to move each joint through a full range of motion without undue strain is essential for efficient execution of many everyday tasks**.**

METHODOLOGY

To achieve the purpose of the study 300 teaching staffs were selected from Bharathiar University, Coimbatore. Flexibility was assessed by sit and reach test.

Out of 300 subjects 30 subjects were in the range of >+20 (super), 35 subjects were in the range +17 to +27 (excellent), 55 subjects were in the range of +6 to +16 (good), 75 subjects were in the range of 0 to +5 (average), 30 subjects were in the range of -8 to -1 (fair), 50 subjects were in the range of -20 to -9 (poor) and 25 subjects were in the range of <-20 (very poor). Forty subjects with poor range (-20 to -9) was selected randomly and assigned them into two equal groups (n=20). Group- I underwent yogic practice and Group - II acted as control group (CG). The training was given to the experimental group for 3 days per week (Monday, Wednesday and Friday) for the period of eight weeks. The control group was not given any sort of training except their routine work.

Expected Scores table (Flexibility) Top end Sports

	men/cm	women/cm
Super	>+27	>+11.5
Excellent	+17 to +27	+8 to +11.5
Good	+6 to +16	+4.5 to +7.5
Average	0 to+5	+0.5 to +4.0
Fair	-8 to -1	-2.5 to 0
Poor	-20 to -9	-6 to -3.0
Very poor	<-20	<-6.0

TRAINING PROGRAMME

The training programme was lasted for 45 minutes for session in a day, 3 days in a week for a period of 8 weeks duration. These 45 minutes included 5 minutes warm up, 35 minutes yogic practice and 5 minutes warm down. Every two weeks of training 5% of intensity of load was increased from 55% to 80% of work load. The volume of yogic practice is prescribed based on the number of sets and repetitions. The yogic practice is the length of the time each action is held for and the number action in total 3 day per weeks (Monday, Wednesday and Friday). The

selected subjects underwent regular physical exercise on other 3 days (Tuesday, Thursday, and Saturday). The collected data on above said variables due to the influence of yogic practice was statistically analyzed with‘t’ test to find out the significant Improvement between pre and posttest. In all cases the criterion for statistical significance was set at 0.05 level of confidence. (P < 0.05).

Table reveals the computation of mean, standard deviation and‘t’ ratio on flexibility of experimental and control group. The obtained‘t’ ratio of experimental group was 4.06, since the obtained t values were greater than the table value 2.093 though it was found statistically significant. The obtained‘t’ ratio of control group was 1.75, since the obtained t values were lesser than the table value 2.093 though it was found statistically insignificant for the degrees of freedom 19 at the 0.05 level of significance.

TABLE- I COMPUTATION OF ‘t’ RATIO ON FLEXIBILITY AMONG TEACHING STAFFS OF BHARATHIAR UNIVERSITY EXPERIMENTAL GROUP AND CONTROL GROUP

GROUP	VARIABLE		Mean	N	Std. Deviation	Std. Error Mean	‘t‘ ratio
Experimental Group	Flexibility	Pre test	11.05	20	2.01	0.45	4.06*
		Post test	11.06	20	2.13	0.47	
Control Group	Flexibility	Pre test	11.40	20	2.01	0.44	1.75
		Post test	11.15	20	1.75	0.38	

*significant level 0.05 level (degree of freedom 2.093,1 and 19)

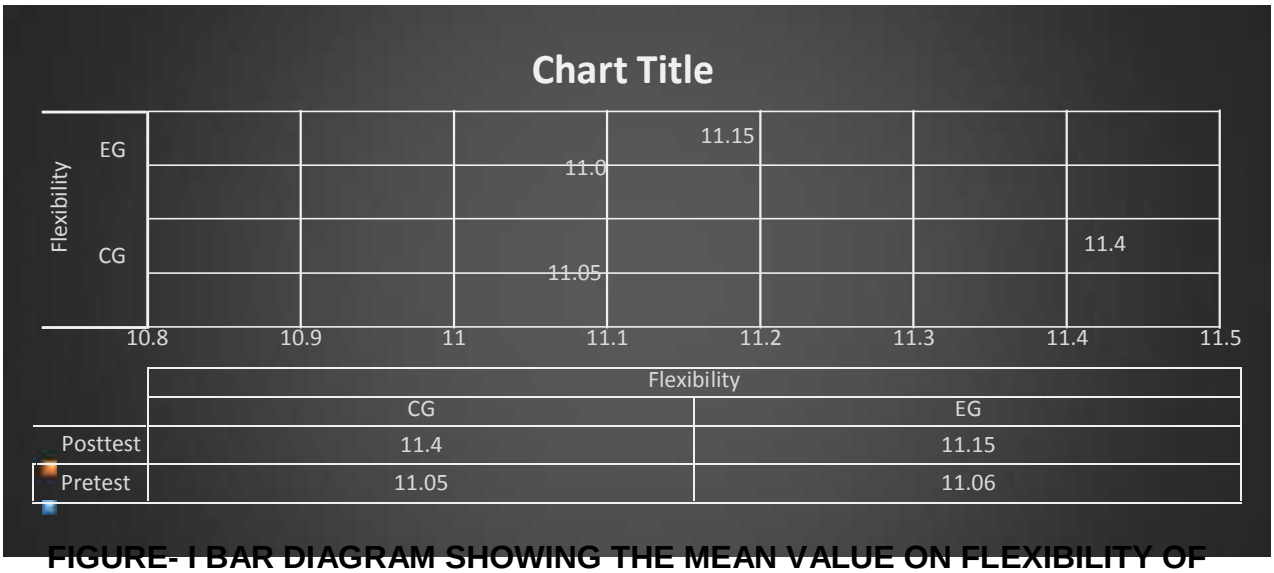

FIGURE- I BAR DIAGRAM SHOWING THE MEAN VALUE ON FLEXIBILITY OF EXPERIMENTAL GROUP AND CONTROL GROUP

DISCUSSION AND FINDINGS

The present study experimented the impact of 8 weeks yogic practice significantly improved flexibility among teaching staffs of Bharathiar University. The results of this study indicated that yogic practice training is more efficient to bring out desirable changes over the non-sports men. The finding of the present study had similarity with the findings of the investigators referred in this study. **Bal** *et al., (*2009) determined the effects of selected asanas in hatha yoga on agility and flexibility level and the results have shown the significant improvement in flexibility. The treatment of six week yogasanas training programme also shown significant improvement in case of agility. **Sethu** (2016) examined the effect of Suryanamaskar on joint flexibility among school volleyball players and It was concluded that, there was a significant improvement takes place on ankle and wrist flexibility and also there was a significant difference exists between experimental and control groups on ankle and wrist flexibility. **Ratnesh Singh** *et al.,(*2016**)** determined the effect of Suryanamaskar training on flexibility of Cricket players and the result of the study showed that there was significant difference between pre and post test flexibility of Cricket players. **Vallimurugan** *et al.,(*2016**)** investigate the effect of variations of yogic practices on BMI and flexibility among the obese men. The results showed Suryanamaskar with

Pranayama practice Group (SPPG), Suryanamaskar with Meditation practice groups significantly decreased in BMI; however no changes of BMI in the control group and not showed any significant improvement. The flexibility increased due to Suryanamaskar with Pranayama group, Suryanamaskar with Meditation practice group. **Anurodh** (2017) determine the effect of Surynamaskar on flexibility and to compare effect of different pace of Suryanamaskar on flexibility. There was significant difference between experimental group (pace 2) and control group as well as between experimental group (pace2) and control group and there was also a significant difference found between experimental (pace 2) and experimental (pace 4) group on flexibility.

CONCLUSIONS

Based on the result of the study it was concluded that the 8 weeks of yogic practice have been significantly improved flexibility of teaching staffs of Bharathiar University. From the findings it is postulated that yogic practice is suitable mode to bring out desirable changes over flexibility of teaching staffs.

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Effect of Yoga Training on Haematological Variables of Deaf and Dumb Students

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Abstract

The purpose of the study was to find out the Effect of Yoga Training On Haematological variables such as hemoglobin and blood clotting time of Deaf and Dumb students. For this study, twenty four deaf and dumb students from C.S.I. High School for the deaf and dumb, Sivakasi and their age ranged from 12 to 15 years were selected randomly as subjects. The selected subjects were divided into two groups namely Group I for Experimental group underwent yoga training and Group II acted as a control group. The data were collected from each subject before and after the training period and statistically analyzed with dependent 't' test and analysis of covariance (ANCOVA). It was found that there was a significant improvement in the percentage of hemoglobin due to the eight-week yogatraining.

Keywords: Yoga, Effects of Yoga, Haematological,

INTRODUCTION

"Yoga has complete message for humanity
Yoga has a message for the human body".

- Swami Kuvalayananda

The body is the temple of Soul and to reach a harmony of the mind, body and spirit, the body must be physically fit. The human body is built for physical activity and movement. Throughout the ages, man has had to be physically active in order to procure his daily food to succeed in the battle for survival. Every individual physical activity is essential for harmonious physical and mental development.

METHODOLOGY

Research methodology involves the systematic procedure by which researcher starts from the initial identification of the problem to its final conclusions. The role of the methodology is to carry on the research work in a scientific and valid manner. The investigator will be select twenty four deaf and dumb Students C.S.I.High School for the deaf Sivakasi as subject at random. As per school records by age is 12 to 15 years old. The students divided into two groups, each group consist of 12 students. The students were

selected in randomly. Group I will undergo yoga training and group II acted as a control group who will not participate in any experimental training during the training period other than their dailyroutine.

SELECTION OF VARIABLES

- Hemoglobin - Shali's Method

SELECTION OF ASANAS FOR TRAINING

Standing Asanas

- Tadasana
- Vrukshanasana

Sitting Asanas

- Padmasana
- Matsyasana
- Vajrasana
- Supta Vajrasana
- Shashankasana
- Paschirmottanasana

Inversion Asanas

- Sirshasana

Prone Position Asanas

- Salabhasana
- Dhanurasana
- Bhujangasana

Supine Position Asanas

- Sarwangasana
- Halasana
- Chakrasana
- Sharasana

RESULTS AND DICUSSION

The data collections from the yoga training group and control group prior and after the experimentation on selected criterion variables and statistically examined by using dependent't' test and Analysis of co-variance (ANCOVA) was used to determine the differences. In all the cases to test the significance, 0.05 level of confidence was used.

Table I Summary of Means and Dependent 't' test for the Pre and Post test on criterion variables of Yoga training group and control group

Criterion Variables	Mean and 't' test	Yoga Group	Control Group
Hemoglobin	Pre test	7.7 +/_ 1.3342	9.1667+/_1.2950
	Post test	9.7917+/_1.8730	9.1833+/_1.4788
	't' test	2.733*	.883

- Significant at 0.05 level of confidence (Table value required for significant at .05 level for 't' test with df 22 is 2.07)

Table II Analysis of Covariance on Criterion Variables of Yoga Training Group and Control Group

Criterion Variables	Adjusted Post test means		Source of Variance	Source of Squares	df	Mean of Squares	'F' - Ratio
	Yoga Group	Control Group					
Hemoglobin	7.614	8.940	B	4.916	1	4.916	16.586*
			W	.608	21	.296	

- Significant at 0.05 level of confidence

(The table value required for significance at 0.05 level with df 1 and 21 is 3.47)

From the table I the dependent 't' test values of hemoglobin of Yoga training group was greater than the table value 2.07 with df 22 at .05 level of confidence. It is conclude that Yoga training group had significant improvement in the performance of hemoglobin when compared with control group.

From the table II the 'F' ratio of hemoglobin for adjusted post test mean was more than the table value of 3.47 for df 1 and 21 required for significance at 0.05 level of confidence. The result of the study indicate that there was a significant difference among adjusted post test means of Yoga training group on the hemoglobin due to the effect of yoga training.

CONCLUSIONS

Based on the results obtained by statistical analyses of the data the following conclusion was drawn.

1. There was a significant difference found in hemoglobin variable between yoga training group and control group.

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BHARATHIAR NATIONAL JOURNAL OF
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Influence of yogasanas and Swiss ball training on selected physiological variables of college students

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Abstract

The purpose of the study was to find out the influence of yogasanas and Swiss ball training on selected physiological variables of college students, For the purpose of the study, 24 college men were selected as subjects randomly from YMCA College of Physical Education, Chennai. These students did not undergo any special training or coaching programme apart from their regular routine physical activity. The subjects were aged from 21 to 27. the selected subjects were divided into two equal groups namely experimental and control groups of 12 subjects each. The training period was limited to six weeks and for five days per week. The asanas followed by swiss ball training is selected as independent variable resting pulse rate, was selected as dependent variable. All the subjects were tested two days before and immediately after the experimental period on the selected dependent variables. The obtained data from the experimental groups and control group before and after the experimental period were statistically analyzed with dependent't' test and analysis of covariance (ANCOVA). The level of confidence was fixed at 0.05 level for all the cases to test the hypothesis.The result of the study showed that experimental group there was a significant improvement on selected criterion variable such as, resting pulse rate due to training.

Keywords: Swiss ball Yogasana

1. Introduction

Yoga is one of the physical science which promotes the human life. To-day we live in the computerized world. Mostly the physical work for the human being is reduced, which means loss of physical work will lead to obesity. To reduce such kind of disease and physiological problems yoga is essential. A corresponding mental balance exists between movement and stillness. Yoga teaches that each posture reflects a mental attitude be one of surrender, as in a forward bending asana, or the strengthening. Many authors have written books which offer important and interesting information about yoga. But when it comes for actually practicing of yoga regularly it is very than the useful of books. Essential yoga focuses solely on Hatha yoga known as the "Yoga of activity". Yoga means to "yoke", to "unite" to "link", to "to "connect", or to "merge". As yoke joins two bulls together. Yoga joins body and mind together. The merger of soul with god and the experience of oneness with him is yoga. According to the great sage Patanjali, "The withdrawal of sense organs from their worldly objects and their control is yoga". Kaul (1992).

Methodology

For the purpose of the study, 24 college men were selected as subjects randomly from YMCA College of Physical Education, Chennai. who were not participating in any of the special training or coaching programme. The subjects were aged from 21 to 27.

The subjects chosen for the study were divided into two experimental groups, each group consisting of 24 subjects. Experimental groups were assigned yogic practices. The data was collected for the selected physiological variables first at the beginning (pre-test) and

finally at the end of the experimental period of six weeks (post-test).

Analysis and interpretation of the data

All the subjects of two groups were tested on selected dependent variables before and after the treatment. The data pertaining to the variables in this study were examined by using dependent t-test to find out significant improvement and analysis of covariance (ANCOVA) for each variable separately in order to determine the differences if any among the adjusted post test means. The level of significance was fixed at 0.05 level of confidence for all the cases.

The table I shows that, the obtained t-ratio between the pre and post test means of experimental and control group are 6.034and 1.005respectively. The table values required for significant difference with df 11 at .05 level is 2.201. Since, the obtained 't'- ratio value of experimental and control group on resting pulse rate is greater than the table value 2.210, it is concluded that the yogic training followed by swiss ball training significantly improved of experimental and control group. Analysis of covariance (ANCOVA) resting pulse rate of experimental and control group have been analyzed and presented in Table IV.

Table I The summary of mean and dependent 'T' - test for the pre and post tests on resting pulse rate of experimental and control groups

Group	Number	Mean		t-value
		Pre test	Post test	
Experimental Group	12	66.933	76.733	24.70*
Control Group	12	63.533	76.800	11.42*

* Significant at .05 level $t_{(.05)}(11) = 2.201$ (resting pulse rate scores in seconds)

Table- II Analysis of variance on resting pulse rate of experimental and control groups

Adjusted Post Test Means		Source of Variance	Sum of Squares	Df	Mean Squares	'F'- Ratio
Experimental Group	Control Group					
67.481	72.852	Between Within	153.67 349.86	1 21	153.67 12.97	11.86*

*significant at 0.05 level (The table value required for significance at .05 level with df 1 and 21 is 4.32)

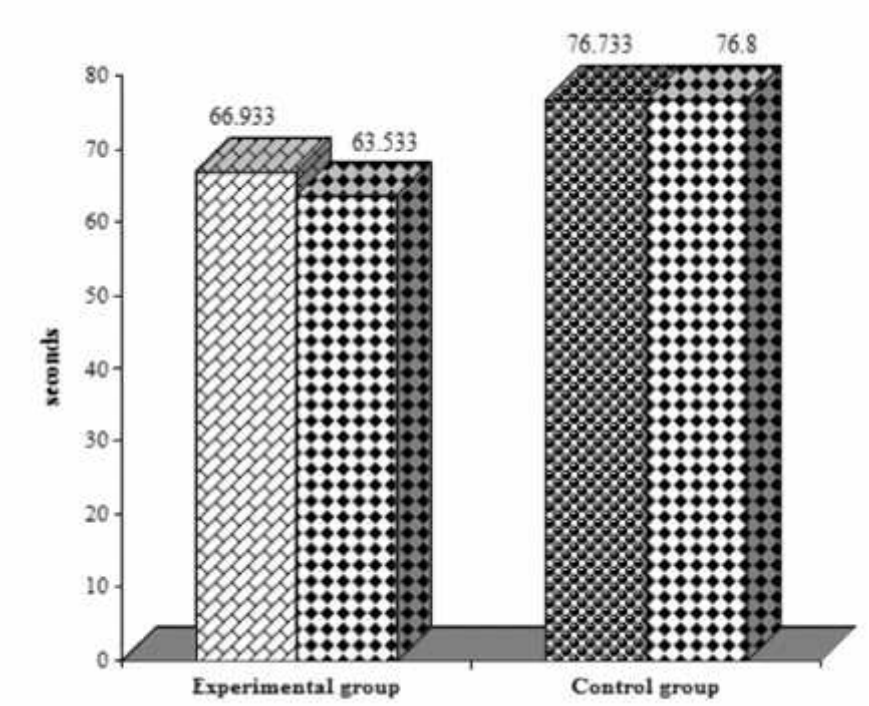

Figure I : Mean values of experimental and control on resting pulse

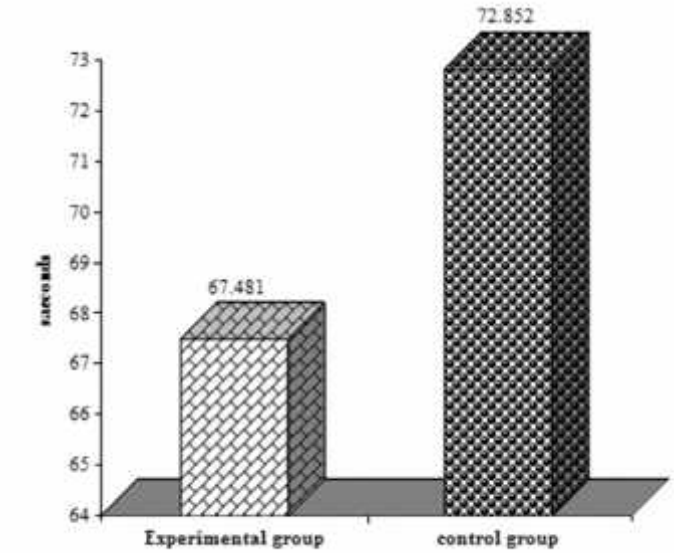

Figure II : Adjusted post test mean values of experimental andcontrol group on resting pulse rate

Table II showed that the adjusted post test mean values on resting pulse rate experimental and control group are 67.481and 72.852 respectively. The obtained F-ratio of 11.86for adjusted post test means is greater than the table value of 4.32ith df 1 and21 required for significance at .05 level of confidence. The results of the study indicate that there is significant mean difference exist between the adjusted post test means of experimental and control group on resting pulse rate

The pre and post test mean values of experimental and control group on resting pulse rate are graphically represented in the figure I. The adjusted post test mean values of experimental and control group on resting pulse rate are graphically represented in the figure II.

Conclusion

The result of the study showed that there was a significant improvement on selected criterion variable such as, resting pulse rate due to training.

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Conflict of interest

None of the authors have any conflicts of interest to declare.

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Study on Factors Motivating Exercise Participation and Psychomotor Between the Students of Professional and Humanities

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Abstract

To achieve the purpose of the students of professional and humanities, The purpose of study was study on motor ability, life style, and motivational exercise participation and psychomotor between the students of professional and humanities. To achieve the purpose of the professional and arts college students, (n=50) were randomly selected from various places in Coimbatore district. Their age ranged from 18 to25years. The motivational aspects were measured with sub- scale retrieved from the revised Exercise Motivations Inventory (EMI-2; Mark Land and Ingle Dew, 1997; Pereira, 2006). The collected data were statistically analysed by "F" test to find out the Conclusion is that data indicate age-dependent motivational factors for exercise engagement that may hold important implications for exercise adherence and engagement strategies. Louw et.al., (2012) examined the exercise motivation and barriers among men and women of different age groups. In testing the mean difference of motivational aspects of exercise psychomotor between the students of professional and humanities, social recognition was statistically significant between the students of professional and humanities. Other aspects namely stress management, revitalization, enjoyment and challenge was statistically not significant among the students of professional and humanities.

Keywords: Stress Management, Revitalization, Enjoyment, Challenge and Social Recognition

1. Introduction

Everybody needs to do exercise regardless of one's age, gender, socio-economic status or even physical or mental capabilities. Exercising can be in the form of sports, going to the gym or merely just walking around the housing area. According to Hornby (2005), the word exercise means activities; bodily activities such as moving the extremities or the trunk and psychological actions that is done in order to maintain health. According to Boucher, Blair and Haskell (2007), exercise is basically considered as a repetitive psychological activity that is done to spend one's free time in order to sustain and increase a person's bodily robustness. Exercise is defined as a planned, structured, and repetitive bodily movement done to improve or maintain one or more components of physical fitness (National Institutes of Health Consensus Development Panel, 1999). Exercise is a physical activity carried out for the sake of health and fitness (Soanes & Stevenson, 2004). Now, the question is does exercise is motivation important in exercising and what usually motivates a person to exercise?.

Methodology

The purpose of the study was to study the motivational exercise participation and psychomotor between the students of professional and humanities. To achieve the purpose of this study (N=50), were randomly selected from various colleges situated in Coimbatore district. Their age were ranged between 18 and 25 years. The motivational aspects were measured with sub- scale retrieved from the revised Exercise Motivation Inventory (EMI-2; Mark Land and Ingle Dew, 1997; Pereira, 2006).

Exercise Motivation Inventory-2 (EMI-2)

Exercise motivational variables are stress management, revitalization, enjoyment, challenge and social recognition.

Table – I Descriptive Statistics and Analysis of Variance on Factors Motivating Exercise Participation

S. No.	Variable	Group	Mean	S.D	F. ratio	Sig.
1.	Stress Management	Professional	13.44	4.81	3.17	0.08
		Humanities	15.72	4.23		
2.	Revitalisation	Professional	10.36	2.83	1.21	0.28
		Humanities	11.32	3.33		
3.	Enjoyment	Professional	14.44	2.81	0.57	0.45
		Humanities	13.72	3.85		
4.	Challenge	Professional	15.36	2.29	0.02	0.88
		Humanities	15.20	4.58		
5.	Social Recognition	Professional	13.12	2.79	5.23*	0.03
		Humanities	15.08	3.25		
6.	Affiliation	Professional	13.12	3.64	1.02	0.32
		Humanities	14.08	3.07		
7.	Competition	Professional	14.20	3.20	0.77	0.39
		Humanities	15.16	4.45		
8.	Health Pressures	Professional	8.68	3.22	4.71*	0.04
		Humanities	10.72	3.42		
9.	Health Avoidance	Professional	11.16	2.59	2.14	0.15
		Humanities	12.20	2.43		
10.	Positive Health	Professional	12.92	1.98	0.88	0.35
		Humanities	12.24	3.05		
11.	Weight Management	Professional	15.72	3.30	0.10	0.76
		Humanities	16.00	3.30		
12.	Appearance	Professional	16.60	2.43	2.90	0.14
		Humanities	15.12	4.25		
13.	Strength and Endurance	Professional	16.00	2.66	0.01	0.91
		Humanities	15.88	4.55		
14.	Nimbleness	Professional	16.00	2.20	0.00	1.00
		Humanities	15.88	3.51		

Table - II Descriptive Statistics and Analysis of Variance on Psychomotor Factors						
S. No.	Variable	Group	Mean	S.D	F. ratio	Sig.
1.	Reaction Time	Professional	0.89	0.21	0.66	0.42
		Humanities	0.93	0.16		
2.	Balance	Professional	6.18	1.33	9.86*	0.00
		Humanities	7.45	1.52		
3.	Coordination	Professional	25.00	2.19	0.21	0.65
		Humanities	25.26	1.92		

Results and Interprets

The present study was to compare the motivational exercise participation and psychomotor between the students of professional and humanities in Coimbatore district. The findings of the present study had similarly referred with the findings of the investigations. Quandary *et.al., (2011)* examined a study on Exercise Engagement Is Differentially Motivated by Age-Dependent Factors. Conclusion is that data indicate age-dependent motivational factors for exercise engagement that may hold important implications for exercise adherence and engagement strategies. Louw *et.al.*, (2012) examined the exercise motivation and barriers among men and women of different age groups. In testing the mean difference of motivational aspects of exercise psychomotor between the students of professional and humanities, social recognition was statistically significant between the students of professional and humanities. Other aspects namely stress management, revitalization, enjoyment and challenge was statistically not significant among the students of professional and humanities.

Conclusion

It was concluded that there has been significant difference on social recognition among the students of professional and humanities of various places in Coimbatore district.

It was concluded that there has no significant difference on stress management, revitalisation, enjoyment and challenge among the students of professional and humanities of various places in Coimbatore district.

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Conflict of interest

None of the authors have any conflicts of interest to declare.

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Effects of aerobic training preceded with proprioceptive neuromuscular facilitation on selected motor ability variables on inter –collegiate women basketball players

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Abstract

The purpose of the study was to find out the effects of aerobic training preceded with proprioceptive neuromuscular facilitation on selected motor ability variables oninter-collegiate women basketball players. To achieve the purpose of the study, sixty women basketball players were selected randomly from affiliated college for Bharathiar University, Coimbatore. The subjects aged from 18 to 25 years. The selected subjects were divided into two equal groups namely experimental-I and control groups of 30 subjects each. The training period was limited to twelve weeks and for six days per week. The aerobic training preceded with proprioceptive neuromuscular facilitation was selected as independent variables and flexibility, muscular strength endurance, arm explosive power, leg explosive power and cardio –respiratory endurance were selected as dependent variables and it was measured by sit and reach, sit-ups, medicine ball throw, stand broad jump, and 12 min run /walk test. All the subjects were tested two days before and immediately after the experimental period on the selected dependent variables. The obtained data from the experimental group and control group before and after the experimental period were statistically analyzed with dependent 't'-test to find out significant improvements. The level of significance was fixed at 0.05 level confidence for all the cases. Significant improvement was found on flexibility, muscular strength endurance, arm explosive power, leg explosive power and cardio –respiratory endurance of experimental group due to the effects of aerobic training preceded with proprioceptive neuromuscular facilitation when compared to the control group.

Keywords: Flexibility, Muscular Strength Endurance, Arm Explosive Power, Leg Explosive Power and Cardio – Respiratory Endurance

1. Introduction

Aerobic training meaning of aerobic with oxygen and refers to the use of oxygen in the body's metabolic system or energy generating process. Aerobic exercises refers to exercise that involves or improve oxygen consumption by the body. Many types of exercise are aerobic, and by definition are performed at moderate levels of intensity for extended periods of time.

Aerobic capacity describes the functional capacity of the cardio respiratory system which includes heart, lungs and blood vessels. Aerobic capacity is defined as the maximum amount of oxygen the body can use during a specified period, usually during intense exercises. It is a function both of cardio respiratory performance and the maximum ability to remove and utilize oxygen from circulating blood.

The recognized benefits of doing regular aerobic exercise are strengthening the muscles involved in respiration, and reducing blood pressure, increasing the total number of red blood cells in the body, facilitating transport of oxygen and improved mental health, including reducing stress and lowering the incidence of depression.

Thus, it can be said that it helps to maintain your overall fitness, on one hand it enables you to have a beautiful fit body and on the other hand, it ensures that your mind remains stress free

Proprioceptive Neuromuscular Facilitation (PNF)

PNF is an abbreviation Proprioceptive Neuromuscular Facilitation. A technique for increasing flexibility which combines muscle tension with passive stretching, also sometimes called isometric stretching.

PNF stretching is currently the fastest and most effective way known to increase static – passive flexibility. PNF is an acronym for proprioceptive neuromuscular facilitation. It is not really a type of stretching but is a technique of combining passive stretching and isometric stretching in order to achieve maximum static flexibility. Actually, the term PNF stretching is itself a misnomer. PNF was initially developed as methods of rehabilitating stoke victims. PNF refers to any of several post- isometric relaxation stretching techniques in which a muscle group is passively stretched, then contracts isometrically against resistance while in the stretched position, and then is passively stretched again through the resulting increased range of motion. PNF stretching usually employs the use of a partner to provide resistance against the isometric contraction and then layer to passively take the joint through its increased range of motion.

It may be performed, however, without a partner, although it is usually more effective with a partner's assistance **(Adams,2010).**

Methodology

For the purpose of this study, altogether sixty women basketball players were chosen on random basis from affiliated colleges for Bharathiar University, Coimbatore. Their age group ranges from 18 to 25 years. They were divided into two groups of 30. The Experimental group would undergo aerobic training preceded with proprioceptive neuromuscular facilitation. The second group Control group. Pre – test and post – test would be conducted. Treatment would be given for twelve weeks. It would be find out finally the effect of aerobic training preceded with proprioceptive neuromuscular facilitation on the basketball players in scientific methods.

The selected tests were measured by following units for testing:

Training Programme

The following schedule of training was given for the aerobic training preceded with proprioceptive neuromuscular facilitation training group.

Criterion Variables	Test Items	Unit Measurements
Flexibility	Sit and reach	Centi Meters
Muscular Strength Endurance	sit-ups	Score in numbers
Arm Explosive Power	medicine ball throw	meters
Leg Explosive Power	stand broad jump	meters
Cardio–Respiratory Endurance	12 min run /walk test	meters

Group	Design of the Training
Experimental Group	aerobic training preceded with proprioceptive neuromuscular facilitationtraining group
Control Group	Did not do any Specific Training
Training Duration	60 Minutes
Training Session	6 Days a week
Total Length of Training	Twelve weeks

TABLE- I Progression of load for experimental group (ATWPNFTG)

Weeks	Aerobic Training (Monday,Wednesday, Firday)	Duration (5+15+30+10=60 min)	Load
I to IV	**Warming up** 1000M Walking / Jogging **Aerobic Exercises** Alternate toe touch Shuttle run Double leg lift Skipping Leg swing forward Hexagon drill **Warming down**	**5 minutes** 15 minutes **30 minutes** **10 minutes**	4 to 8rep x 2 sets
V to VIII	**Warming up** 2000 M Walking /Jogging **Aerobic Exercises** Alternate leg circle Side ward shuttle run Alternate leg thrust Side skipping Donkey kick Hexagon hopping **Warming down**	**5 minutes** 15 minutes **30 minutes** **10 minutes**	8 to12rep x 3 sets
IX to XII	**Warming up** 3000 M Walking /Jogging Shuttle run Double leg lift Skipping Alternate leg thrust Side skipping Donkey kick **Warming down**	**5minutes** 15 minutes **30 minutes** **10 minutes**	12 to15 rep x 4 sets
Weeks	**PNF Stretching Exercises (Tuesday, Thursday, Saturday)**	**Duration (5+15+30+10=60 min)**	**Load**
I to IV	**Warming up** 1000M Walking / Jogging **Wall push ups** **v-sit ups** **trunk lifts** **half squat** **Warming down**	**5 minutes** 15 minutes **30 minutes** **10 minutes**	
V to VIII	**Warming up** 2000 M Walking /Jogging **Knee push ups** **Crunches** **Tummy lying leg lifts** **Flutter kicks** **Warming down**	**5 minutes** 15 minutes **30 minutes** **10 minutes**	8 to12rep x 3 sets
IX to XII	**Warming up** 3000 M Walking /Jogging **Push ups** **90 degree leg scissors** **Incline sit ups** **Combined trunk** **Warming down**	**5minutes** 15 minutes **30 minutes** **10 minutes**	12 to15 rep x 4 sets

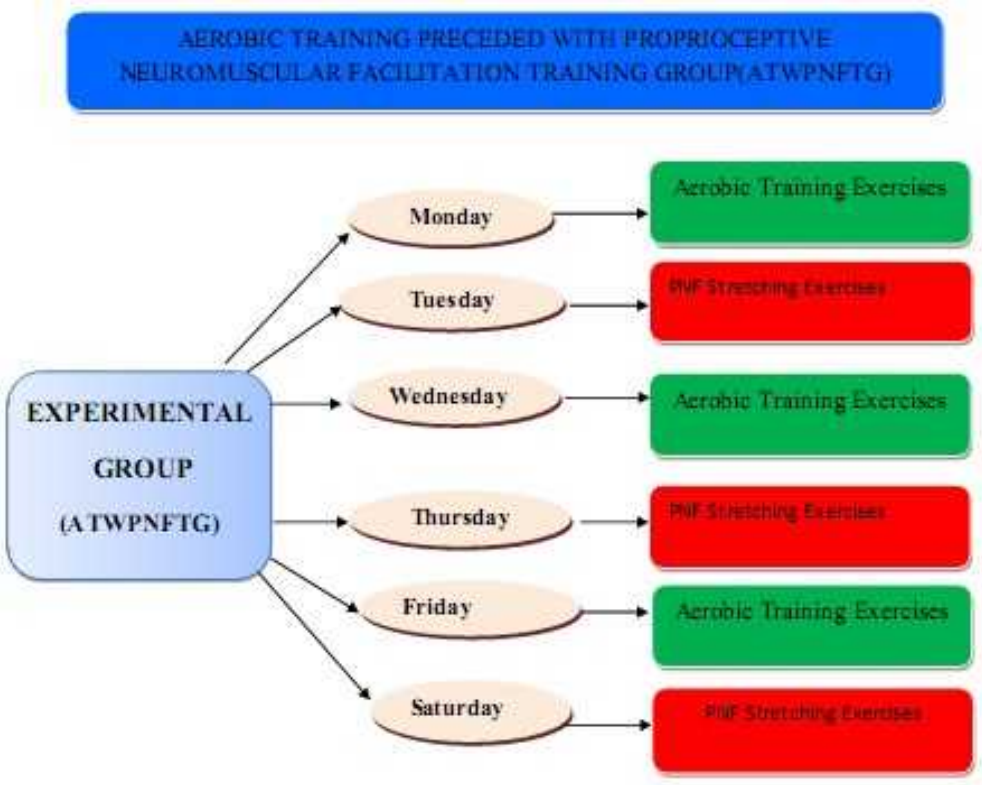

CHART-1 Experimental treatment adopted for experimental

Experimental Design

The experimental group was given aerobic training preceded with proprioceptive neuromuscular facilitation stretching exercises after taking an initial test. After the initial test selected aerobic training with proprioceptive neuromuscular facilitation stretching exercises were given for twelve weeks in all days except Sunday. The time of practice was from 6.00A.M to 7.00 A.M. The control group were not participating in any of the special training programme. However, they were allowed to participate in their regular education classes in the college as per their curriculum.

Statistical Technique

The achieved data since the experimental group and control group previously and subsequently the experimental dated were statistically evaluated with dependent t-test to discovery obtainable significant development. The level of significance was secure at 0.05 level of confidence for all the cases.

Results and Discussions

The effect of independent variables on each criterion variables was considered by dependent 't' – test on the data achieved for flexibility, muscular strength endurance, arm explosive power, leg explosive power and cardio – respiratory endurance. The pre-test and post- test means of experimental group and control group have been analyzed and existing in Table II&III.

The table II and III, shows that, the obtained 't'–ratio between the pre and post-test means of experimental group were 7.50,7.50,7.22,9.32,3.94 and control group were 0.54,1.59,1.73,1.23,1.92 respectively. The table values required for significant difference with df 1,29 at 0.05 level of confidence. Since the obtained 't' – ratio value of experimental and control group on flexibility, muscular strength endurance, arm explosive power, leg explosive power and cardio–respiratory endurance were greater than the table value 2.045,it was concluded that the aerobic training followed by proprioceptive neuromuscular facilitation stretching exercises had significantly improved

flexibility, muscular strength endurance, arm explosive power, leg explosive power and cardio–respiratory endurance of experimental group.

TABLE – II Mean and dependent 't' – test for the pre and post tests on flexibility, muscular strength endurance, arm explosive power, leg explosive power and cardio–respiratory endurance of experimental group

S.No	Variables	Pre- test Mean± SD	Post -test Mean± SD	Diff	SE	't' –ratio
1.	Flexibility	5.26 ± 2.57	6.73 ± 0.35	1.47	0.99	7.50*
2.	Muscular Strength Endurance	14.26 ± 2.57	16.73 ± 3.05	2.47	0.99	7.50*
3.	Arm Explosive Power	50.71 ±7.01	54.87±7.00	4.16	.58	7.22*
4.	Leg Explosive Power	2.52±.38	2.58±.32	.06	.006	9.32*
5.	Cardio–Respiratory Endurance	789.06 ±43.62	968.93 ±32.74	179.87	0.69	3.94*

*Significance at 0.05 level of confidence

TABLE – III Mean and dependent 't' – test for the pre and post tests on flexibility, muscular strength endurance, arm explosive power, leg explosive power and cardio–respiratory endurance of control group

S. No	Variables	Pre test Mean± SD	Post test Mean ± SD	Diff	SE	't' –ratio
1.	Flexibility	4.20 ± 1.65	4.61 ± 1.69	0.41	0.36	0.54
2.	Muscular Strength Endurance	13.20 ± 1.51	13.54 ± 1.45	0.34	0.37	1.59
3.	Arm Explosive Power	50.56±5.20	50.24±5.11	.33	.19	1.73
4.	Leg Explosive Power	2.51±0.06	2.52±0.05	.02	.012	1.23
5.	Cardio–Respiratory Endurance	728.86 ±45.55	890.26 ± 68.26	161.40	20.09	1.92

*Significance at 0.05 level of confidence

The pre and post- test mean value of experimental and control group on flexibility, muscular strength endurance, arm explosive power, leg explosive power and cardio–respiratory endurance were graphically represented in the figure 1.

Discussion on Findings

The finding of the study reveals that the aerobic training followed by proprioceptive neuromuscular facilitation stretching exercises cause significant improvement in their motor ability variables. In the view of control group there was no significant improvement in their motor ability variables.

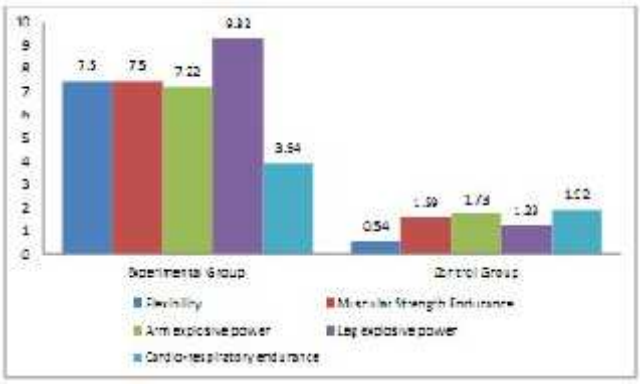

Figure 1

The findings of the study Darby (1995), Bell JM (1996), Miyahara (2012), Herda (2011) in their study, they stated that aerobic training preceded with proprioceptive neuromuscular facilitation stretching exercise developed motor ability variables.

Conclusion

It was concluded that improvement of flexibility, muscular strength endurance, arm explosive power, leg explosive power and cardio–respiratory endurance was found significantly on experimental group due to the effect of aerobic training preceded with proprioceptive neuromuscular facilitation stretching exercises when compared to the control group.

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