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A comparative Study of the skill proficiency and intelligence quotient of university players

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- **Abstract:**

The objective of the present research study was to analyze the **skill proficiency and intelligence quotient** of various Universities' Basketball team of female players.

An attempt has been made to analyze the IQ and Skill Proficiency of 117 female players from Hemchandracharya North Gujarat University (HNGU), Gujarat University (GU), M S University (MSU) and Saurashtra University (SU).

For this research, "**Desai and Desai IQ Test Questionnaire**" for the purpose of finding out the IQ score and further these players were given skill proficiency test of "**Harrison Basketball Battery Skill Test**" to find out the Skill Proficiency Score. IQ and Skill Proficiency Score were taken in unit.

Correlation coefficient of **IQ and Skill Proficiency Score** of Basketball Players of Gujarat University (GU) is 0.467 and it is positive significant correlation at the 0.05 level confidences. Whereas there is no significant correlation in any other University.

As per the result found by Levene Statistic, Scheffe's Post Hoc test and ANOVA test, Saurashtra University (SU) 117.10 stands first in performance of IQ while Hemchandracharya North Gujarat University (HNGU) 106.48 stands last in the performance. Remaining Universities are in between. In the skill performance M S University (MSU) 105.80 stands first while Hemchandracharya North Gujarat University (HNGU) 96.88 stands last. Remaining Universities are in between.

INTRODUCTION:

Basketball has evolved many commonly used techniques of shooting, passing, and dribbling, as well as specialized players position and offensive and defensive structures (player positioning) and techniques.

Physical Fitness is the basic need for participation in games & sports. So, it is universally accepted that success in various activities of games and sports mainly depends upon the physical fitness of its participants. The basic level of fitness has a vital role in improving any sport performance but there seems to be a lack of specific knowledge regarding **correlation of IQ and Skill proficiency**. It has been a matter of great concern for the sports teacher and coaches to assess the **correlation of IQ and Skill proficiency** of their wards. In order to accomplish this, I studied "**A comparative Study of the skill proficiency and intelligence quotient of university players**".

For this research, "**Desai and Desai IQ Test Questionnaire**" for the purpose of finding out the IQ score and further these players were given skill proficiency test of "**Harrison Basketball Battery Skill Test**" to find out the Skill Proficiency Score. IQ and Skill Proficiency Score were taken in unit.

- **Purpose of the study:**

The purpose of present study was to compare the "**skill proficiency and intelligence quotient of University Basketball team female players**"

METHODOLOGY:

- **Subject:**

117 subjects were selected from the University Basketball team female players of Hemchandracharya North Gujarat University (HNGU), Gujarat University (GU), M S University (MSU) and Saurashtra University (SU).

- **Variables:**

On the bases of review of related literature, expert's opinions and research scholar's own understanding of IQ and Skill Proficiency Score variables were selected for the purpose of this study.

- **Hypothesis:**

In this study, null hypothesis for the 't' test would be "There is no significant difference in IQ mean score in between HNGU, GU, MSU and SU". In other words, the null hypothesis states that the mean (average) in IQ score of HNGU, GU, MSU and SU are same.

➤ **Findings:**

Table-1
Correlation coefficient of Non-ST-IQ and Non-ST-Skill Proficiency Score of HNGU, GU, MSU and SU.

		HNGU Skill	GU Skill	MSU Skill	SU Skill
HNGU IQ	Pearson Correlation	-.009	-.092	-.066	-.210
	Sig. (2-tailed)	.964	.663	.782	.315
	N	25	25	20	25
GU IQ	Pearson Correlation	.106	.467**	-.010	-.027
	Sig. (2-tailed)	.613	.007	.966	.884
	N	25	32	20	32
MSU IQ	Pearson Correlation	.171	-.420	.209	.227
	Sig. (2-tailed)	.472	.065	.377	.337
	N	20	20	20	20
SU IQ	Pearson Correlation	-.219	-.091	.291	.195
	Sig. (2-tailed)	.293	.622	.214	.229
	N	25	32	20	40

** Correlation is significant at the 0.05 level (2-tailed).

Conclusion:

As per Table -1 Correlation coefficient of **IQ and Skill Proficiency Score** of Basketball Players of Gujarat University (GU) is 0.467 and it is positive significant correlation at the 0.05 level confidences. Whereas there is no significant correlation in any other University.

Table-2
Descriptive statistics

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
IQ	HNGU	25	106.48	12.669	2.534	101.2504	111.7096	86.00	127.00
	GU	32	112.25	9.0018	1.591	109.0045	115.4955	94.00	131.00
	MSU	20	114.25	7.4824	1.673	110.7481	117.7519	102.00	126.00
	SU	40	117.10	9.9326	1.575	113.9234	120.2766	94.00	134.00
	Total	117	113.02	10.6107	0.981	111.0742	114.9600	86.00	134.00
SKILL	HNGU	25	96.880	11.38098	2.27620	92.1822	101.5778	78.00	113.00
	GU	32	99.031	10.80766	1.91054	95.1347	102.9278	80.00	121.00
	MSU	20	105.800	8.35779	1.86886	101.8884	109.7116	92.00	120.00
	SU	40	100.175	10.41913	1.64741	96.8428	103.5072	83.00	120.00
	Total	117	100.120	10.68205	.98756	98.1637	102.0756	78.00	121.00

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
IQ	3.056	3	113	.031
SKILL	1.116	3	113	.346

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
IQ	Between Groups	1784.376	3	594.792	5.961	.001
	Within Groups	11275.590	113	99.784		
	Total	13059.966	116			
SKILL	Between Groups	945.741	3	315.247	2.898	.038
	Within Groups	12290.584	113	108.766		
	Total	13236.325	116			

Post Hoc Tests: Multiple Comparisons: Scheffe

	(I) University	(J) University	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
IQ	HNGU	GU	-5.77000	2.66638	.203	-13.3374	1.7974
		MSU	-7.77000	2.99676	.087	-16.2751	.7351
		SU	-10.62000(*)	2.54675	.001	-17.8479	-3.3921
	GU	HNGU	5.77000	2.66638	.203	-1.7974	13.3374
		MSU	-2.00000	2.84736	.920	-10.0811	6.0811
		SU	-4.85000	2.36915	.247	-11.5738	1.8738
	MSU	HNGU	7.77000	2.99676	.087	-.7351	16.2751
		GU	2.00000	2.84736	.920	-6.0811	10.0811
		SU	-2.85000	2.73565	.781	-10.6140	4.9140
	SU	HNGU	10.62000(*)	2.54675	.001	3.3921	17.8479
		GU	4.85000	2.36915	.247	-1.8738	11.5738
		MSU	2.85000	2.73565	.781	-4.9140	10.6140
SKILL	HNGU	GU	-2.15125	2.78381	.897	-10.0519	5.7494
		MSU	-8.92000(*)	3.12873	.048	-17.7996	-.0404
		SU	-3.29500	2.65891	.675	-10.8412	4.2512
	GU	HNGU	2.15125	2.78381	.897	-5.7494	10.0519
		MSU	-6.76875	2.97275	.165	-15.2057	1.6682
		SU	-1.14375	2.47348	.975	-8.1637	5.8762
	MSU	HNGU	8.92000(*)	3.12873	.048	.0404	17.7996
		GU	6.76875	2.97275	.165	-1.6682	15.2057
		SU	5.62500	2.85613	.280	-2.4809	13.7309
	SU	HNGU	3.29500	2.65891	.675	-4.2512	10.8412
		GU	1.14375	2.47348	.975	-5.8762	8.1637
		MSU	-5.62500	2.85613	.280	-13.7309	2.4809

* The mean difference is significant at the .05 level.

Discussion:

As per the One-Way ANOVA descriptive table, Test of Homogeneity of Variances, ANOVA and Multiple Comparisons by Scheffe of IQ and Skill result found as below;

- **One-Way ANOVA descriptive:**

1. IQ mean of HNGU-106.48, GU-112.25, MSU-114.25, SU-117.10 and total – 113.02
2. Skill mean of HNGU-96.88, GU-99.03, MSU-105.80, SU-100.18 and total – 100.12

- **Test of Homogeneity of Variances**

1. IQ - Levene Statistic is 3.056, df1 is 3, df2 is 113 and its related significance value 'P' is .031
2. Skill - Levene Statistic is 1.116, df1 is 3, df2 is 113 and its related significance value 'P' is .346

- **ANOVA**

1. IQ - 'F' is 5.961 and Significance value 'P' is .001 found.
2. Skill- 'F' is 2.898 and Significance value 'P' is .038 found.

- **Post Hoc Tests: Multiple Comparisons: Scheffe**

1. IQ of HNGU and GU Mean difference is -5.77 and significance value is .203
2. IQ of HNGU and MSU Mean difference is -7.77 and significance value is .087
3. IQ of HNGU and SU Mean difference is -10.62 and significance value is .001

4. IQ of GU and MSU Mean difference is -2.00 and significance value is .920
5. IQ of GU and SU Mean difference is -4.85 and significance value is .247
6. IQ of MSU and SU Mean difference is -2.85 and significance value is .781
7. Skill of HNGU and GU Mean difference is -2.151 and significance value is .897
8. Skill of HNGU and MSU Mean difference is -8.920 and significance value is .048
9. Skill of HNGU and SU Mean difference is -3.295 and significance value is .675
10. Skill of GU and MSU Mean difference is -6.768 and significance value is .165
11. Skill of GU and SU Mean difference is -1.144 and significance value is .975
12. Skill of MSU and SU Mean difference is 5.625 and significance value is .280

- **Conclusion:**

As per the One-Way ANOVA descriptive table, Test of Homogeneity of Variances, ANOVA and Multiple Comparisons by Scheffe of IQ and Skill result found. As per the result found, following conclusion pointed out.

In this present study, Levene Statistic of IQ is 3.056 and its related significance value 'P' is .031. This is significance at .05 level confidences. Whereas Levene Statistic of Skill is 1.116 and its related significance value 'P' is .346. This is not significance at .05 level confidences.

In the ANOVA test, it shows that the 'F' value of IQ is 5.961 and its related significance level 'P' value is .001. The significance level of 'P' value in 'F' test is less than .01 (.001<.01) in the ANOVA table. This is significance at .01 level confidences. Thus, it is statistically proves at 99 % confidence that the 'P' value in the 't' test is .001 assuming unequal variances in IQ score of HNGU, GU, MSU and SU are same.

Whereas 'F' value is 2.898 and its related significance level 'P' value is .038. The significance level of 'P' value in 'F' test is less than .05 (.038<.05) in the ANOVA table. This is significance at .05 level confidences. Thus, it is statistically proves at 95 % confidence that the 'P' value in the 't' test is .038 assuming unequal variances in Non-ST-Skill score of HNGU, GU, MSU and SU are same.

As per Scheffe's Post Hoc test, IQ mean difference in between HNGU and SU is -10.62 and its related significance value 'P' is .001. The significance value 'P' is .001 (.001<.01) less than .01. So, the null hypothesis is rejected. Thus, it proves at 99 percent confidence level that IQ Score of HNGU and SU are not same.

Whereas mean difference in between HNGU and GU, HNGU and MSU, GU and MSU, GU and SU and also MSU and SU is not significance.

As per Scheffe's Post Hoc test, Skill mean difference in between HNGU and MSU is -8.920 and its related significance value is .048. The significance value 'P' is .048 (.048<.05) less than .05. So, the null hypothesis is rejected. Thus, it proves at 95 percent confidence level that IQ Score of HNGU and SU are not same.

Whereas mean difference in between HNGU and GU, HNGU and SU, GU and MSU, GU and SU and also MSU and SU not significant.

As per table –2 **Descriptive Statistics of IQ** mean performance of Hemchandracharya North Gujarat University (HNGU) 106.48, Gujarat University (GU) 112.25, M S University (MSU) 114.25 and Saurashtra University (SU) 117.10

It shows that Saurashtra University (SU) 117.10 stands first in performance of IQ while Hemchandracharya North Gujarat University (HNGU) 106.48 stands last in the performance. Remaining Universities are in between.

As per table – 2 **Descriptive Statistics of Skill** mean performance of Hemchandracharya North Gujarat University (HNGU) 96.88, Gujarat University (GU) 99.03, M S University (MSU) 105.80 and Saurashtra University (SU) 100.175

It shows that M S University (MSU) 105.80 stands first in performance of Non-ST-Skill while Hemchandracharya North Gujarat University (HNGU) 96.88 stands last in the performance. Remaining Universities are in between.

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Sports injuries : A rehabilitation and prevention

Prof. Bhimjibhai N. Patel & Dr. Dharmendra K Dhanula

INTRODUCTION:

Sports Medicine involves not only traditional treatment, it is also a guide and reflection on the state of play according to sporting rules and breaches of them. Injuries that result from athletics predominantly involve the musculo-skeletal system. Sprains, strains, contusion of joints and muscle, and fractures and dislocations of bones and joints make up the bulk of these injuries. Head, face, neck injuries and internal injuries of thorax and abdomen statistically play a minor role, but they can be quite serious and even fatal. Abrasions and lacerations of the skin and bruises of the subcutaneous tissue are so common place that they represent red and then black and blue status badges of body contact. These injuries present no great difficulty in treatment unless they become infected.

The physical-education personnel can make a major contribution to the welfare of the athlete in the area of rehabilitation. The quality of rehabilitation programme determines what level of athletics participation will be possible in the future and also influences the frequency of injury. As Dr. Freel Allman has said- "The goal of treatment must be restoration of function to the shortest possible time". The rehabilitation should begin at the same time as treatment of the injured part, so that it may result in an early return to the activity.

REHABILITATION PROCESS :-

It is not within the scope of this paper to discuss in detail, the diagnosis and treatment of all the clinical conditions that result from athletics injuries. Only some basic principles can be noted for some more common injuries. The design of a rehabilitation programme has been largely based on empirical observation combined with current trends of tendencies in weight training. It is essential to include the following information with the database before making decisions as to the appropriateness of a given exercise:-

- (1) What are the requirements of a given sports in which athlete participate ?
- (2) How long each session should last and the number of times per week that each exercises should be performed ?
- (3) What are the positions of risk that need to be avoided ?
- (4) What is the level of participation and motivation of the athlete ? and
- (5) What is the biomechanical, physiological and psychological status of athlete

CONSERVATIVE TREATMENT:-

The initial treatment can be conservative if the exact severity of the injury is in question. The conservative management includes the following points:-

- ➔ Total rest of the involved part,
- ➔ Application of ice for pain and inflammation,
- ➔ Use of other modalities like RICE and some time worn during activity,
- ➔ Decrease in activities such as cycling, downhill running, squatting, sitting with knee at 90 degree of flexion,
- ➔ In-shoes orthotic devices (excessive pronation of the feet)
- ➔ Increase in flexibility,
- ➔ Improvement of strength and power of the muscle,
- ➔ Use of braces,
- ➔ Use of anti-inflammatory medicines, and cortisone injection to reduce pain and tenderness.

SURGICAL OPTION: Surgery is reserved for the exceptionally unresponsive and difficult case and should not be undertaken until all conservative measures have been exhausted. As example , removal of the medical meniscus , lateral meniscus, releasing impaigement and repairing of any tear and reconstruction of anterior cruciate ligament.

POSTOPERATIVE REHABILITATION:- IMMOBILISATION:

While the injured part is immobilized the athlete can still perform the following exercises under supervision of coach:

- A- Isometric contraction of the muscle should be performed ,
- B- Muscle stimulation can also frequently be used at this stage ,
- C- Emphasis should be on cardiovascular fitness ,and
- D- exercising the opposite limb may evoke a crossover reaction and muscle of the opposite

limb. When the immobilization/ cast is removed, a careful controlled rehabilitation programme should be carried out following an adequate period of about 4 to 8 weeks of cast immobilization . The athlete should be started on gentle range of motion (ROM) together with electrical stimulation of an injured part. Ice massage can also be used.

Stretching is an integral part of a full rehabilitation and prevention programme. Stretching helps to increase the flexibility of the joints and it is generally agreed that flexibility is an important component for optimum performance. Stretching can focus primarily on muscle , the capsule and ligament or both. Method of stretching varied and include (A) Static, (B) ballistic (C) proprioceptive neuromuscular facilitation patterns (PNP) Though there are many other approaches available ,and most of people agree that the safest approach is a modified PNP- technique that employs a minimum contraction in a stretched position for 8 to 10 seconds followed by a stretch into new position. Single movement pattern such as flexion/extension and internal/external rotation are commonly used techniques. An advantage of PNP is the use of spiral or diagonal pattern. Which more realistically intimate function pattern. The diagonal movement pattern , used often in full ROM PNP ,is comprised of three components .Either flexion or extension ,internal rotation or external rotation, and abduction or adduction are combined with a pattern for a particular joint. Other related joints may also have associated pattern that accompany a selected pattern.

PREVENTION OF INJURY

“Prevention is better than cure” nowhere holds better than in case of sporting injuries. Many of them are unnecessary and the harm that they do, not only in terms of loss of earning capacity but6 also in terms of wasted effort and frustration is quite disproportionate to their severity.

FITNESS: An appropriate level of fitness is in itself the most valuable factor in the prevention of injury. Not for nothing is unaccustomed exercise said to be “occasionally fatal, frequently injurious and always painful”. Strength, speed and endurance to say nothing of flexibility are all in their way safeguard against injury.

SKILL: Skill is how ever the factor of paramount importance in safety. It involve not only the physical control to make the body what the mind will, but also the mental ability to realize the risk and know how to offset it as well as be able physically to take the necessary actions. At a purely physical level the player’s object is to develop effective and efficient movement patterns to the level of conditioned reflexes.

SELF CONTROL: The most important aspect of injury – prevention by control is self control. If a person loses temper and thus his self control, he is liable to injure not only himself but others. Self control is the essence of self-discipline and without it no one can aspire to any degree of fitness.

PROPER CLOTHING AND EQUIPMENT: In many sports and games the participants may or indeed must wear some form of protective clothing or use of protective equipment. Such clothing or equipment may to protect themselves or to protect other with whom they come into contact. Although there are many forms of protective clothing available it is remarkable that so few are subject to minimum standard of safety.

PRINCIPAL OF PREVENTION OF INJURY: The following principles if conscientiously applied must inevitable result in a decrease in the incidence of sports injury.

1. Be Physically Fit.
2. Obey the rules of Sports and Games.
3. Wear the right sort of apparel.

CONCLUSIONS:

The need of hour is an integrated sports management programme and it primary thrust in pursuit of excellence. The sports management system should be in such a way that the research bindings of sports scientists of various areas should be known to the coach. During training the Coach should apply these knowledge in appropriate time. There should be proper understanding among sports scientists and coaches. Some of us may think that it is very difficult to follow this scheme in Indian Conditions. If we think of medals in International tournaments, it is a must to follows systematic training. ‘Rome was not built in a day’. Day by day and step by step such a coaching system can be establishing.

Comparison of Motor Fitness between 6 to 9 years of Boys and Girls

By

Dr.Ashoke Kumar Biswas, Dr.Sudip Sundar Das, Shikha Debnath, Prof.Sudarshan Bhowmick

Abstract

Introduction: Difference between male and female in physical, physiological, motor, psychological, social and emotional dimensions have been confirmed by many researchers (Tanner:1978; Overman & Williams, 2004; Linda, 2005; Gustafsson & Lindenfors, 2008). The causes have been identified as genetic, social and cultural. But, it has also been reported that sex difference does not become prominent before puberty. Present study was planned to analyze the difference between boys and girls of 6 to 9 years in selected motor fitness components.

Methodology: Two thousand subjects from each of boys and girls groups were selected for the present study. Th subjects represented four age-group populations – 6 yrs., 7 yrs., 8 yrs., and 9 yrs. So, there were 500 subjects in each of 4 age groups of 6, 7, 8 and 9 years for both the sections of boys and girls. The selected motor fitness components were speed, agility, endurance, reaction time, static balance, hip flexibility, leg explosive strength and abdominal muscular strength endurance. These motor fitness components of the subjects were tested using standardized tests. Speed was measured by 50 m dash, agility by 4x10 m shuttle run, endurance by 600 m run, reaction time by Nelson hand reaction test, static balance by stork stand, hip flexibility by sit and reach, leg explosive strength by standing broad jump and abdominal muscular strength endurance by bent knee sit-ups. For comparing the performance in motor fitness parameters of boys and girls ‘t’ test was used.

Results: Results showed that the boys groups were superior to their counterparts in speed, agility, endurance, leg explosive strength and abdominal muscular strength endurance for all age groups of 6 to 9 years. On the other hand girls were superior to boys in hip flexibility for all age groups. In reaction time the girls were found to be better with lower mean value at the age of 6 years but thereafter the boys became ahead of girls with lower mean values of reaction time for subsequent ages. In static balance there were no difference upto 8 years, but after that the boys became superior to girls.

Conclusion: Based on the results it was concluded that there are differences in motor fitness parameters between boys and girls even before puberty for the age of 6, 7, 8, and 9 years.

Key words: Sex difference, Motor fitness.

Introduction:

Difference between male and female in physical, physiological, motor, psychological, social and emotional dimensions have been confirmed by many researchers (Tanner, 1978; Gustafsson & Lindenfors, 2004, Overman & William, 2004; Linda, 2005;). The causes have been identified as genetic, social and cultural. On average, males are stronger than females. This is due to females, on average, having fewer totals [muscle mass](#) than males. Females also have lower muscle mass in comparison to total body weight. Gross measures of upper body [strength](#) suggest an average 40-50 % difference between the sexes, compared to a 30 % difference in lower body strength. Males are not stronger due to greater strength of individual muscle fibers, but due to more fibers: a greater total muscle mass. The greater muscle mass of males is in turn due to a greater capacity for [muscular hypertrophy](#) as a result of men's higher levels of testosterone. Males remain stronger than females, when adjusting for differences in total body weight. This is due to the higher male muscle-mass to body-weight ratio (Maughan, R. J., Watson, J.S. and J Weir, 1983). The general tendency in this respect is that the boys are superior to girls. It is also known that the girls appear to be better in performance than boys in pre-adolescent period. It is also known that sex difference does not become prominent before 9/10 years of age. With all these available knowledge present study was planned to analyze the nature of sex difference in selected motor fitness parameters for the period of 6-9 years. It was hypothesized that there would be no significant sex difference in the performance of these selected motor fitness parameters.

Methodology:

Two thousands boys and two thousand girls of five regions of West Bengal (Hill area, Plateau, Sea level, Plane land and Industrial area) were selected as subjects for the present study equally from four age group

populations – 6yrs., 7 yrs., 8 years. and 9 yrs. The selected motor fitness components were speed, agility, endurance, reaction time, static balance, hip flexibility, leg explosive strength and abdominal muscular strength endurance. These motor fitness components of the subjects were tested using standardized tests. Speed was measured by 50 m Dash, Agility by 4x10m Shuttle Run, Endurance by 600m run, Reaction Time by Nelson Hand Reaction Test, Static Balance by Stork Stand, Hip Flexibility by Sit and Reach, Leg Explosive Strength by Standing Broad Jump and Abdominal Muscular Strength Endurance by Bent Knee Sit ups.

Results and Discussion: Mean and standard deviation of the performance of boys and girls group of six years of age in different motor fitness have been presented in Table-1.

Required value for being significant – 0.05 = 1.96 and 0.01 = 2.58
 Table-1: Mean and SD of performance in different motor fitness for the age group of 6-years

Motor fitness component	Mean and SD		Difference between means	t- value	Remarks
	Boys group	Girls group			
Speed	10.65 ±1.04	11.05 ± 1.04	0.40	6.09	Significant at 0.01 level
Agility	12.90 ± 0.94	13.42 ± 0.95	0.52	8.81	Significant at 0.01 level
Endurance	187.14 ± 22.05	200.27 ± 23.27	13.13	9.18	Significant at 0.01 level
Hand Reaction Time	0.256 ± 0.331	0.252 ± 0.027	0.004	2.30	Significant at 0.05 level
Static Balance	5.11 ± 3.73	5.11 ± 3.52	00	00	Not significant
Hip Flexibility	5.70 ± 2.88	6.74 ± 3.45	1.04	5.20	Significant at 0.01 level
Leg Explosive Strength	116.84 ± 17.37	109.84 ± 15.55	7.00	6.73	Significant at 0.01 level
Abdominal Muscular Strength Endurance	7.35 ± 6.72	6.40 ± 5.46	0.95	2.45	Significant at 0.05 level

Motor performance scores shown in Table-1 clearly exhibits significant differences between boys and girls of 6 years of age in most of the cases. The performances are better for boys in 50m dash, 4x10m shuttle run, 600m run, standing broad jump and sit ups. So, it is understood that the boys of 6-years of age were superior to their girls counterpart in speed, agility, basic endurance, leg explosive strength and abdominal muscular strength endurance. It is also seen from the table values that the performance of the girls group was significantly better in hand reaction time and sit and reach tests. So, it is understood that the girls were found superior to boys in this age group in reaction ability and hip flexibility.. This confirms that there was no statistical significant sex difference in balance ability at the age of six years.

Required value for being significant – 0.05 = 1.96 and 0.01 = 2.58
 Table-2: Mean and SD of performance in different motor fitness for the age group of 7-years

Motor fitness component	Mean and SD		Difference between means	t- value	Remarks
	Boys group	Girls group			
Speed	10.01 ±0.72	10.50 ±0.89	0.49	9.61	Significant at 0.01 level
Agility	12.34 ±0.73	12.80 ±0.88	0.46	9.20	Significant at 0.01 level
Endurance	175.49 ±17.35	186.77 ±18.02	11.28	10.07	Significant at 0.01 level
Hand Reaction Time	0.246 ±0.028	0.256 ±0.032	0.010	5.26	Significant at 0.01

					level
Static Balance	5.97 ±3.42	5.79 ±3.65	0.18	0.82	Not significant
Hip Flexibility	5.76 ±3.25	6.83 ±3.58	1.07	4.86	Significant at 0.01 level
Leg Explosive Strength	127.60 ±15.41	119.24 ±14.22	8.36	8.92	Significant at 0.01 level
Abdominal Muscular Strength Endurance	9.67 ±7.75	7.42 ±5.78	2.25	5.23	Significant at 0.01 level

It is seen from the table values that the boys of this age were significantly better in performance than girls in 50m dash, 4x10m shuttle run, 600 m run, hand reaction time, standing broad jump and sit ups. Only in Sit and Reach Test the girls group was significantly better than the boys' group. The sex difference in performance of Stork Stand was found not to be statistically significant.

Required value for being significant – 0.05 = 1.96 and 0.01 = 2.58

Table-3 Mean and SD of performance in different motor fitness for the age group of 8-years

Motor fitness component	Mean and SD		Difference between means	t- value	Remarks
	Boys group	Girls group			
Speed	9.50 ±0.75	10.14 ±0.84	0.64	12.80	Significant at 0.01 level
Agility	11.81 ±0.70	12.44 ±0.80	0.63	13.40	Significant at 0.01 level
Endurance	170.81 ±19.23	186.42 ±19.86	15.61	12.59	Significant at 0.01 level
Hand Reaction Time	0.238 ±0.036	0.248 ±0.035	0.010	4.45	Significant at 0.01 level
Static Balance	8.91 ±5.34	9.65 ±5.98	0.74	2.06	Significant at 0.05 level
Hip Flexibility	6.67 ±3.69	8.00 ±3.52	1.33	5.78	Significant at 0.01 level
Leg Explosive Strength	137.80 ±16.74	125.65 ±14.04	12.15	12.44	Significant at 0.01 level
Abdominal Muscular Strength Endurance	13.27 ±8.10	10.32 ±6.70	2.95	6.28	Significant at 0.01 level

It is seen from the table values that the trend of better status for boys' group has been established for the age group of 8 years in 50m dash, 4x10m shuttle run, 600m , reaction time, standing broad jump and sit up .

Required value for being significant – 0.05 = 1.96 and 0.01 = 2.58

Table-4: Mean and SD of performance in different motor fitness for the age group of 9-years

Motor fitness component	Mean and SD		Difference between means	t- value	Remarks
	Boys group	Girls group			
Speed	9.19 ±0.70	9.92 ±0.89	0.73	14.60	Significant at 0.01 level
Agility	11.50 ±0.63	12.22 ±0.74	0.72	16.74	Significant at 0.01 level
	168.15	183.47			Significant

Endurance	±17.65	±19.63	15.32	12.98	at 0.01 level
Hand Reaction Time	0.231 ±0.032	0.242 ±0.033	0.011	5.35	Significant at 0.01 level
Static Balance	12.14 ±6.26	8.60 ±7.16	3.54	8.33	Significant at 0.01 level
Hip Flexibility	6.96 ±3.89	7.99 ±4.02	1.03	4.12	Significant at 0.01 level
Leg Explosive Strength	147.06 ±18.17	130.04 ±16.98	17.02	15.33	Significant at 0.01 level
Abdominal Muscular Strength Endurance	15.52 ±7.67	10.80 ±7.28	4.72	10.04	Significant at 0.01 level

It is clearly seen from the table values that the mean performance of the boys group of nine years of age was better in 50m dash, 4x10m shuttle run, 600m run, hand reaction time, leg explosive strength and abdominal muscular strength endurance just like previous age group. In addition to these the boys group showed better performance also in stork stand. The girls group of this age group was better only in back and leg flexibility.

Discussion:

Present study focused to analyze sex difference in motor fitness during 6 -9 years of age. It was hypothesized that there would be no significant difference in motor fitness during these years. Results of this study confirm sex difference and compel to reject the formulated null hypothesis. Manifestation of sex difference appears in some cases in favor of boys and in some other cases in favor of girls. The general tendency is superiority of boys in speed, agility, leg explosive strength, abdominal muscular strength endurance, and basic endurance. Similar results have been reported by other researchers.

Gallahue (1982) reported from the study conducted by Keogh (1965) regarding running speed of elementary school children. He concluded that the boys and girls were similar in running speed at ages 6 and 7, but boys were superior from age 8 to 12. According to Jensen and Fisher (1979) boys were slightly more agile than girls during the years before puberty. Willimezik and Grosser (1979) reported that boys were superior to girls in aerobic endurance. Jensen and Fisher (1979) reported that there was a definite and significant difference in aerobic capacity between men and women by 15% to 25%. Regarding sex differences Teichner (1954) and Tripp (1965) agreed that men could react slightly faster than women. They also agreed that reactions in limb movement, women were slower than men. Smith (1956) and Hoffman (1955) opined that superiority of boys to girls of compatible ages in balance abilities seemed most logical and valid. Hall (1956), Hoffman (1955), Phillips et al. (1955) and Smith (1956) concluded from their investigations that girls were generally more flexible than boys. Jensen and Fisher (1979) indicated that elementary school girls were more flexible than boys. Gallahue (1982) reported from the study of Di Nucci (1976) that girls performed better than boys on five different measures of flexibility at all ages. He also reported that girls tended to be more flexible than boys during childhood and adolescent. Gallahue (1982) reported from another investigation of Frederick (1977) that boys out-performed the girls in standing long jump at all age levels. He also reported from the study of Keogh (1965) that there were some differences between boys and girls in the performance of standing long jump from 6 to 12 years. Jensen and Fisher (1979) reported that on the average, women were about two-third as strong as men. Gallahue (1982) reported from AAHPERD and CAHPER test that boys and girls performed in the bent knee sit-up test at nearly same level until age 8, when boys began to show superiority until the prepubescent years of 11 and 12. This difference in results might be due to the fact that girls were less engaged in physical activity in the present case.

Conclusion:

On the basis of analysis of data and interpretation of results it was concluded that in every age group boys were superior to girls in the performance of all motor fitness components except hip flexibility where girls were found to be superior to boys.

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Sports Surface

By

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ABSTRACT

Athletes are using the most sophisticated equipments and technology in order to bring out the best performance with least expenditure of energy and time. At every step new technology has been introduced. Similarly radical change has occurred in Physical Environment including in play ground and surfaces of sporting activities on which performers are making performance. Now, apart from the clay, grass and concrete, synthetic and also scientific play ground surfaces are being used. There are generally two types of synthetic surfaces-Turf system and Track System. Synthetic grass has many advantages over natural turf such as -no watering, safe playing surface and low maintenance fees. Artificial turf systems, often referred to as Astroturf, are predominantly used for Football and hockey. Three different types of track surface are Solid Polyurethane Systems, Porous System and Sandwich Systems are built on the same foundations but each offers differing performance and costs. Different Synthetic surface are using for indoor activity as well as for outdoor activity. When it comes to choosing indoor sports surfaces, the main choice that looms is wood vs. synthetic. Experts advise to use of wide range of synthetics, Synthetics, generally fall into three categories: (1) Urethane, (2) Rubber and (3) PVC. Synthetics also can be installed three different ways: (1) either poured on as a liquid, (2) rolled out in long sheets or (3) put together like a puzzle as interlocking tiles.

Introduction:

The performance in any competitive sports event depend on such factors as physical fitness, technique, tactics and skill although the relative contribution of these factors obviously varies from sport to sport. Additionally, some other factors like physique, body composition and psychological traits of the performer also play a vital role on performance. With the modernization of sports environment, the development of training methods and techniques of sports training are important factors in winning. For better and higher performances principles of several basic sciences and technology has brought about a revolutionary change from sports performer to be a sport excellent. Today athletes are trained following scientific principles of coaching and training, using the most sophisticated equipments and technology in order to bring out the best performance with least expenditure of energy and time. Sports performance is improving, not only by sports training but, also exploiting sports science and technology. At every step new technology has been introduced. Similarly radical change has occurred in Physical Environment. There is a radical change in play ground and surfaces of sporting activities. As playing surface mostly we consider such surfaces which are made of clay, grass or concrete. In Indian sports scenario these surfaces are mostly used. Now, apart from these kind of surfaces some modern and scientific play ground surfaces are being used.

There are generally two types of synthetic surfaces:

1. Turf and Track system

Turf Systems: Synthetic grass are now widely used in many countries. This is very useful in all weather.

Synthetic grass has many advantages over natural turf such as :

- No watering, safe playing surface, Low maintenance fees

Artificial turf systems, often referred to as Astroturf, are predominantly used for football and hockey although we are finding a safe surface for their pupils to play on at all times to prevent injury and possible legal action.

Track Systems: Three different types of track surface are built on the same foundations but each offers differing performance and costs.

Solid Polyurethane Systems: Solid PU systems offer unrivalled performance and are the choice for top competition tracks. These tracks offer a much faster running surface because of their rigidity, this also offer much better durability than the softer track surfaces.

Porous System: This track system is much better suited to schools and colleges because of its softer characteristics that will reduce the risk of injury; yet it is still suitable for competition use.

Sandwich Systems: Sandwich system offers a surface intermediate in both performance and cost. By offering the softer porous base of our porous System mixed with the harder top layer of our Solid System this track Surface offers a cheaper alternative for training tracks.

Indoor and Outdoor Surface / Floor facilities

INDOOR

Thoughts on wood :When it comes to choosing indoor sports surfaces, the main choice that looms is wood vs. synthetic. Wood remains the gold standard for multipurpose spaces for a variety of reasons. Wood is prized for its appearance, its ability to return energy – the level of “bounce”-and its durability. If properly maintained, it can last up to 70 years or more. It is known entity with along history of performance. Plus, the very appearance of wood can demonstrate a commitment to athletics.On the other side of the ledger, though, wood requires precise, committed maintenance. It expands and contracts with humidity and temperature changes, requiring a constant ventilation system; it becomes damaged if it gets wet; it requires skill in installation; and as a hard material, it has no point- elastic, cushioning characteristics.

Synthetic ideas:While wood often seems the most obvious choice for gymnasium and multipurpose floors, it may not always be the best solution. Experts advise to use of wide range of synthetics, which can be a better fit in many cases. Synthetics, which cover anything except wood, generally fall into three categories: (1) Urethane, (2) Rubber and (3) PVC (Polyvinyl chlorate).Synthetics also can be installed three different ways: (1) either poured on as a liquid, (2) rolled out in long sheets or (3) put together like a puzzle as interlocking tiles.If use the PVC sheet goods, There may have been unbelievably durable and easy to clean-they go in there with a power washer.

OUTDOOR

On track : Outside, running tracks have traveled light years from the days of cinder ash or asphalt and now generally feature synthetic vulcanized rubber made of granules bound with polyurethane, or extruded vulcanized rubber. Like indoor surfaces, both poured-in –place and sheet-good systems are available.

Tennis surfaces:Outdoors and in, tennis surfaces offer a wide range of choices. In general, tennis courts are split in two categories. (1) Traditional, soft- court exterior surfaces include clay and grass, along with artificial turf that emulates grass. (2) Hard- court surfaces, which comprise about 70 percent of all courts, include concrete and asphalt overlaid with a colour coating. This coating generally is composed of textured latex, rubber or other synthetic materials. In an increasingly popular option, courts may contain a resilient layer of cushioning 6mm to 13mm thick between the asphalt or concrete and colour coating. Finally, interlocking polypropylene tiles and sheet goods are two other systems being used increasingly for tennis.

Artificial turf:Artificial turf, which most manufacturers now call synthetic turf, has come a long way from its introduction in the 1960s, with a great deal of biomechanical research.As an indication of how far turf has come, FIFA, the International Soccer Federation now states it is “very much in favour” of the use of artificial turf. Grass fibers, which can be made of polypropylene, nylon or a blend of the two, can be assembled in several ways. Synthetic turf requires no mowing, watering or fertilizing, it brings its own set of maintenance issues. The idea of a floor, on the surface, seems pretty simple: something to stand on. Outside, it meant grass or dirt. Add sports and recreation into the mind, and it becomes something to stand on, run on, jump on, sit on, roll on, bounce on, fall on, race on, dance on, meet on.More complicated yet, every year seems to bring a new sport or fitness with new flooring requirements: As it turns out, education and thoughtful planning can reduce the headaches and clear the path to the right floor. Actually, say the experts, choosing the floor is the last and sometimes easiest part of the process. The hard part lies in asking – and answering – the questions that lead to the right floor.The dozens of different materials are matched by dozens of different performance qualities best for different sports, with a quick lesson in physics and biomechanics necessary for each. For most sports surfaces, the goal is to reduce the amount of energy lost to the surface.

The Foundations for Flooring:There are as many different opinions and options on flooring as there are systems and manufacturers- that is, dozens. But the experts all agree that sport surfacing choices must satisfy seven key factors:

Installation: How difficult is it to install the system? Who will be doing the installing? Does the manufacturer offer its own installation teams, or is your staff honestly up to the task? How soon can the surface be used after installation? Does it emit any toxic outgases or noxious smells?

Maintenance: How much and what type of maintenance required? Are some substances commonly found at your site harmful to the surface? Can your staff perform minor repairs or must the manufacturer be called?

Durability: How long does this surface last? How long do you want it to last? That is, do you really want to go 40 years before replacing the product? What types of wear does the product show and how can it be fixed? Does the type of usage you plan affect durability

Cost: Don't just look at upfront costs, look at lifetime costs. How much does installation cost? What are the maintenance costs? How much are the products necessary for maintenance and how easy are they to obtain? What does maintenance cost in employee hours?

Safety: Does this floor meet the biomechanical needs of it intended uses? Is there proper cushioning for impact? Is it too slippery? Not slippery enough? Does it accommodate a range of users? Are there any protrusions that can cause a hazard?

Ranking System :To help resolve these issues uses a ranking system, provide a sheet of flooring attributes and asking that the group number them in order of importance. These include: 1. Durability 2. Sound deadening 3. Cleanability 4. Resiliency / shock absorbency 5. Ball bounce / roll / performance 6. Coefficient to friction (slip vs. slide vs. nonslip) 7. Colour 8. Installation time 9. Smell during / after installation 10. Warranty 11. Spike resistance 12. Performance / portability.

Standard of Care :In addition to the chemistry of synthetics terms and the physics of wood, floor buyers must learn the alphabet soup of certifications. Currently, there is no one, unified standards system that covers all aspects of performance, installation and design for sports surface, but a number of organizations cover portions of these issues.

Standard deformation: The depth to which a floor indents under a load of weight.

Deformation control: The spread of a deformation, or the area it covers, when a floor indents under a load of weight. Sliding behavior: The distance a floor can permit an athlete's foot to turn or purposely slide, while still preventing uncontrolled sliding. DIN standards require floors to have a sliding distance of 0.4 to 0.6 meters.

EDPM: Ethylene propylene diene monomer, a type of synthetic rubber flooring that comes in granule form.

SBR: Styrene butadiene rubber, another granulated form of synthetic rubber. PVC: Polyvinyl chloride, a common form of synthetic flooring that, yes, is the same stuff of which your plumbing pipes are made.

Polypropylene: Another form of plastic, often used for sports- flooring squares or tiles. Prefabricated sheet systems or sheet goods: Synthetic flooring manufactured off site and delivered in rolls or sheets. Cast in place systems: Synthetic flooring systems created on site.

Common terminologies related to synthetic surface:

Point-elastic surface. Area- elastic surface. Composite surface. Resilience. Moisture content. Sleeper system. Panel system. Anchored system. Acclimatization. Force reduction. Ball rebound. Standard deformation. Deformation control. Sliding behavior. Cast in place systems.

Point-elastic surface: A surface that bends at the point of pressure and absorbs energy. Most synthetic surface constitute this.

Area- elastic surface: A rigid, nonbending surface that yields gradually to pressure and can return energy, such as wood floors.

Composite surface: A surface with characteristics of both point and area elasticity, often a synthetic surface over wood.

Resilience: A floor's ability to bend or give; synthetic surfaces often have greater resiliency than wood

Moisture content: The weight of water contained in wood flooring, as a percentage of a kiln-dried sample.

Sleeper system: Wood flooring system where the wood strips are installed atop strips of wood studs.

Panel system: Wood flooring system where the wood strips are installed atop sheets of other material, often plywood.

Anchored system: Wood flooring system where the wood strips are installed atop sheets of other materials, often plywood, with 2-by-3 " sleepers" under the plywood.

Acclimatization: The process where wood flooring materials must sit in the facility for a number of days to adjust to moisture levels.

Force reduction: The ability of a sports floor to absorb the shock of impact, compared to a no resilient floor.

Ball rebound: The percentage to which a ball bounced back to the height from which it is dropped, compared to a no resilient floor such as concrete. Ball rebound, or bounce, should be at least 90 percent on a sports surface where basketball is being played.

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Need and scope of research in yoga

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Introduction:

There is a great need of yoga and yogic practices to be taught and also to practice yoga, to overcome physical, mental and physiological problems. My paper largely deals with the mental aspects, as it is the current need. I urge upon the August body to see that yoga to be made simple rather than complex through research for the following reasons. Development of science and technology in the recent years has made man's life fast, busy and full of tensions. The pressure on the muscles has been largely taken away by the machines, but the pressure on the nerves has greatly increased. This has resulted in what are called stress disorders or the psychosomatic disorders. Our mind and body is capable of bearing the load of tension to a certain limit. If tension continues beyond that limit, then the balance of the psycho-physiological processes is disturbed, and that results into various symptoms of mal-adjustment. The mind expresses the tension in the form of impulses that flow from the brain to various muscles of the body. If these muscles continue to make an impact on the glands and organs, this will give rise to the malfunctioning of the organ or glands concerned. Unless and until the mind be relieved of the tension prevailing in it, the disorder of the organs concerned can't be rectified. The most important benefit of yoga is physical and mental therapy. The aging process; which is largely an artificial condition, caused mainly by autointoxication or self-poisoning, can be slowed down by practicing yoga.

Regular practice of asanas, pranayama and meditation can help such diverse ailments such as diabetes, blood pressure, digestive disorders, arthritis, arteriosclerosis, chronic fatigue, asthma, varicose veins and heart conditions.

Laboratory tests have proved that yogi's increased abilities of consciously controlling the autonomic or involuntary functions, such as temperature, heart beat and blood pressure.

Research into the effects of yogic practices on HIV is currently underway with promising results.

The Asanas or the postures will help in keeping the muscles, nerves and joints to perform in a benefitting manner and tone up all the internal organs to function effectively without creating fatigue.

The Pranayama which is systematic and rhythmic respiration helps to relax the physical and mental organs of the body and keeps every cell oxygenated which helps in metabolism

A lot of research is conducted in Yoga for the prevention of the following;

Asthma, Respiratory Problem, High B.P., Back Pain, Arthritis, Weight Reduction, Cancer etc.

Asthma :Studies conducted at yoga institutions in India have reported impressive success in improving asthma. It has also been proved that asthma attacks can usually be prevented by yoga methods without resorting to drugs.

Respiration Problems:Patients who practice yoga have a better chance of gaining the ability to control their breathing problems. With the help of yogic breathing exercises, it is possible to control an attack of severe shortness of breath without having to seek medical help.

Various studies have confirmed the beneficial effects of yoga for patients with respiratory problems.

High Blood Pressure:The relaxation and exercise components of yoga have a major role to play in the treatment and prevention of high blood pressure (hypertension).

A combination of biofeedback and yogic breathing and relaxation techniques has been found to lower blood pressure and reduce the need for high blood pressure medication in people suffering from it.

Pain Management :Yoga is believed to reduce pain by helping the brain's pain center regulate the gate-controlling mechanism located in the spinal cord and the secretion of natural painkillers in the body.

Breathing exercises used in yoga can also reduce pain.

Because muscles tend to relax when you exhale, lengthening the time of exhalation can help produce relaxation and reduce tension.

Awareness of breathing helps to achieve calmer, slower respiration and aid in relaxation and pain management.

Back Pain

Back pain is the most common reason to seek medical attention.

Yoga has consistently been used to cure and prevent back pain by enhancing strength and flexibility.

Both acute and long-term stress can lead to muscle tension and exacerbate back problems.

Arthritis

Yoga's gentle exercises designed to provide relief to needed joints had been Yoga's slow-motion movements and gentle pressures reach deep into troubled joints.

In addition, the easy stretches in conjunction with deep breathing exercises relieve the tension that binds up the muscles and further tightens the joints.

Yoga is exercise and relaxation rolled into one - the perfect anti-arthritis formula.

Weight Reduction

Regular yoga practice can help in weight management.

Firstly, some of the asanas stimulate sluggish glands to increase their hormonal secretions.

The thyroid gland, especially, has a big effect on our weight because it affects body metabolism.

There are several asanas, such as the shoulder stand and the fish posture, which are specific for the thyroid gland.

Fat metabolism is also increased, so fat is converted to muscle and energy.

This means that, as well as losing fat, you will have better muscle tone and a higher vitality level.

Psychological Benefits

Regular yoga practice creates mental clarity and calmness, increases body awareness, relieves chronic stress patterns, relaxes the mind, centers attention and sharpens concentration.

Self-Awareness

Yoga strives to increase self-awareness on both a physical and psychological level.

Patients who study yoga learn to induce relaxation and then to use the technique whenever pain appears.

Practicing yoga can provide chronic pain sufferers with useful tools to actively cope with their pain and help counter feelings of helplessness and depression.

Mental Performance

A common technique used in yoga is breathing through one nostril at a time.

Electroencephalogram (EEG) studies of the electrical impulses of the brain have shown that breathing through one nostril results in increased activity on the opposite side of the brain.

Some experts suggest that the regular practice of breathing through one nostril may help improve communication between the right and left side of the brain.

Studies have also shown that this increased brain activity is associated with better performance and doctors even suggest that yoga can enhance cognitive performance.

Mood Change And Vitality

Mental health and physical energy are difficult to quantify, but virtually everyone who participates in yoga over a period of time reports a positive effect on outlook and energy level.

Yogic stretching and breathing exercises have been seen to result in an invigorating effect on both mental and physical energy and improved mood.

Spiritual Benefits

When you achieve the yogic spirit, you can begin knowing yourself at peace.

The value of discovering one's self and of enjoying one's self as is, begins a journey into being rather than doing.

Life can then be lived practicing "yoga off the mat".

More research should be done in the following areas;

Education

The very essence of yoga lies in attaining mental peace, improved concentration powers, a relaxed state of living and harmony in relationships.

All the above benefits will help the students in their academic achievements.

Reasons for introduction of Yoga for students

Lack of physical activity, Carrying School Bags, Disability, Mental Pressure, Obesity etc.

Sports: Though Yoga is considered as one of the effective stress buster through pranayama and relaxation techniques it is not taken seriously by majority of the sportspersons as a training component.

Reviews and literatures shows that Yoga helps in enhancing the vital capacity but again coaches and the trainers give little importance to it.

Conclusion

Researchers should focus on the needs and urgency of the society.

This will automatically create demand which will popularize the yogic culture.

Effects of asana and pranayama training on selected physiological variables among intellectually challenged persons in chennai

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INTRODUCTION: Intellectually challenged refers to subnormal general intellectual functioning, which originates during the development period and is associated with impairment of either learning and social adjustment or maturation or both. The criterion of intellectual challenged should be based on assessment of IQ (intelligence quotient), and evaluation of patients' developmental history and present functioning, including academic and vocational achievements, motor skills and social and emotional maturity. Yoga sadhana is important for freeing the mind of various psychogenic diseases and mental illness. It may also improve rehabilitation of mentally handicapped people, which is a burning problem of modern society. The mentally retarded children can be treated up to a great extent with the help of yogic techniques. Yoga can be a very useful tool for these children.

STATEMENT OF THE PROBLEM: The purpose of the study was to find out the effects of asana and pranayama practices on selected physiological variables among the intellectually challenged persons of love care special school in Chennai.

SELECTION OF VARIABLES: The following variables were selected: **Dependent variables:** 1.1. Blood pressure (mm/hg) 2.2. Resting Heart rate (beat/mint) 3. Percent body fat (% mm) 4. Vital capacity (m/lit) 5. VO2 max (lit/mint) **Independent variables:** 1.Asana 2.Pranayama

METHODOLOGY: SELECTION OF THE SUBJECTS: The investigator randomly selected 45 intellectually disabled children from love care special school in chennai. The subjects were divided into three groups. Experimental Group I consisting of 15 subjects under gone the asana training, Experimental group II consisting of 15 subjects undergone the pranayama and then Experimental group III consisting of 15 subjects act as a control group. **STATISTICAL TECHNIQUES:** The researcher used (ANCOVA) statistical technique for this study.

COLLECTION OF DATA: The variable to be used in the present study was collected from all subjects before they have to treat with the treatment. It was assumed as pre-test. After completion of the treatment they were tested, as it is in the pre-test on all variables used in the present study. This test was assumed as post-test.

TABLE-I

COMPUTATION OF ANALYSIS OF COVARIANCE OF SYSTOLIC BLOOD PRESSURE OF THREE GROUP

Mean	AG	PG	CG	S.V	S.S	Df	M.S	F
Pre test mean	114.13	115.47	117.60	B	45.87	2	22.93	0.77
				W	1175.07	42	29.74	
Post test mean	117.20	118.33	117.67	B	324.67	2	162.33	5.80*
				W	1175.07	42	27.98	
Adjusted mean	117.24	118.34	117.62	B	345.80	2	172.90	6.03*
				W	1174.13	41	28.64	

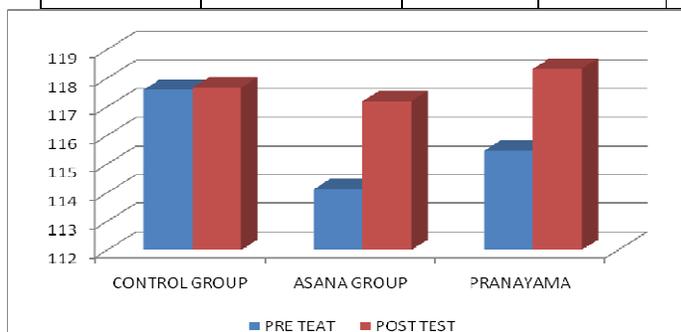


Table value for df 2 and 42 was 3.21 *
Significant at 0.05 level

RESULT AND DISCUSSION OF SYSTOLIC BLOOD PRESSURE: The results presented in Table I proved that the

obtained F value on pre test scores was less than the required F value and the difference were not significant. The obtained F value on adjusted mean value was 6.03, which was greater than the required F value to be significant at 0.05 level. Hence, it was proved that six weeks treatment through asana and pranayama practices significantly altered systolic blood pressure of the intellectually challenged persons.

Comparing between the treatment groups, asanas and pranayama practices, it was found that pranayama practices was better than asana practicing group in reducing systolic blood pressure.

TABLE - II
COMPUTATION OF ANALYSIS OF COVARIANCE ON DIASTOLIC BLOOD PRESSURE

MEANS	AG	PG	CG	S.V	S.S	Df	M.S	F
Pre test mean	75.47	74	77.87	BG	62.40	2	31.20	1.55
				WG	846.40	42	20.15	
Post test mean	74.93	74.73	77.20	BG	516.04	2	258.02	13.07*
				WG	829.20	42	19.74	
Adjusted mean	75.89	74.80	76.45	BG	319.91	2	159.95	9.33*
				WG	702.40	41	17.13	

Table value for df 2 and 42 was 3.21 * Significant at 0.05 level

RESULTS ON DIASTOLIC BLOOD PRESSURE: The results presented in Table II proved that the obtained F value on pre test scores was less than the required F value and the difference were not significant. The obtained F value on adjusted mean value was **9.33**, which was greater than the required F value to be significant at **0.05** levels.

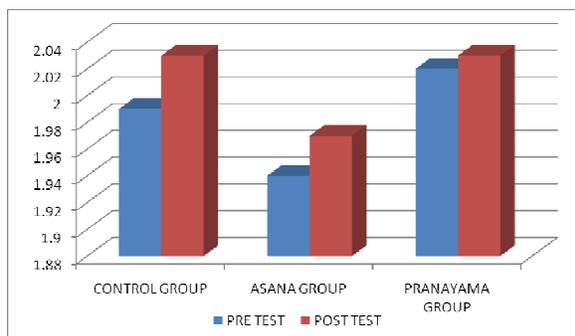
Hence, it was proved that six weeks treatment through asana and pranayama practices significantly altered diastolic blood pressure of the intellectually challenged persons.

Comparing between the treatment groups, asana and pranayama practices, it was found that pranayama practices was better than asana practicing group in reducing diastolic blood pressure.

TABLE - III
COMPUTATION OF ANALYSIS OF COVARIANCE ON VITAL CAPACITY

MEANS	AG	PG	CG	S.V	S.S	Df	M.S	F
Pre test mean	1.94	2.02	1.99	B	1.24	2	0.62	0.84
				W	31.00	42	0.73	
Post test mean	1.97	2.03	2.03	B	6.82	2	3.41	4.54*
				W	31.64	42	0.75	
Adjusted mean	2.18	2.15	2.01	B	2.10	2	1.05	10.50*
				W	4.49	42	0.10	

RESULTS ON VITAL CAPACITY: The results presented in Table III proved that the obtained F value on pre test scores was less than the required F value and the difference were not significant. The obtained F value on adjusted mean value was **10.50**, which was greater than the required F value to be significant at **0.05** levels.



Hence, it was proved that six weeks treatment through asana and pranayama practices significantly altered vital capacity of the intellectually challenged persons. Comparing between the treatment groups, asana and pranayama practices, it was found that pranayama practices was better than asana practicing group in increasing vital capacity.

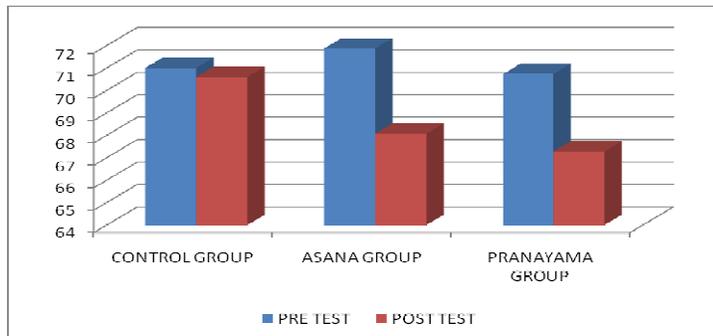
TABLE - IV
COMPUTATION OF ANALYSIS OF COVARIANCE ON RESTING PULSE RATE

Mean	AG	PG	CG	S.V	S.S	DF	M.S	F
Pre test mean	71.87	70.73	71	B	10.53	2	5.27	0.56
				W	396.67	42	9.44	
Post test mean	68.07	67.27	70.60	B	90.84	2	45.42	15.99*

				W	119.47	42	2.84	
Adjusted mean	67.70	67.52	70.70	B	154.03	2	77.01	31.69*
				W	99.44	41	2.43	

Table value for df 2 and 42 was 3.21 * Significant at 0.05 level

The results presented in Table IV proved that the obtained F value on pre test scores was less than the required F value and the difference were not significant.



The obtained F value on adjusted mean value was 31.69, which was greater than the required F value to be significant at 0.05 level. Hence, it was proved that six weeks treatment through asana and pranayama practices significantly altered resting pulse rate of the intellectually challenged persons.

Since there was significant results obtained post hoc analysis was done and it was found that asanas and of the intellectually challenged persons pranayama practices significantly altered resting pulse rate compared to control group. Comparing between the treatment groups, asanas and pranayama practices, it was found that pranayama practices was better than asana practicing group in reducing resting pulse rate.

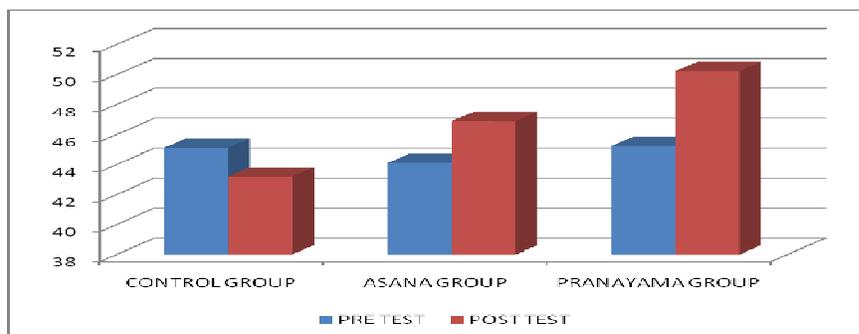
**TABLE - V
COMPUTATION OF ANALYSIS OF COVARIANCE ON VO2 MAX**

MEANS	AG	PG	CG	S.V	S.S	Df	M.S	F
Pre test mean	44.13	45.24	45.12	B	1.67	2	0.84	1.41
				W	24.88	42	0.60	
Post test mean	46.89	50.24	43.21	B	7.91	2	3.95	7.62*
				W	21.79	42	0.52	
Adjusted mean	56.73	52.32	45.24	B	13.37	2	6.69	41.84*
				W	6.55	41	0.16	

Table value for df 2 and 42 was 3.21 * Significant at 0.05 level

RESULTS ON VO2 MAX

The results presented in Table V proved that the obtained F value on pre test scores was less than the required F value and the difference were not significant. The obtained F value on adjusted mean value was 6.03, which was greater than the required F value to be significant at 0.05 levels.



Hence, it was proved that six weeks treatment through asana and pranayama practices significantly increase **VO2 MAX** of the intellectually challenged persons.

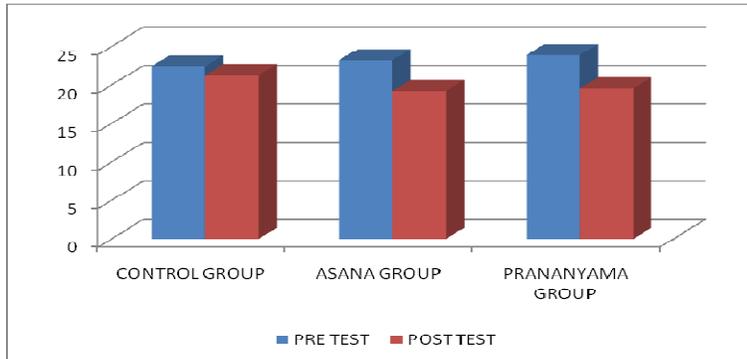
Comparing between the treatment groups, asana and pranayama practices, it was found that pranayama practices was better than asana practicing group in increasing **VO2 max**.

**TABLE - VI
COMPUTATION OF ANALYSIS OF COVARIANCE ON PERCENTAGE OF BODY FAT**

	AG	PG	CG	S.V	S.S	Df	S.Q	F
Pre test mean	23.21	23.89	22.43	B	0.29	2	0.15	0.91
				W	6.68	42	0.16	

Post test mean	19.22	19.54	21.28	B	1.80	2	0.90	5.08*
				W	7.43	42	0.18	
Adjusted mean	19.22	19.43	21.67	B	2.10	2	1.05	6.30*
				W	6.82	41	0.17	

Table value for df 2 and 42 was 3.21 * Significant at 0.05 level



RESULTS OF BODY FAT

The results presented in Table VI proved that the obtained F value on pre test scores was less than the required F value and the difference were not significant. The obtained F value on adjusted mean value was 6.30, which was greater than the required F value to be significant at 0.05 levels.

Hence, it was proved that six weeks treatment through asana and pranayama practices significantly

altered body fat pressure of the intellectually challenged persons.

Comparing between the treatment groups, asana and pranayama practices, it was found that pranayama practices was better than asana practicing group in reducing body fat.

CONCLUSIONS

Within the limitations and delimitations set for the present study and considering the results obtained, the following conclusions were drawn.

1. It was concluded that the resting pulse rate, systolic blood pressure, diastolic blood pressure, Vo_2 max, vital capacity, body fat significantly reduced due to the influence of six weeks practices of asanas and pranayama to comparing the control group. But particularly the pranayama group has significantly decreases in resting pulse rate when compared to the asana group.
2. It was concluded that the Vo_2 max and vital capacity has significantly increases due to the influence of six weeks practices of asanas and pranayama to comparing the control group. But particularly the pranayama group has significantly increases in vo_2 max when compared to the asana group.

Motor Nerve Conduction Velocity of Ulnar & Common Peroneal Nerve in Athletes of Anaerobic Sports

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Abstract

The purpose of this study was to investigate motor nerve conduction velocity (MNCV) of ulnar & common peroneal (CPN) nerves of bilateral side (i.e. dominant & non-dominant) of athletes who are engaged in an anaerobic type sport activities (sprinters & weight lifters). A total of 50 male sprinters & weight lifters with an average age, height and weight of 21.70 ± 1.76 years, 170.38 ± 3.31 cm and 72.06 ± 6.04 Kg respectively, volunteered to participate in this study. Each subject's MNCV was measured with the help of computerized equipment called "NEUROPERFECT" (Medicaid Systems, India) and the data was analyzed using Mean \pm SD, t-test and Pearson correlation. Results show that MNCV of ulnar nerve of right and left side was significantly different ($p < .05$). MNCV of common peroneal nerve of bilateral side also significantly different ($p < .05$). For both ulnar and common peroneal nerves, results showed that the right ulnar nerve had significantly faster MNCV than the right CPN nerve ($p < .05$). According to the results, faster MNCV in right ulnar nerve (i.e. dominant) and left CPN as compared to left ulnar nerve and right CPN in sprinters and weight lifters may be from their long term training adaptations and further it may be relate to their upper & lower extremity movement requirement of changing their movement direction quickly and skillfully.

Key Words: Motor Nerve Conduction Velocity, Sprinters, Weight Lifters

Introduction

Reaction, coordination, speed and power ability are fundamental for sport. All of the above abilities in sports are linked to motor nerve conduction velocity (MNCV). MNCV is a measure of speed of pulse (nerve impulse) can be transmitted along a motoneuron. A fast MNCV is also an indicator of a short refractory period. In other words, the decreased refractory period may allow for greater impulse frequency, thereby increasing muscle activation levels (Moyano & Molica, 1980). It is known that exercise can cause structural changes in skeletal muscles as well as an increase in excitability of motor units (Hoppeler 1988). But the effects of the type and intensity of exercise on these changes have not been studied in detail. Some studies suggest strength and power athletes have faster MNCV than endurance athletes (Kamen et al., 1984). However, it has also been reported that no differences were evident between power and endurance groups (Sleivert et al., 1995). Other researchers have shown that trained individuals have faster MNCV than untrained ones (Hoyle & Holt, 1983). In theory, changes in MNCV may be an indicator of nerve system adaptation due to long-term physical exercise training. Previous studies had investigated the clinical type of individuals. But, it is more meaningful and interesting to test the athlete especially in which the predominant energy system is an anaerobic type like sprinters & weight lifters and that need to control their lower extremities accurately and speedy that is requiring more neural adaptation for motor nerve conduction velocity after specific physical exercise training. Therefore, the purpose of this study was to investigate motor nerve conduction velocity in upper and lower extremities (radial & sural nerve of bilateral side) of athletes who are engaged in an anaerobic type sport activities and to realize whether their neural specification would change from long term training.

Methods

Subjects Total 50 sprinters & weight lifters in the age range of 18-25 years were voluntarily participated as subjects in the present study on the basis of their predominant energy system i.e. anaerobic. The dominant hand of all the subjects was right hand. The data was collected in Exercise Neurophysiology Laboratory, wherein the room temperatures were kept 25.9 ± 00.2 °C during the MNCV testing. The right and left arm and leg was testing for ulnar and common peroneal nerve (CPN) respectively. Motor Nerve Conduction Velocity (MNCV) was assessed with the help of computerized equipment called "Neuroperfect" (Medicaid Systems, India) by using the traditional double stimulation technique (Smorto & Basmajian, 1979). Square pulses of 0.1 ms duration and of sufficient intensity to evoke a supramaximal compound muscle action potential were applied at each stimulus point with surface stimulating electrodes. The subject lay on a wooden table with the straight arm and leg as radial and sural nerve was tested.

Statistical analysis

Data were statistically evaluated with the *t* test and Pearson correlation test using SPSS version 10.0 (SPSS Inc., Chicago, IL, USA). Significance was set at the $p < 0.05$ level.

Results

The mean age, body height and body weight of the subjects were 21.70 ± 1.76 years, 170.38 ± 3.31 cm and 72.06 ± 6.04 kg respectively (Table 1).

Table 1 Mean \pm SD of physical characteristics of an anaerobic group of players

Group	N	Age (yrs)	Height (cm)	Weight (kg)
Anaerobic	50	21.70 ± 1.76	170.38 ± 3.31	72.06 ± 6.04

The mean values of MNCV of right and left ulnar and common peroneal nerves were 45.0 ± 6.8 m/s, 44.9 ± 6.5 m/s, 44.9 ± 6.2 m/s and 45.5 ± 7.0 m/s respectively (Table 2). It was found that the difference in the mean values of MNCV of right and left ulnar nerve were statistical significant ($p < .05$) and further It was found that the MNCV of right ulnar nerve was higher than left. The difference in the mean values of MNCV of right and left common peroneal nerve were also statistical significant ($p < .05$) and further It was found that the MNCV of left common peroneal nerve was higher than right. Results also showed that the mean MNCV of left common peroneal nerve was significantly ($p < .05$) more than the mean MNCV of right ulnar nerve.

Table 2 Mean \pm SD of motor nerve conduction velocity (MNCV) of ulnar & common peroneal nerve

	Ulnar Nerve (m/s)	Common Peroneal Nerve (m/s)
Right	$45.0 \pm 6.8^*$	$44.9 \pm 6.2^*$
Left	$44.9 \pm 6.5^*$	$45.5 \pm 7.0^*$

* $p < 0.05$

The results of correlation showed that body height was positively and significantly related with body weight ($r = 0.378$). The MNCV of right ulnar nerve was also found to be positively and significantly related with MNCV of left ulnar nerve ($r = .672$) and negatively related with MNCV of right common peroneal nerve ($r = -.292$). The MNCV of right common peroneal nerve was also found to be positively and significantly related with MNCV of left common peroneal nerve ($r = .582$).

Table 3 Correlation (Pearson) among physical characteristics & MNCV of ulnar & common peroneal nerve

	Height	Weight	MNCV of Ulnar Nerve (Right)	MNCV of Ulnar Nerve (Left)	MNCV of Common Peroneal Nerve (Right)	MNCV of Common Peroneal Nerve (Left)
Age	.111	-.046	.074	-.085	.082	-.064
Height		.378**	.021	-.090	.147	.236
Weight			.140	.070	.111	.145
MNCV of Ulnar Nerve (Right)				.672**	-.292*	-.177
MNCV of Ulnar Nerve (Left)					-.034	.022
MNCV of Common Peroneal Nerve (Right)						.582**

** $p < 0.01$; * $p < 0.05$. MNCV – motor nerve conduction velocity

Discussion

In the presented study, the results showed that right and left sural nerve of sprinters and weight lifters players had faster MNCV than right and left radial nerve. The result was reasonable, since the goals of these athletes' training are known as rapid and coordinate movement. Sale et al., (1982) have shown that individuals who undergo limb immobilization for 5 weeks prior to 18 weeks of strength training demonstrate faster median nerve conduction velocity following training. As more agility and coordination training by legs was evidence in sprinter and weight lifters training, it may cause more physiological adaptation in nerve structure for these athletes. Gerchman et al., (1975) indicated that ventral motoneurons following long term exercise had histochemical changes. To characterize muscle fiber differences in trained and non-trained subjects, marked changes in motor unit morphology and functional aspects were reported (Tesch & Karlsson 1985). Aerobic exercise with long-lasting contractions and anaerobic exercise with brief but high intensity contractions causes biochemical changes in motor units (Hakkinen *et al.* 1985). The changes in MNCV may be indicative of adaptations in the nerve structure such as increased axon diameter and myelination (Ross et al. 2001). These changes may enhance the adaptation ability of athletes to excessive physical activity but the mechanism mediating these changes and the exact role of this modulation remains to be determined.

Conclusion

The faster MNCV in right ulnar and left common peroneal nerves as compared to left ulnar and right common peroneal nerve in sprinters and weight lifters may be from long term training adaptations and further it may be relate to their lower extremity movement requirement of changing their movement direction quickly and skillfully. The results of the present study also indicate that long term training is important for increasing MNCV. But the types of training may have different levels of adaptation.

Acknowledgments: The authors would like to thanks the sprinters& weightlifters who voluntarily participated in this study.

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Motor Nerve Conduction Velocity of Radial & Sural Nerves in Athletes of Anaerobic Sports

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Abstract

The purpose of this study was to investigate motor nerve conduction velocity (MNCV) of radial & sural nerve of bilateral side of athletes who are engaged in an anaerobic type sport activities (sprinters & weight lifters). A total of 50 male sprinters & weight lifters with an average age, height and weight of 21.70 ± 1.76 years, 170.38 ± 3.31 cm and 72.06 ± 6.04 Kg respectively, volunteered to participate in this study. Each subject's MNCV was measured with the help of computerized equipment called "NEUROPERFECT" (Medicaid Systems, India) and the data was analyzed using Mean \pm SD, t-test and Pearson correlation. Results show that MNCV of radial nerve of right and left side was significantly different ($p < .05$). MNCV of sural nerve of bilateral side also significantly different ($p < .01$). For both radial and sural nerves, results showed that the sural nerve had significantly faster MNCV than the radial nerve ($p < .01$). According to the results, faster MNCV in sural nerve as compared to radial especially on the right side (i.e. dominant) in sprinters and weight lifters may be from long term training adaptations and further it may be relate to their lower extremity movement requirement of changing their movement direction quickly and skillfully.

Key Words: Motor Nerve Conduction Velocity, Sprinters, Weight Lifters

Introduction

Reaction, coordination, speed and power ability are fundamental for sport. All of the above abilities in sports are linked to motor nerve conduction velocity (MNCV). MNCV is a measure of speed of pulse (nerve impulse) can be transmitted along a motoneuron. A fast MNCV is also an indicator of a short refractory period. In other words, the decreased refractory period may allow for greater impulse frequency, thereby increasing muscle activation levels (Moyano & Molica, 1980). Some studies suggest strength and power athletes have faster MNCV than endurance athletes (Kamen et al., 1984). However, it has also been reported that no differences were evident between power and endurance groups (Sleivert et al., 1995). Other researchers have shown that trained individuals have faster MNCV than untrained ones (Hoyle & Holt, 1983). In theory, changes in MNCV may be an indicator of nerve system adaptation due to long-term physical exercise training. Previous studies had investigated the clinical type of individuals. But, it is more meaningful and interesting to test the athlete especially in which the predominant energy system is an anaerobic type like sprinters & weight lifters and that need to control their lower extremities accurately and speedy that is requiring more neural adaptation for motor nerve conduction velocity after specific physical exercise training. Therefore, the purpose of this study was to investigate motor nerve conduction velocity of radial & sural nerve of bilateral side of athletes who are engaged in an anaerobic type sport activities and to realize whether their neural specification would change from long term training.

Methods

Subjects: Total 50 sprinters & weight lifters in the age range of 18-25 years were voluntarily participated as subjects in the present study on the basis of their predominant energy system i.e. anaerobic. The dominant hand of all the subjects was right hand. The data was collected in Exercise Neurophysiology Laboratory, wherein the room temperatures were kept 25.9 ± 00.2 °C during the MNCV testing. The right and left arm and leg was testing for radial and sural nerve respectively. Motor Nerve Conduction Velocity was assessed with the help of computerized equipment called "Neuroperfect" (Medicaid Systems, India) by using the traditional double stimulation technique (Smorto & Basmajian, 1979). Square pulses of 0.1 ms duration and of sufficient intensity to evoke a supramaximal compound muscle action potential were applied at each stimulus point with surface stimulating electrodes. The subject lay on a wooden table with the straight arm and leg as radial and sural nerve was tested. Nerve conduction velocity was computed as the distance between proximal and distal stimulation points, divided by the difference between proximal and distal stimulus latencies (Smorto & Basmajian 1979).

Statistical analysis:Data were statistically evaluated with the *t* test and Pearson correlation test using SPSS version 10.0 (SPSS Inc., Chicago, IL, USA). Significance was set at the $p < 0.05$ level.

Results:The mean age, body height and body weight of the subjects were 21.70 ± 1.76 years, 170.38 ± 3.31 cm and 72.06 ± 6.04 kg respectively (Table 1).

Table 1 Mean \pm SD of physical characteristics of an anaerobic group of players

Group	N	Age (yrs)	Height (cm)	Weight (kg)
Anaerobic	50	21.70 ± 1.76	170.38 ± 3.31	72.06 ± 6.04

The mean values of MNCV of right and left radial and sural nerves were 44.2 ± 6.2 m/s, 44.1 ± 7.2 m/s, 60.6 ± 4.1 m/s and 59.9 ± 3.9 m/s respectively (Table 2). It was found that the difference in the mean values of MNCV of right and left radial nerve were statistical significant ($p < .05$) and further It was found that the MNCV of right radial nerve was higher than left. The difference in the mean values of MNCV of right and left sural nerve were also statistical significant ($p < .05$) and further It was found that the MNCV of right sural nerve was higher than left. Results also showed that the mean MNCV of sural nerve was significantly ($p < .01$) more than the mean MNCV of radial nerve for both right and left side of the subjects.

Table 2 Mean \pm SD of motor nerve conduction velocity (MNCV) of radial & sural nerve

	Radial Nerve (m/s)	Sural Nerve (m/s)
Right	$44.2 \pm 6.2^*$	$60.6 \pm 4.1^{**}$
Left	$44.1 \pm 7.2^*$	$59.9 \pm 3.9^{**}$

$^{**}p < 0.01$; $^*p < 0.05$.

The results of correlation showed that body height was positively and significantly related with body weight ($r = 0.378$). The MNCV of right radial nerve was also found to be positively and significantly related with MNCV of left radial nerve ($r=.683$) and MNCV of right sural nerve ($r=.281$). The MNCV of left radial nerve was also found to be positively and significantly related with MNCV of right sural nerve ($r=.322$) and MNCV of left sural nerve ($r=.281$).The MNCV of right sural nerve was also found to be positively and significantly related with MNCV of left sural nerve ($r=.675$).

Table 3 Correlation (Pearson) among physical characteristics & MNCV of radial & sural nerve

	Height	Weight	MNCV of Radial (Right)	MNCV of Radial (Left)	MNCV of Sural (Right)	MNCV of Sural (Left)
Age	.111	-.046	.001	-.040	.067	.231
Height		.378 ^{**}	-.102	-.183	.002	-.117
Weight			-.059	-.219	-.201	-.227
MNCV of Radial (Right)				.683 ^{**}	.281 [*]	.194
MNCV of Radial (Left)					.322 [*]	.281 [*]
MNCV of Sural (Right)						.675 ^{**}

$^{**}p < 0.01$; $^*p < 0.05$. MNCV – motor nerve conduction velocity

Discussion:In the presented study, the results showed that right and left sural nerve of sprinters and weight lifters players had faster MNCV than right and left radial nerve. The result was reasonable, since the goals of these athletes' training are known as rapid and coordinate movement

ConclusionThe faster MNCV in sural nerve as compared to radial especially on the right side (i.e. dominant) in sprinters and weight lifters may be from long term training adaptations and further it may be relate to their lower extremity movement requirement of changing their movement direction quickly and skillfully. The results of the present study also indicate that long term training is important for increasing MNCV

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A General Study of Different Yoga Centers And their Contribution in Social Welfare

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Introduction:

The word *Yoga* signifies functional integration at the highest level of spirituous-psychosomatic development. *Yoga* not only ensures the health of the body but also experiences the sense of well being of the senses, the mind and the should simultaneously. *Yogic* practices are very useful to get perfect health and fitness thereby improving the performance in various activities of games and sports. The goal of *Yoga* and human life is self-realization. The philosophical approach of *Yoga* is practical. *Yoga* is applicable to all religious and communities. *Yogic* principles and their practice are the most effective, practical and universal accepted to achieve the highest goal of life i.e. self-realization. Therefore, *Yoga* is a panacea for all, not only for the persons who wish to get *salvation* but for everyone - be a student, teacher, lecturer, doctor, engineer, businessman, doctor, person, sports person, factory workers, house wife, laborers, diseased people and healthy people for keeping themselves healthy and active to achieve the goal of their life and enjoy a complete, perfect health and blissful life, *Yoga* is a Sanskrit term meaning union - a process of uniting oneself with w., he is essentially.

Yoga is one of the six systems of ancient Indian philosophy. It is a Sanskrit word derived its root verb *yoga* meaning *to unite or to yoke or to join a special effort for united action*. *Yoga* is its noun form and means *union*. It is concerned with the union of the individual soul with the Absolute or the Divine Soul. In an applied sense, it is yoking of the mind forces to purify oneself and attain the highest of knowledge. It is the impact of controlled mind on the heart for self-awareness, identification or union of the *Self with* the Supreme Source. The union of the finite with the infinite is *Yoga*. The harmonizing of the ascending and the descending breaths is *Yoga*. The androgynous union of the solar (male) and the lunar (female) forces is *Yoga*. The natural reciprocity between sympathetic and parasympathetic alternation is *Yoga*. These are some of the popular notions of *Yoga*. The present paper will present a general study of different yoga centers in Maharashtra and their contribution in social welfare.

Yoga has already become very popular amongst the masses all over the world. However, for this very reason, many quacks and charlatans are exploiting masses for their selfish goals and due to them, very queer notions regarding *Yoga* have become prevalent among people. Some consider *Yoga* as a set of exercises for maintaining health, others consider it as some mysterious means of getting supernatural powers. Whereas still others think *Yoga* to be a means of getting a kick from sensory experience and entering into extra sensory perception. The *Yoga* system handed down under the name of Patanjali and presented in the slender volume of his *Yoga Sutra* which has gained the reputation of being the classical exposition of *Yoga*. Patanjali's *Yoga* is the second of the systematic or integral expositions of the *Yoga* technique that have been preserved from ancient times. The methodical scheme of Patanjali's *Yoga* has - like that of the Buddha - eight parts : *Yama, Niyaina, Asana, Pranayama, Pratyahara, Dharana, Dhyana* and *Samadhi*. The *Yoga Sutra* of Patanjali appeared during a time when *Yoga* was no longer the practice of a few but had become very popular as a result of the spread of Buddhism, Jainism and other unorthodox religious circles who modified *Yoga* practice and interpretation to suit their respective sectarian cults and beliefs.

Yoga is a subject of such breadth and depth that it covers every possible phase of human existence. The fact that it has existed unchanged for so many years, speaks clearly of its veracity and usefulness to mankind. Truth must always stand unchanged for it is factual and cannot be modified.⁸ Though the subject-matter of *Yoga* has been taken from the sacred books of the Hindus, by itself *Yoga* is not a religion, for it is bereft of any rites or rituals, doctrines or dogmas, creeds or cults as in religions. A Catholic Jesuit, Father). M. Dechanel in his book has recommended *Yoga* as an aid to Christianity. *Yoga* is rooted to India's hoary past. Archeological evidence shows that *Yoga* was practiced in India prior to 2000 B. C. by the inhabitants of the Indus Valley.¹⁰ With the arrival of the Aryans in Indian shortly after 2000 B. C., the principles of *Yoga* came to be recorded in scattered forms in Sanskrit in their sacred books - the *Vedas* and *the Upanishads*. Sanskrit was an Indo-European language. *Yoga* as an organised study of its principles and practices took

shape and emerged as a philosophical system from the basic *Upanishadic* teachings around 2nd Century B.C. like all the other Indian philosophies.

There are limits to tolerance of pressure, particularly the accumulated one, by both body and mind. In contemporary society, there is a lot of pressure of varied kinds on people because of multiplicity of factors and forces. Broadly speaking, the term "stress refers to a typical condition of mental or emotional disquiet. It is a non-specific response of the body to any demand made on it. Stress is the tension and pressure that results when an individual views a situation presenting a demand that threatens to his or her capability or resources. Here we define stress as a person's adaptive response to stimulus that places excessive psychological or physical demands on him or her."¹² Stress may be defined as a person's adaptive response to a stimulus that places excessive psychological or physical demands on that person. It is the pressure experienced by a person perceiving a stimulus in the environment. Purification of body is essential for the normal functioning. In naturopathy and *yoga*, purification in a special form of therapy employed for the elimination of waste products from the body. During stress, the rate of waste-production increases many times and if it is not brought out from the body, it may cause many diseases, water therapy is the most appropriate therapy for purifying the body. Meditation is a yogic technique which has recently become popular all over the world. There have been hundreds of researches on psycho-physical responses during and after meditation and its therapeutic uses. Regular practice of meditation helps in falling down the cholesterol level and plasma cortisol level which is considered as an important bio-chemical indicator of stress.

For proper evaluation, it is imperative to clearly perceive the purpose of carrying out the activity. The significant objectives of *Yoga* education are given below:

- 1] Awareness about health, hygiene and concentration.
 - 2] Daily practice of postures (*asanas*), *pranayama* and meditation.
 - 3] Healthy body along with improved concentration.
 - 4] Development of intelligence-intellect.
 - 5] Awareness of *Yogic* diet and conduct leading to adoption of these disciplines in daily life.
 - 6] Evaluation of self through family, society, nation and humanity at large.
 - 7] Prayer and surrender unto the Lord should play an important role in life.
- As a result of the research, there are live benefits of *Yoga* that are as follows :
- 1] Establishing general muscular tone including that of heart favourable effect on the psyche, especially as an antidote for mental strains.
 - 3] Aid the digestive system of reducing Nervous tension.
 - 4] Control of obesity.
 - 5] Deepening of respiration which favours good gaseous exchange and believes the body becomes strong and healthy.

Yoga places an important role by bringing the therapeutic effects in asthma, diabetes, hypertension, and the like. *Yoga* helps to prevent injury and long term damage including arthritis. *Yoga* involves stretching and strengthening the different parts of the spine, the back bone of our structure. The whole body becomes supple and agile. *Yoga* prevents constipation. *Yoga* promotes the health of the endocrine glands which is associated with nervous system. *Yoga* maintains the overall functional efficiency of different systems of the body. *Yoga* puts certain groups of muscles under pressure straining and this in turn influences muscle tone which is closely related to the one's own emotional behavior. *Yoga* is used as a preventive corrective and therapeutic prescription. *Yoga* also helps to build a strong body inflexible and unwavering mind and unaffected spirit. Hence *Yoga* should be made as a part and parcel of the sports curriculum.

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Innovative management practices for sports department of college

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Introduction :Sports management is the function of an enterprise which concerns itself with the direction and control of the various sports activities to attain the objectives of Physical Education and Sports. Management consists of getting things done through others by directing their efforts in an integrated and co-ordinated manner in order to attain physical education and Sport objectives. It is a process consisting of function such as planning, organizing, actuating and controlling Physical Education and various sports in such manner as to attain the predetermined goals. Physical Education has been identified with a number of activities by different people. These include play, exercise, game, sports, leisure and recreation. Exercise refers to exertion of muscles, limbs etc, for health's sake.

Present Scenario of the Physical Education and sports Department of college in Pune City. At present the physical education and sports curriculum is taught in selective Universities at all India level. In Maharashtra also this curriculum is a part of compulsory subject in very few Universities. But the main problem is that since this is not a compulsory subject the number of students participating in it is very low. There is no system of written examination and evaluation. In colleges, Sports Department at present organizes various inter class sports events. Inter collegiate sports are tournament are organized at zone level, Inter Zonal sports tournaments are organized by University of Pune and Inter University sports events are organized by A.I. U organization Delhi. The present scenario related with various aspects of sports department of colleges is as follows.

A. Infrastructure

Table No. 1

Sr. No.	Particulars	No of the Colleges (130)		Percentage	
		Yes	No.	Yes	No.
1	Separate building for sport department	34	96	26.15%	73.85%
2	Separate Sports Department	78	52	60%	40%

1. 26.15% Colleges have a separate building for the Sports Department. 60% College Sports Department functions in a small room with inadequate facilities. 2. Many colleges running professional courses and non-grant institutions, do not have a separate Sports Department a separate building and Director of Physical Education. 3. Facilities for indoor and outdoor games are not provided by colleges. The places where they are available, they are not well maintained so many colleges do not have properly maintained play grounds 4. Maximum colleges use playground on leased from other institutes, colleges or health clubs.

B. Equipments:

Table No. 2

Sr. No.	Particulars	No of the Colleges (130)		Percentage	
		Yes	No.	Yes	No.
1	Separate Gymnasium	57	73	43.85%	56.15%

- I. Majority colleges are not having sports equipments necessary to organize sports tournaments. Adequate importance is not given to purchase of new equipments.
- II. Only 43.85% colleges have separate gymnasium.

C. Problems of Finance:

Table No. 3

Sr. No.	Particulars	No of the Colleges (130)		Percentage	
		Yes	No.	Yes	No.
I.	As per Users of Gymkhana Fees for Sports Activities	104	26	80%	20%
II.	80 percent college uses the Gymkhana fee for the sports department itself and 20 percent colleges use fee for other				

Recommendations :-

1. Infrastructure

- 1) Each college should have independent Gymkhana Department.
- 2) All colleges should insist University of Pune to make Physical Education as compulsory subject and prepare Syllabus in Which 50 percent of theory and 50 percent of practical should be taken.
- 3) Evaluation / Examination of this subject should be taken.
- 4) While preparing the mark- list of the academic year of education, colleges should consist the marks of physical Education also.
- 5) All available open space such as ground, terrace etc. of the college campus should be reserved for Department of Physical Education.
- 6) College should makes legal provision / rules and regulations to take open ground land at their disposal.
- 7) Multipurpose hall should be constructed.
- 8) Local municipal corporations should be insisted to reserve the lands for the playground in developing cities. In the housing societies there should be reserve space/land for playground and gymkhana compulsorily.

2. Equipments

- 1) If the colleges financially cannot afford to purchase sports articles / equipments individually, they should purchase these items in group they can use it according to their needs.
- 2) The guidance of well experienced persons should be taken to find and purchase the good quality sports articles / equipments.

3. Finance

- 1) College also contributes their own fund, apart from the funds which are available from the Government, U.G.C., and fees from the students. This should be made in the annual budget of the college and the authorities should see that this provision will be utilized for Gymkhana Department only during that financial year.
- 2) All colleges should make efforts to get grants from the Government and U.G.C. for the Gymkhana Department.
- 3) U.G.C. should provide 20 percent of their budget to the Sports / Gymkhana Departments and colleges.
- 4) U.G.C. and the Central Government should bear fifty-fifty expenses for the students who are going abroad for representing our nation.

4. Human Resource:

- 1) All vocational / professional college also form Gymkhana Department and appoint the Director of Physical Education.
- 2) College should make adequate staff both ministerial and coaching for the Gymkhana Department.
- 3) N.I.S. course, orientation course, Refresher Course, Camp and Seminars should be compulsory for the Director of Physical Education.
- 4) To develop positive attitude of other lecturers and staff members towards physical Education and Director of Physical Education, college should involve other staff members in sports activities and get their active participation.

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A study on anxiety behaviour among the sportswomen and non sportswomen

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Abstract

The study was carried out to appraise the significant difference of Anxiety behavior among the sportswomen non sportswomen. The Ex-post-fact research method was adopted. To achieve the purpose 200 sportswomen and non sportswomen were selected randomly as subject, the age ranging from 20 to 25 year. The questionnaire anxiety test was administered. The data pertaining to variable in this study has been examined by using "t" test. The "t" value is 0.12 is lesser than table value. The conclusion is drawn that there is no significant difference in anxiety behaviour of among the sportswomen and non sportswomen as it is not conformed. It might be due to their living condition and poverty made them to manage their emotion.

INTRODUCTION:The pressure experienced by players especially at a professional level is recognized as influencing playing performance. Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels. Even experienced players can suffer from pre-match anxiety. Developing ways to control this is important in order to prevent players from 'falling' apart. And anxiety level will be decided by individual life style and social environmaent.

ANXIETY:Anxiety is a physiological response to a real or emarginated threat. It is a complex emotional state characterized by a general fear or foreboding usually accompanied by tension. It is related to apprehension and tear and is frequently associated with failure, either real or anticipated. It often has to do with inter-personal relations and social situations. Feeling of rejection and insecurity are usually a part of anxiety. According to Frost (1971), anxiety is "an uneasiness and feeling of foreboding often accompanied by a strong desire to excel". Hence, anxiety state arises from faulty adaptations to the stress and strains of life and is caused by over actions in an attempt to meet these difficulties.

Various aspects of the self-concept have been correlated with be general test anxiety. In a study of the relationship between a self-esteem and test anxiety in grades 4 through 8, many and many 11 (1975) found statistically significant negative correlations between the measures of self esteem and each of the measures of general and text – anxiety, when scores were analyzed by total group, grade level, and sex.

Chand and Grau (1977) have investigated the relationship of perceived self and ideal self ratings with high and low levels of anxiety in college women. Subjects with a high degree of anxiety were found to have a significantly greater discrepancy between their perceived self and ideal concept than subjects who had low levels of anxiety.

A discriminate analysis of self-ratings of college students having differential manifest anxiety, by, Mukherjee (1969), has revealed that those with high scored on the manifest Anxiety scale tend to rate themselves lower on perseverance and higher on perfection dimensions than those scoring low. A multivariate analysis that the high group expressed an overall inferior self-image than the low group.

Though some earlier studies had reported no significant difference in terms of anxiety level between groups of actualized and non-actualized subjects, Witkins et al (1977) found a confirmation of a hypothesis inverse relation between levels of self-actualization and anxiety. These latter workers discussed their results in relation to the conceptual distinction between debilitating and facilitating anxiety and their respective effect on psychological growth. On the basis of their studies, Rokeach and his associates (Frucher et al., 1959; Rokeach and Fruchter, 1959) concluded that dogmatism as related to anxiety. These initial findings led to Rokeach's contention that dogmatism "is nothing than a total network of psychoanatical defense mechanisms ". Although some inconsistent results have been obtained, the general trend seems to sonfirm Roktach's findings by showing a positive relationship between dogmatism and anxiety (Bryne et Al., 1966; Castle 1971; Hauson & Bush 1971; Hauson & Clune 1973; Norman 1966; castle 1971 Hauson & Bush 1971; Hauson & clune 1973; Norman 1966; Rebhum 1966; Rokeach & restle 1960; Smiltres 1970).

Extraversion and neuroticism dimensions of personality as measured by I be Maudsley personality inventory, were correlated with scores on the Manifest anxiety scale, in a study by bending (1957). The correlations of anxiety with both extroversion and neuroticism were found to be significant. However, the direction of relationships in case of extroversion was negative and in case of neuroticism positive. The present investigator (1985) in one of his studies concluded that (i) the competitive anxiety decreases “ with the increase in age in the case of the male athletes but it increases in the case of female athletes,(ii) in the case of male and female athletes, the competitive anxiety in the Indian athletes has no relationship with their experience of participation in competition, (ii) the Indian athletes have moderate level of competitive anxiety as compared to the sample norms proving the inverted U-shape the relationship between performance and anxiety. In another study, he (1986) found that there were no significant differences in the anxiety sources of athletes, whether males or females on the basis of four different categories of athletes i.e. sprinters, middle and long distance runners, throwers and jumpers. Also there were no significant differences in the anxiety scores of hockey players whether males or females on the basis of their playing position i.e. forwards, centre and backs.

METHODOLOGY

Statement of problem

The purpose of the study is to assess the sports competitive anxiety a among the Sportswomen non-sportswomen of K.S.W.University Bijapur.

Variables:

Independent:- Sportswomen and Non-sportswomen of University players.

Dependent Variable:- Anxiety behavior.

Limitations:-

1. The study is limited to the measuring the level of anxiety among the sportswomen and non-sportswomen.
2. The study would be limited to the sportswomen and non-sportswomen of Karnataka State Women’s University Bijapur.

Delimitation

1. The present study tries to analyze probe the level and extent of anxiety, among the sports and non-sportswomen.

RESULTS AND DISCUSSION

For the purpose of the present study two samples were drawn from the sportswomen and non-sportswomen of Karnataka State Women’s University, Bijapur at random. The total sample consisted of 200 students of equal education qualification. The sports sample consisted to 100 P.G. students who have participated and represented in different athletic meet at different levels and non-sportswomen sample consisted of 100,those did not participated in any sports activities. The two samples were selected from different P.G. Department of Karnataka State Women’s University, Bijapur.

Table – 1:Shows the sample design and sample compositions of Sportswomen and non-Sportswomen

P.G. Students	sportswomen	Non-sportswomen
Arts	40	40
Science	35	35
Commerce	25	25
Total	100	100

The subjects were divided into groups to facilitate the administration of competitive anxiety scale and locus of control scale. Each group consisted of 100 P.G. Students. The entire sample consisted of female students were excluded from the study in order to eliminate the influence of such factors as would result from lack of sex homogeneity.

Test Administration

Tools

Anxiety:

The Sinha’s Comprehensive anxiety scale were administered to two samples of P.G. students, who were belonging to sportswomen and non-sport women group. The athletes sample consisted of 50 P.G. students who were studying in one or other P.G. course and has participated in sports activities at different levels of competition. The non-sportswomen sample consisted of those students who were studying in different P.G. Courses and who did not participate in any sports activities.

At first instance, the Sinha's comprehensive anxiety scale and separate answer sheets were issued to each student in the group. They were asked to go through the instruction given in the front page. Then for the whole group the instructions were read out loudly and method making in the answer sheet was demonstrated on the black board. First of all, the subjects were asked to sheet was also explained to the group. The subjects were informed to be free in working their responses. The SCAT were administered in a good and permissive atmosphere and it was maintained through out the administration to all groups as for as possible.

They were also informed that the test is neither a test of their intelligence nor of their proficiency.

While there were answering the question supervision was done to know whether they were following instructions in answering SCAT, or not, personal data sheet was also checked to know whether they have filled on all the information that was given on the personal data sheet.

Scoring:

Inventory was scored accurately by the help of the manual in the present study. After completing the scoring of all 200 answers and sheets for both anxiety of both sportswomen and non-sportswomen students, they were statistically analyzed to answer the problems that were set for the investigation.

Statistical Analysis

1. To know the significant difference of anxiety behavior among o the sportswomen and non-sports, mean, variance, standard deviation and 't' were calculated. The results are discussed here.

Table – 1

Table Showing the mean, Sd and acquirerd't' value of Anxiety behavior of Sportswomen and non-sportswomen,

Sl. No.	Variables	Mean	Sd	t'Value
01	Non-sportswomen	45.3	2.62	0.12
02	sportswomen	43.3	2.70	

The mean scores and standard deviation on non-athletes and athletes were 45.3, 2.62 and 43.3, 2.70 respectively which show that there is not much or little deviation in the anxiety level of sportswomen and non-sportswomen. Both non-sports and sportswomen showed almost same level in anxiety behaviors. When these scores were subjected to't' test, the acquired't' value was 0.012 which was lower than't' table value at 0.05 level hence. It reveals that there is no difference in anxiety behavior of Sportswomen and non-sportswomen. Hence formulated hypothesis was rejected. This may be due to the fact that the respondents consisted to sportswomen and non-sportswomen are coming from rural areas they are exposed to various activities and faced lot of problem to pursuing their degree and education and hard working nature made them to sustain stress and manage anxiety behavior effectively when they exposed to situation.

Conclusion:

The Study carried out by researcher reveals that anxiety behavior will manifested by situational factor but sportswomen and non sportswomen chosen for this study were coming from the rural and poverty background, these factor made them to cultivate the sustainable ability and managing skills among the sportswomen and non sportswomen of the university

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Sports Persons' Attitude Towards Cultural Determination And It's Impact On Their Performance

By Mrs.Parvati S.Ghanti, Mrs.Suvarna Reddy and Dr.Jayashree Reddy

ABSTRACT

The Sports person's performance is influenced by many factors; personality traits, attitudes, interests etc., social factors, social identity, organizations, society family, socio economic status, values etc, similarly cultural factors such as religion, ethnicity, language, modernization rituals, etc. In their present study researcher tried to explore the impact of sportspersons Attitude towards Cultural Determination and its impact on their sports performance. To measure the Attitude of sportspersons towards Cultural Determination, Culture Determination Scale (CDS) by Prof N.S.Chouhan was used and its impact is studied on the performance in sprint. Findings concluded that there is no significant difference between performance of male and female sports persons and positivity in cultural determination attitude shown to increase the performance of sports persons. Results are discussed thoroughly.

INTRODUCTION

Sports is as old as the human society and it has achieved a universal following in the modern times. Millions of fans follow different sports events all over the world with great Devotion and Enthusiasm. Many participate in sports activities for the fun or for health fitness. Sports provides experiences that bring people together in new and interesting social configuration. At the same time, social and cultural identities can change and evolve over time. "An Attitude is a readiness to respond in such a way that behaviour is given a certain direction". One's behaviour, to a great extent depends upon one's attitude towards the things, idea, person or object in this environment. The entire personality and development of the child is influenced by the nature of his attitude.

The social and cultural benefits of sport are most apparent when this relationship is fluid. In other words, the richness of social and cultural associations that emerge from a multi faceted identities: soccer fullback-hockey forward 10km runner, runner-coach-youth-leader, sports mother-athlete-fundraiser. Additionally stakeholders were adamant that the cultural benefits of sport transcended traditional compartmentalized experiences in "amateur sport", "recreational sport" and "physical leisure"..

SIGNIFICANCE OF THE STUDY :

The Sportspersons Performance is influenced by many factors, Personality traits, attitudes, interests etc., Social factors, social identity, organizations, society family, socio-economic status, values etc., similarly cultural factors, such as religion, language, modernization, rituals, etc

RESEARCH DESIGN

One eighty sportspersons were considered as sample, out of which 90 sportspersons were male and 90 sportspersons were female.

TOOLS USED FOR STUDY

- 1) Cultural Determination scale (GDS) Developed and standardized by Prof. N.S.Chouhan.
- 2) Performance in sprint.

DATA COLLECTION PROCEDURE

For the present study, the total sample of 180 sports persons were selected based on their gender i.e. 90 sports persons were male and 90 sports persons were female. All the sample sportspersons were provided with 'Cultural determination' questionnaire, 100 Mtrs. Sprint has been conducted for sample and scores have been recorded in seconds

RESULTS AND DISCUSSION

The obtained statistics for comparing Attitude towards cultural determination on performance of Male and Female sports persons have been given in table-1

TABLE-1
Mean, SD and 't' values of Male and Female sports Persons' performance

Gender	N	Mean	S.D.	Table 't' value		Obtained 't' value
Male	90	12.585	0.887	0.05	1.960	2.16
Female	90	12.610	0.980	0.01	2.576	

Here Male and female sports persons exhibited no significance differences. Table-1 further shows that male sports persons as compared to female sports had significantly greater performance score i.e. 12.585. It implies that male sports persons had stronger performance as compared to female sports persons. But no gender differences appeared to be significant. From this it was concluded gender differences is not a discriminatory factor for sports persons. Hence the Null hypothesis is formulated in this study was accepted.

TABLE-2
Performance of Sports Persons with Reference to Different Cultural Determination Categories

C.D.C	Mean	S.D.	Minimum	Maximum	Range
CC	12.3995	.9912	9.11	13.91	11.80
UD	12.7502	.8672	10.00	13.92	3.92
CR	12.8494	.7389	10.20	13.56	3.36
Total	37.9991	2.5973	29.31	41.39	12.08

DATA INTERPRETATION

Out of 180 sports persons 87 sports persons shown have cultural conformity, 62 sports persons and undecided ness and 31 sports persons as cultural rebellion attitude. The mean values of CC, UN, and CR categories are 12.32, 12.75 and 12.84. Though sports persons with Cultural conformity seems to have higher performance than sports persons with cultural undecided ness and Cultural rebellion attitude, their S.D. is 12.37 indicating higher variance in the score. Sports persons with positive attitude towards culture shown higher performance than Sports persons with undecided attitude towards culture. Again sports persons with Un attitudes shown better performance than the sports persons with Cultural rebellion attitudes. Higher the cultural conformity higher will be the performance.

TABLE-2.1
Mean, SD and 't' values of of Cultural conformity and Undecided ness attitude of sportspersons with reference to their performance

CDC	N	Mean	S.D.	Table 't' value		Obtained 't' value
CC	51	12.3995	.9912	0.15	1.960	2.106*
UD	89	12.7502	.8672	0.01	2.576	
Total	140	25.1497	.20584			

*significant at 0.05 level of confidence at 139 d.o.f.

The data was analyzed using the 't' test. From the table 2.1 it is clear that there is statistically significant difference between the performance of sportsperson with Cultural conformity and Cultural undecidedness attitude. So the Null hypothesis is rejected.

TABLE-2.2

Mean, SD and 't' values of Undecided ness and Cultural rebellion attitude of sportspersons with reference to their performance

CDC	N	Mean	S.D.	Table 't' value		Obtained 't' value
UD	89	12.7502	.8672	0.05	1.960	0.667
CR	40	12.8494	.7389	0.01	2.576	
Total	129	25.5996	.16061			

Table 2.2 provides the comparison between Undecided ness and Cultural rebellions attitude sports persons' and their performance mean and SD values. In the table it is clear that there is no significant difference between Undecided ness and Cultural rebellions attitude sports persons' performance. Hence the Null hypothesis is accepted.

TABLE-2.3

Mean, SD and 't' values of Cultural rebellion and Cultural conformity attitude of sportspersons with reference to their performance

CDC	N	Mean	S.D.	Table 't' value		Obtained 't' value
CR	40	12.8494	.7389	0.05	2.00	*2.479
CC	51	12.3935	.9912	0.01	2.66	
Total	91	25.2489	.17301			

*significant at 0.05 level of confidence at 90 d.o.f.

The table 2.3 also indicated that there is a significant difference between the means of sports persons with Cultural rebellion and Cultural conformity attitude with reference to their performance. So the Null hypothesis is rejected.

FINDINGS

- 1) Both Male and Female sports persons have shown on an average and equal amount of performance.
- 2) There is no significant difference between Undecided ness and Cultural rebellions attitude sports persons' performance
- 3) There is statistically significant difference between the performance of sportsperson with Cultural conformity and Cultural undecidedness attitude.
- 4) Sports persons with cultural confirmation (CC) attitude have better performance than cultural Undecided ness (UD) and cultural rebellion (CR) attitude.
- 5) Cultural conformity (CC) attitude has positive impact on performance of sports persons than cultural Undecided ness (UD) attitude of sports persons.

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A Comparative Study of Physical Fitness of Central, Navodaya and Adarsh Residential Schools' Students of Gujarat State

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Introduction: In the current time, it has become necessary to think about the ways to increase the capacities of human beings and to sustain those potentialities. The thinking in that direction is a call of a day. Not even that, the research in that direction will definitely help the future generations. It is good that Physical Education has been accepted as a general subject since last many years. In the today's High technological Age, Physical Education is accepted as a "complete experience". "Physical Capacity" is the biggest potentiality of human being. It can not be bought. It can only be achieved through day to day physical activity. The researchers of Physical fitness and medical science have tried to discuss the physical fitness in various forms in the researches done in the field in contemporary time. According to these studies, the physical fitness depends on the following factors:

1. Psychological fitness: (A) Psychological fitness is necessary so a human can fight against the environmental challenges. (B) In good psychological health a person can keep himself intact in the times of mental crisis.

2. The body shape is so that the height of the body, size and muscles remain in proper harmony.

Adarsh Residential Schools have been started to give good education to the children of backward areas and those of laborers to stop them from going for labor in the very early age. In such schools there is provision for free of cost education and lodging and boarding. These schools are affiliated with Gujarat Secondary Education Board. In Gujarat there are 43 such schools are for ST students, 17 for SC students and 33 for undeveloped class. They have three periods in week in every class for physical education. The mass drill is kept once in a week.

The current study is done with the intention to help the results regarding the physical fitness by knowing the physical fitness of the students of the just mentions three schools.

Materials and Methods:

- The selection of the subjects: For his study the boys of the age group of 13 to 16 years of the Central, Navodaya and Adarsh Residential Schools of Gujarat have been selected as subjects. From every of the above mentioned schools, 400 students have been selected as subjects. Every subject was informed regarding the need of the Scholarly study and their agreement was taken in advance.
- Procedure: to measure the physical fitness of the selected subjects, the permission of the concerned principals was taken. And then the AAPHER Youth Physical Fitness Test was taken in reciprocal suitable time and dates. All schools were visited for two days each and following aspects were measured.
 - FIRST DAY:
Pull-ups: to measure the bearing capacity of the hands and shoulders, the test of pull ups as done. The number of pull-ups was measured.
- Sit-Ups: to measure the capacity of the Waist muscles and the bearing of it, the test of sit-ups was carried out. The sit-ups done for 60 seconds were noted.
- Shuttle Run: To measure the speed and flexibility, the shuttle run of 4 by 30 meter run was tested. The record was noted in seconds.
 - SECOND DAY:
Standing Broad Jump: to measure the explosive capacity of the legs' extensions muscles the test of Standing Broad Jump was taken. The best performance from the given three chances was recorded.
- 50 Yard run: to measure the speed of the leg muscle and also to measure the explosive power of the same the test of 50 yard run was done. The note was done in seconds.
- 600 Yard Run: To measure the cardio vascular Endurance,, the test of 600 yard run was carried out. The records were taken in seconds.

Statistical Analysis: the ANOVA (Analysis of Variance) was applied to measure the index of the received physical fitness. After receiving the significant variance, LSD (Least Significant Variance test) was applied to know the difference. The Significant level were kept 0.05.

Results & Discussions :While doing ANOVA on the received data, the following F- Ratio was received:

Table-1 Analysis of variance of Physical Fitness

Source of variance	Sum of square	Degree of freedom	Mean of square	F-ratio
Between group	2774.88	2	1387.44	24.72
Within group	67181.93	1197	56.12	

Significant at 0.05 levels

Tab 0.05 (2, 1197) = 3.03

As shown in Table 1 $F=24.72$ are received which is bigger than standard value 3.03 at the level of 0.05 which can be called significant at the level of 0.05. so it can be said that at he physical fitness of all the three school students vary from one another. To know the exact variance and difference LSD (Least Significant Test) was done. The results of that test are as following.

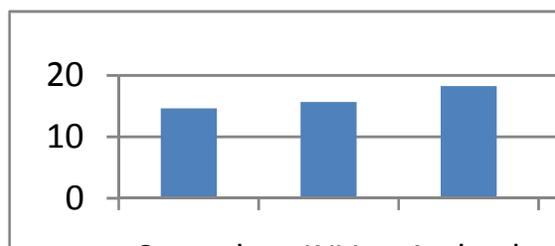
Table 2

Central school	JNV	Adarsh School	Mean Difference	0.05 level CD%
14.68	15.69		1.01	
	15.69	18.29	2.60	1.03
14.68		18.29	3.61	

It can be seen from the Table 2 that the Mean of Central School is 14.68 and the mean of JNV is 15.69 and the mean of Adarsh School is 18.29. The critical difference received is 1.03 at 0.5% level. The mean difference of JNV and Adarsh and that of Central and Adarsh (respectively 2.60 and 3.61) is smaller so it can be said that physical fitness of the Adarsh Residential school students is better than that of Central School and JNV. The Physical Fitness of Central School students and that of JNV is almost similar. These things can be seen more properly through the graph.

Graph

The mean difference of Physical Fitness



Conclusions: When we do the stastical analysis of the received data of the study, the result received reveal that the Physical Fitness of the Students of the Adarsh Residential School is quite different from that of the central Schools and JNV. In short although the students belong to the same age group the result varies. The reason behind this difference is that the students of the Adarsh Residential Schools are from backward class. And the objective of such schools is to develop the students of these areas by giving the facilities of education. We can say that the physical fitness of the students who are born and brought up in the hilly and rural areas is naturally better. Moreover the students of the Adarsh Residential Schools were from tribal belt. So it can be concluded that the physical fitness of the tribal students is better than other students.

Recommendations: From the result of this study it can be said that if the talent hunt is done among the tribal students from the very beginning, good sports people from this category can be found out who can make their name in the national and international level. The physical fitness of the students can improve if the activities like mountaineering, physical activities in the adverse conditions etc are included in the school activities.

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A Study of Reaction Time and Speed in Football Players

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Abstract

The aim of this study was to determine the relationship between reaction time (auditory & visual) and speed (20 meter sprint time) in male football players. A total of 45 male football players with an average age, height and weight of 21.38 ± 3.15 years, 170.34 ± 5.79 cm and 64.17 ± 6.45 kg, respectively, volunteered to participate in this study. Each subject's reaction time and speed were measured, and the data analyzed using Pearson's correlation and paired *t* tests. There were no meaningful correlations between reaction time and speed in the subjects. However, their auditory reaction times were significantly better than their visual reaction times, and there was a negative correlation between body weight and speed ($p < 0.01$).

Keywords: Reaction time, Football, Speed

Introduction- Reaction time is the intermission between the onset of a stimulus and the commencement of a movement response (Magill 1998). The reaction time for a visual stimulus is about 250 ms and for an auditory stimulus is about 170ms (Magill 1998). Reaction time can be further broken down into three parts. The first part is perception time - the time for the application and perception of the stimulus and giving the essential reaction to it. The second part is decision time, which signifies the time for giving a suitable response to the stimulus. The third part is motor time, which is the time for compliance to the order received (Tripo 1965). Singer et al. (1993) defined reaction time as being composed of four stages, namely: the start of eye movements, eye movement time, decision time and muscle contraction time. Reaction time is affected by various factors such as age, gender, number of simultaneous stimuli, nutrition, physical activity, training and physical fitness and fatigue (Morehouse & Miller 1976 and Spirdiso 1975). The athletes have better reaction times than non-athletes (Moka et al. 1992). Reaction time is a crucial factor affecting success in many sporting competitions. The reaction times of athletes in different sports and even in the same sports but playing in different positions show variations (Moka et al. 1992). The reaction times of high performance sprinters were found to be shorter than those of low performance sprinters. Exercise induces arousal that supports alertness to external environmental stimuli in highly trained athletes (Mouelhi et al. 2006). Explosive power, together with reaction time, decides the results of competitions in the first 2–3 meters (Akgün 1996). Since football requires 1–3-second explosive sprints, the importance of this characteristic becomes much more obvious in the performance of players. Research has shown that speed can be enhanced by strengthening the muscles (Akgün 1996). One of the most significant biomotor abilities required in sports is speed, or capacity to travel or move very quickly. From a mechanical point of view, speed is expressed through a ratio between space and time. The term *speed* incorporates three elements: (i) reaction time; (ii) frequency of movement per time unit & (iii) speed of travel over a given distance (Bompa 1994). Research Studies have revealed that reaction time is independent of speed (Paradis et al. 2004 and Yakut 2004). Although it is also known that physical training has positive effects on both reaction time (Davranche et al. 2006) and speed (Little & Williams 2005), the relationship between reaction time and speed has not been extensively investigated in the literature. The aim of this study was, therefore, to observe the relationship between reaction time (auditory & visual) and speed (20 meter sprint time) in male football players.

Methods

Subjects- The subjects in this study were 45 male football players from different professional football clubs/or teams of Punjab.

Data were collected in the Exercise Neuro Physiology laboratory of Department of Sports Science, Punjabi University Patiala [Punjab] India. The body heights and weights of the subjects were measured with anthropometric rod and spring based weigh machine. The 20-meter speed test was carried out in the field and visual and auditory reaction times were measured using the audio & visual reaction time instrument.

Statistical analysis- Data were statistically evaluated with the paired *t* test and Pearson's test using SPSS version 10.0 (SPSS Inc., Chicago, IL, USA) for Windows. Significance was set at the $p < 0.05$ level.

Results- Subjects' mean age, height and body weight were 21.38 ± 3.15 years, 170.34 ± 5.79 cm and 64.17 ± 6.45 kg, respectively (Table 1).

Table 1 Mean ± SD of Physical profiles & 20 meter sprint speed of the football players

Age (years)	21.38 ± 3.15
Body height (cm)	170.34 ± 5.79
Body weight (kg)	64.17 ± 6.45
Time playing (years)	7.65 ± 2.53
Visual Reaction Time of the Right Hand [VRTRH] (ms)	225.37
Visual Reaction Time of the Left Hand [VRTLH] (ms)	224.63
Auditory Reaction Time of the Right Hand [ARTRH] (ms)	189.13
Auditory Reaction Time of the Left Hand [ARTLH] (ms)	192.70
20-m Sprint Speed (s)	5.08 ± 0.55

There were significant differences between the auditory and visual reaction times of both the right and left hands ($p < 0.01$). The visual reaction time of the right hand (VRTRH), visual reaction time of the left hand (VRTLH), auditory reaction time of the right hand (ARTRH), and auditory reaction time of the left hand (ARTLH) were 225.37ms, 224.63 ms, 189.13ms, and 192.70ms, respectively. There were no significant relationships between the reaction time and speed of the subjects (Table 2). However, there was a negative relationship between the body weights and sprint values of the football players ($p < 0.01$). In other words, the greater the body weight, the shorter the 20-meter sprint time. Moreover, there was a statistically significant positive relationship between the auditory and visual reaction times ($p < 0.01$) of the players.

Table 2 Correlation (Pearson's) among the parameters in the male football players

	Body weight	Age	VRTRH	VRTLH	ARTRH	ARTLH
Body weight	-					
Age	0.405**	-				
VRTRH	-0.063	0.057	-			
VRTLH	0.119	0.202*	0.604**	-		
ARTRH	0.085	0.200*	0.463**	0.547**	-	
ARTLH	-0.036	0.232*	0.479**	0.546**	0.650**	-
Speed (20-m)	-0.311**	-0.513**	0.034	-0.007	0.020	-0.147

** $p < 0.01$; * $p < 0.05$. VRTRH = visual reaction time of the right hand; VRTLH = visual reaction time of the left hand;

ARTRH = auditory reaction time of the right hand; ARTLH = auditory reaction time of the left hand.

Discussion- Reaction time and speed variables have been used in the evaluation of the motor skills of athletes for a considerable time. Although reaction time is a measure of performance, researchers usually use it to evaluate motor skills (Magill 1998). The right and left hand auditory (ARTRH, ARTLH) and visual (VRTRH, VRTLH) reaction times of the male football players who participated in this study examining the relationship between reaction times and speed were 189.13ms, 192.70ms, 225.37ms, and 224.63ms, respectively.

. Ziyagil et al. (1994), in their study of wrestlers, determined the right and left hand auditory reaction times to be (1/100 s) 17.46 ± 1.46 and 16.87 ± 1.12 , respectively, and the right and left hand visual reaction times to be (1/100 s) 17.38 ± 1.85 and 17.84 ± 1.27 , respectively. Erođlu & Senel (2002) found the following mean reaction times in their study of wrestlers: ARTRH of 182.09 ms, ARTLH of 179.54ms, VRTRH of 206.09ms, and VRTLH of 212.91ms. The reaction times obtained in the current study are in good compliance with the values reported in all of these previous studies. Imamogđlu et al. (2000) reported the 20-meter sprint values of professional and amateur soccer players as 2.95 ± 0.17 s and 3.07 ± 0.27 s, respectively. The 20-meter sprint values of soccer players at different levels from other studies are as follows: Eniseler et al. (1996) reported values of 2.86 ± 0.10 s for premier league soccer players, 2.89 ± 0.07 s for second league soccer players, 2.94 ± 0.07 s for division 3 players, and 2.96 ± 0.08 s for amateur soccer players. Ziyagil et al. (1997) reported values of 2.99 ± 0.1 s for professional soccer players, and 3.24 ± 0.11 s for reserve team players. Alpay (1999) reported values of 2.84 ± 0.9 s for professional soccer players, and 2.97 ± 0.1 s for amateur soccer players. Ćebi (1999) reported values of 3.01 ± 0.1 s for professional soccer players, and 3.24 ± 0.1 s for amateur soccer players. The mean 20-meter sprint result of 5.08 ± 0.55 s obtained in this study is in good concordance with the above previously reported values.

Table 2 shows that there was a negative correlation between body weight and sprint speed of the football players ($p < 0.01$). In other words, the greater the body weight, the shorter the 20-meter sprint time. There was a statistically significant positive correlation between the auditory and visual reaction times ($p < 0.01$). The decrease in the visual reaction times of the subjects is accompanied by a decrease in their auditory reaction times. The auditory reaction times of the subjects were significantly shorter than their visual reaction times ($p < 0.01$). This is also supported by data in the literature (Teichner 1954). In the present study, no significant correlation was observed between reaction time and sprint speed. Paradis et al. (2004), in their study of 209 male and female athletes who competed in the Greek, Balkan and European indoor championships in 2002, determined that there was no significant correlation between reaction times and the 60m, 60m hurdles and 200 m race results. Reaction time cannot be an indication of action time performance since these two variables represent different components of performance. In other words, reaction time and action time are not dependent on each other (Yakut 2004). The most important characteristic of reaction and action times is that they are independent measures. This signifies that the correlation between reaction time and action time is typically low. Thus, one cannot use reaction time to determine or predict action time. Magill (1998) stated that reaction time and action time were independent of each other; he studied 402 subjects between 8 and 30 years of age and found almost zero correlation between reaction time and action time. Action time can be improved by appropriate training. It is known that regular training also has a positive effect on reaction time. Although these two factors are independent of each other, they can both be improved by common strategies such as suitable physical training (Lemmink & Visscher 2005; Montes-Mico et al. 2000). Linford et al. (2006) reported that a 6-week training program significantly reduced reaction time of the peroneus longus muscle in healthy subjects. The fact that the subjects in this study had similar performance levels may have resulted in the lack of a significant correlation between reaction times (audio & visual) and sprint times.

Conclusion- No significant correlation was found between the audio and visual reaction times and the speed of the football players who participated in this study. However, there was a negative relationship between the body weights and sprint times of the football players. In addition, there were significant differences between the audio and visual reaction times of the subjects.

Acknowledgments: The authors would like to thanks the football players/clubs who voluntarily participated in this study.

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Comparison Of QRS complex in graded treadmill test among different Sports Men.

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Abstract

The study was conducted on a total of 30 male volunteers in the age range of 16 to 22 years. The subjects were grouped in to Aerobic, Anaerobic and Sedentary groups based on their training specialty. The aerobic group consisted of 8 trained cyclists while the anaerobic group consisted of 3 sprinters, 4 footballers and 5 wrestlers. Both the aerobic and anaerobic groups were trained for a year and above. The sedentary groups comprised of 10 students from different departments of Punjabi University, Patiala and were not taking part in any regular exercise program. The main aim of the study was to compare the ECG responses to graded treadmill exercise among the aerobic, anaerobic and sedentary groups as well as to report the effect of intensity of exercise on the ECG. All the subjects of the study were administered a graded treadmill test using Modified Bruce Protocol that consisted of nine stages each of which lasted for 3 minutes. All the subjects completed all the nine stages. Exercise test was performed on Electrical Treadmill. Heart rate and ECG responses were monitored by using a standard 12-lead system with a computerized Electrocardiograph machine. The Grade of the treadmill was kept constant for the first three stages (0%) and then starting from stage 4 grade was increased to 12% where after it was progressively increased by 2% until stage 9 to 22%. The speed of the treadmill belt was 2.70 Kilometer per hour in the first three stages thereafter gradually increased to 4.00, 5.40, 6.70, 8.00, 8.80 and 9.60 kilometer per hour at stage 4, 5, 6, 7, 8 and 9 respectively. The workload or intensity was 4.80, 7.10, 10.00 and 14.00 MET at stages 3, 4, 5 and 6 respectively; and 20 MET through stage 7 to 9

Introduction

The heart as a pumping organ undergoes a rhythmical contraction and relaxation due to the action potential generated by special excitatory and conduction system of the heart. The force and rate of myocardium contraction determines the amount of blood pumped by the heart and distribution to the various tissues of the body. This demand is tremendously enhanced during exercise. The electrical events of the heart produce mechanical events like systole which in turn pumps the blood out of the heart and raise the blood pressure to move blood to the lungs and peripheral regions. This action potential when travels through different conduction pathways of the heart create different waves. The duration and amplitude of these waves are crucial in indicating the atria and ventricular contraction and recovery time. Therefore, based on the above background the present study is planned to compare the duration and amplitudes of the different ECG waves among the normal sedentary, aerobic and anaerobic group of players as well as explore the effect of the intensity of effort on the wave amplitude and durations characteristics. The study was conducted on a total of 30 male volunteers with age range of 16 to 22 years. All the subjects were healthy. The total subjects were grouped in to Aerobic, Anaerobic and Sedentary groups. The aerobic group consisted of 8 trained cyclists who represented Punjabi University, Patiala in state and national level competitions. The anaerobic group consisted of 3 sprinters, 4 footballers and 5 wrestlers. They were also trained athletes participating in the state and national level representing Panjabi university, Patiala. Both the aerobic and anaerobic groups were trained for a year and above. The sedentary groups were 10 in number and they all were students from different departments of Punjabi University, Patiala and were not taking part in any regular exercise program. **Material** :Exercise test was performed on Electrical Treadmill (Car-division) and heart rate and ECG responses were monitored by standard 12 lead system using Computerized Electrocardiograph machine. **Methods**: One day before the exercise test, subjects were informed not to take food for at least two hours prior to the test. During the test day subjects were screened using life style assessment inventory questionnaire. They were also motivated to complete all the nine stages unless they encounter any complications related to their health.

Results & Discussion

The results pertaining to the study entitled Comparison Of QRS complex in graded treadmill test among normal Sedentary, aerobic and Anaerobic Sports Men conducted on 30 males belonging to aerobic, anaerobic and sedentary groups have been presented in the form of tables and illustrated with the help of suitable figures where ever necessary. For the sake of convenience and systematic presentation of results, the results of the study have been presented and discussed with respect to the different stages of exercise as per Modified Bruce Protocol in the following order.

QRS complex:The QRS-complex represents ventricular depolarization. Ventricular rate can be calculated by determining the time interval between QRS-complexes. The duration of the QRS-complex is normally 0.06 to 0.1 seconds. This relatively short duration indicates that ventricular depolarization normally occurs very rapidly. If the QRS-complex is prolonged (> 0.1 sec), conduction is impaired within the ventricles. This can occur with bundle branch blocks or whenever a ventricular foci (abnormal pacemaker site) becomes the pacemaker driving the ventricle. Such ectopic foci nearly always results in impulses being conducted over slower pathways within the heart, thereby increasing the time for depolarization and the duration of the QRS-complex.

Table 2 enlists the mean values of QRS- complex duration during different stages of Modified Bruce Protocol among sedentary, aerobic and anaerobic groups of players. Statistical comparison of the mean values reveals existence of non-specific differences among the three groups at different stages of the treadmill exercise (Tables,1&2). Although the differences in the mean values have no statistical significance but consistently lower mean QRS duration is observed in the case of aerobic group as compared to the sedentary and anaerobic groups . QRS-complex represents ventricular depolarization which involves the interventricular septum and simultaneous left and right ventricular stimulation. The lesser duration of ventricular depolarization in case of aerobic group is indicative of faster spread of electrical activity in the ventricles and more time available for the recovery of the heart. Sympathetic stimulation increases conduction velocity, whereas ischemia tends to decrease conduction velocity by slowing the rapid upstroke (phase 0) of the ventricular action potential. It has been postulated that differences in QRS duration from rest to exercise might serve as a marker of ischemia. A subtle prolongation of QRS duration during exercise was demonstrated by *Ahnve et al (1986)*. Modest exercise QRS shortening in normal subjects was found by *Michaelides et al (1993)*. The magnitude of change in these studies was small, in the range of 3 ms of shortening in normal subjects and 6 to 8 ms of lengthening in coronary disease patients. *Berntsen et al (1995)* were able to associate more marked exercise-induced QRS prolongation, in the range of 15 ms, with increased risk for subsequent ischemia-related ventricular tachycardia. Computer-based optical scanning for more precise measurement of QRS duration during exercise testing was introduced by *Cantor et al (1997)* and was found to outperform standard ST-segment criteria for identification of disease in women (*Cantor et al, 1998; Yosefy et al, 2004*) and for the detection of post-percutaneous transluminal coronary angioplasty restenosis (*Efrati et al, 2003*). These methods are amenable to computer-based implementation in digital ECGs. It seems that the aerobic group of activities produces positive effects on the conduction channels of the ventricles facilitating electrical spread of impulses and giving more time to the heart to recover specially at higher heart rates. Table 2 depicts the mean QRS amplitude values along with its statistical derivatives among the three groups i.e., aerobic, anaerobic and sedentary at different stages of graded treadmill exercise. It is observed that amplitude of the overall QRS-complex demonstrate wide variations in the mean value of QRS-wave. The mean amplitude has been observed to be 1.66 mV, 1.85 mV and 2.17 mV in the sedentary, anaerobic and aerobic groups respectively at stage 1 of the Modified Bruce Protocol. In the aerobic and anaerobic groups a general feeble tendency of increase in the mean amplitude is observed with increase in the intensity of the effort. Application of analysis of variance reveals existence of significant differences in the mean QRS-wave amplitudes among the three groups at stages 2 through 8 of the treadmill exercise (Tables 3to8). The differences are of statistical significance at all stages of Modified Bruce Treadmill Protocol except at stage 1. Further exploration with Schafee's post-hoc test demonstrates that aerobic group of players on average have significantly greater QRS amplitude than their anaerobic and sedentary counterparts (Tables 3&8). The observation of the present study indicates greater ventricular myocardial mass involved in the pumping of blood during exercise in case of aerobic group of players. This is an adaptive process by virtue of which heart of athletes undergoing aerobic training are able to pump more blood per beat i.e., stroke volume and therefore are able to meet the oxygen demand of exercise at relatively lower heart rates compared to the sedentary and anaerobic groups of athletes. The sedentary and anaerobic groups of players accomplish the task of meeting of the oxygen demand of exercise with higher heart rates and lower stroke volumes. This is indicated by the results of the present study between the three groups in case of minute heart rates and RR interval at a comparable stage of exercise. Anaerobic and sedentary groups show higher heart rates and lower QRS amplitude compared to the aerobic group at any given stage of exercise. QRS amplitude has been reported to be influenced by age, sex, physical fitness, and body build of the individual. The findings of the present exploration are also in agreement with the above.

Conclusion The results indicate that the electrical activity of the atria in terms of duration and amplitude remains unaffected by the intensity of exercise and specialized training i.e., aerobic or anaerobic training do not produce any change in this character of the p-wave. Consistently lower mean QRS duration is observed in the case of aerobic group as compared to the sedentary and anaerobic groups but with no statistical significance. Aerobic group of players on an average have significantly greater QRS-amplitude than their anaerobic and sedentary counterparts. The observation of the present study indicates greater ventricular myocardial mass involved in the pumping of blood during exercise in case of aerobic group of players. This is an adaptive process by virtue of which heart of athletes undergoing aerobic training are able to pump more blood per beat i.e., stroke volume and therefore are able to meet the oxygen demand of exercise at relatively lower heart rates compared to the sedentary and anaerobic groups of athletes. The sedentary and anaerobic groups of players accomplish the task of meeting of the oxygen demand of exercise with higher heart rates and lower stroke volumes. This observation has a great potential from the training point of view. Coaches can make use of this observation in gauging the progression of athletes during the aerobic training regimes. This will eliminate tedious, evasive and time consuming procedures involved in monitoring and evaluating the measurement of cardiac output and heart dimensions. QRS-amplitude measurements are simple and non evasive and also provide the same information quickly and are less expensive. Like QRS-complex amplitude, T-wave duration values show different mean durations of T-wave at all stages of treadmill exercise. This difference has statistical significance at all stages of exercise except stage 1. In general aerobic and anaerobic group of players demonstrate greater mean amplitude of T-wave at all stages of exercise as compared to the sedentary group, with aerobic group of players demonstrating even greater mean amplitude of T-wave at all stages of exercise as compared to the anaerobic group except at stages 7 & 8 of treadmill exercise. Regarding PR and ST-segment durations no differences have been observed between the three groups. PR-interval also exhibits the same picture. Mean QT-interval demonstrate greater mean values in the aerobic group as compared to anaerobic and sedentary groups at all stages of graded treadmill exercise protocol which is indicative of the fact that the heart of the aerobic group players has more time available for electrical activation and recovery of the ventricular myocardium at any intensity of workload as compared to the other two groups.. Even the corrected QT-interval values display greater mean values in the aerobic group as compared to the anaerobic and sedentary groups at all stages of graded treadmill exercise protocol. Significantly greater RR-interval values are observed in the aerobic group than the other two groups. This observation signifies that at corresponding stage of exercise, the aerobic group increase their heart rate significantly less than the other two groups. **Table 1: QRS-interval/duration values (Secs) during different stages of Bruce Protocol**

Stage of Modified Bruce Protocol		Sedentary	Aerobic	Anaerobic
Stage 1	Mean	0.088	0.080	0.085
	SD	0.017	0.021	0.012
	SEM	0.005	0.008	0.004
Stage 2	Mean	0.090	0.080	0.087
	SD	0.025	0.021	0.013
	SEM	0.008	0.008	0.004
Stage 3	Mean	0.090	0.080	0.087
	SD	0.017	0.021	0.013
	SEM	0.005	0.008	0.004
Stage 4	Mean	0.088	0.080	0.087
	SD	0.017	0.021	0.013
	SEM	0.005	0.008	0.004
Stage 5	Mean	0.092	0.080	0.085
	SD	0.019	0.021	0.012
	SEM	0.006	0.008	0.004
Stage 6	Mean	0.092	0.080	0.085
	SD	0.019	0.021	0.012
	SEM	0.006	0.008	0.004
Stage 7	Mean	0.088	0.080	0.085
	SD	0.017	0.021	0.012
	SEM	0.005	0.008	0.004
Stage 8	Mean	0.086	0.080	0.085
	SD	0.019	0.021	0.012
	SEM	0.006	0.008	0.004

Table 2: QRS-wave amplitude values (mV) during different stages of Bruce Protocol

Stage of Modified Bruce Protocol		Sedentary	Aerobic	Anaerobic
Stage 1	Mean	1.660	2.169	1.850
	SD	0.534	0.528	0.363
	SEM	0.169	0.187	0.105
Stage 2	Mean	1.550	2.094	1.908
	SD	0.487	0.525	0.351
	SEM	0.154	0.186	0.101
Stage 3	Mean	1.555	2.225	1.875
	SD	0.398	0.455	0.409
	SEM	0.126	0.161	0.118
Stage 4	Mean	1.405	2.213	1.867
	SD	0.386	0.567	0.365
	SEM	0.122	0.200	0.105
Stage 5	Mean	1.455	2.138	1.883
	SD	0.361	0.407	0.419
	SEM	0.114	0.144	0.121
Stage 6	Mean	1.505	2.175	1.863
	SD	0.407	0.328	0.351
	SEM	0.129	0.116	0.101
Stage 7	Mean	1.556	2.200	1.954
	SD	0.452	0.367	0.392
	SEM	0.143	0.130	0.113
Stage 8	Mean	1.515	2.350	1.967
	SD	0.362	0.460	0.412
	SEM	0.115	0.163	0.119

Table 3: Comparison of Mean differences in QRS amplitude among the three groups at stage 2 of Modified Bruce Protocol

	(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.
QRS Amplitude	Sedentary	Aerobic	-0.544	0.213	0.053*
		Anaerobic	-0.358	0.192	0.194
	Aerobic	Sedentary	0.544	0.213	0.053*
		Anaerobic	0.185	0.204	0.667
	Anaerobic	Sedentary	0.358	0.192	0.194
		Aerobic	-0.185	0.204	0.667

*The mean difference is significant at the .05 level.

Table 4: Comparison of Mean differences in QRS amplitude among the three groups at stage 3 of Modified Bruce Protocol

	(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.
QRS Amplitude	Sedentary	Aerobic	-0.670	0.198	0.009*
		Anaerobic	-0.320	0.179	0.221
	Aerobic	Sedentary	0.670	0.198	0.009*
		Anaerobic	0.350	0.191	0.205
	Anaerobic	Sedentary	0.320	0.179	0.221
		Aerobic	-0.350	0.191	0.205

Table 5: Comparison of Mean differences in QRS amplitude among the three groups at stage 5 of Modified Bruce Protocol					
	(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.
QRS Amplitude	Sedentary	Aerobic	-0.683	0.189	0.005*
		Anaerobic	-0.428	0.170	0.058
	Aerobic	Sedentary	0.683	0.189	0.005*
		Anaerobic	0.254	0.181	0.388
	Anaerobic	Sedentary	0.428	0.170	0.058
		Aerobic	-0.254	0.181	0.388

Table 6: Comparison of Mean differences in QRS amplitude among the three groups at stage 6 of Modified Bruce Protocol					
	(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.
QRS Amplitude	Sedentary	Aerobic	-0.670	0.173	0.003*
		Anaerobic	-0.358	0.156	0.092
	Aerobic	Sedentary	0.670	0.173	0.003*
		Anaerobic	0.313	0.167	0.192
	Anaerobic	Sedentary	0.358	0.156	0.092
		Aerobic	-0.313	0.167	0.192

Table 7: Comparison of Mean differences in QRS amplitude among the three groups at stage 7 of Modified Bruce Protocol					
	(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.
QRS Amplitude	Sedentary	Aerobic	-0.644	0.193	0.009*
		Anaerobic	-0.398	0.174	0.092
	Aerobic	Sedentary	0.644	0.193	0.009*
		Anaerobic	0.246	0.186	0.428
	Anaerobic	Sedentary	0.398	0.174	0.092
		Aerobic	-0.246	0.186	0.428

*The mean difference is significant at the .05 level.

Table 8: Comparison of Mean differences in QRS amplitude among the three groups at stage 8 of Modified Bruce Protocol					
(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	
Sedentary	Aerobic	-0.835	0.194	0.001*	
	Anaerobic	-0.452	0.175	0.051	
Aerobic	Sedentary	0.835	0.194	0.001*	
	Anaerobic	0.383	0.187	0.142	
Anaerobic	Sedentary	0.452	0.175	0.051	
	Aerobic	-0.383	0.187	0.142	

*The mean difference is significant at the .05 level.

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A case study on karnataka ranji cricketer k b pawan; his personality and achievements

Prasad Bandare and Prof. Pratap Singh Tiwari

ABSTRACT

To understand human nature and personality of persons psychologists are continuously striving. It is very important for any human enterprise, more so in case of sports and games, where there is not only kaleidoscopic play of emotions but also name, fame, money and much more at stake. A comprehensive understanding of human nature would contribute in great measure for the all round development of the person, sporting activity and also improving the quality of life. A psychological analysis case study of the above mentioned subject is conducted through ex-post-facto research method. Based on the objectives of the present study, Sixteen primary personality factor questionnaire (R. B Cattell, 1969) is administered on the subject. It is concluded that K B Pawan is good natured, easy going, emotionally expressive, ready to cooperate, attentive to people, softhearted, kindly, adaptable, quick to grasp ideas, a fast learner, intelligent, emotionally mature, stable, realistic about life, unruffled, possessing ego strength, better able to maintain solid group morale, assertive, self assured, independent minded, cheerful, active, talkative, frank, expressive, effervescent and carefree.

INTRODUCTION

To understand human nature and personality of persons psychologists are continuously striving. It is very important for any human enterprise, more so in case of sports and games, where there is not only kaleidoscopic play of emotions but also name, fame, money and much more at stake. A comprehensive understanding of human nature would contribute in great measure for the all round development of the person, sporting activity and also improving the quality of life. The present researcher has felt necessary to conduct a case study on Karnataka Ranji cricketer K B Pawan to assess his level of personality traits, emotional intelligence and value orientation.

STATEMENT OF THE PROBLEM

The problem formulated for the present study is to find out the level of personality traits, emotional intelligence, value orientation and achievements of Karnataka Ranji cricketer K B Pawan.

HYPOTHESIS

- There would be high scores in the sixteen primary personality factors of K B Pawan

SIGNIFICANCE OF STUDY

- This study assumes great significance given its comprehensive study of a Karnataka Ranji cricketer K B Pawan.
- This study will reveal the level personality traits and achievements of Ranji cricketer K B Pawan.

METHODOLOGY:

Tool

The standardized tests and questionnaire is used in the present study, Cattell's 16 PF is used.

Test Administration and Collection of Data

To collect necessary data pertaining to the present case study through questionnaires and interview method. The subject was administered to the Cattell's Sixteen Personality Factors Questionnaire (Form 'C'), . The data were in the form of answer given by the subject in response to the various questions of the questionnaire which are present in the questionnaires asked through interview method. The subject completed answering the questionnaire within the stipulated time after which the questionnaires were collected back and the standard scoring key was used to get the score. The scores were analyzed with the help of the standardized norms [key] provided in the tabular supplement of tests manual all questionnaires.

ANALYSIS AND INTERPRETATION OF DATA

Sports activities affect the process of personality development in ways more than one. Social and environmental pressures, biological factors, frustration and tension in life are to be mended with full attention to develop mature form of personality. The present case study has been to assess the personality traits of Karnataka Ranji cricketer K B Pawan and were assessed and presented in the following table

Analysis of 16 Primary Personality Factors

Table 1
Scores of 16 Primary Personality Factors

Sl.No.	Sixteen.P.F	Stens
1	A	10
2	B	9
3	C	10
4	E	9
5	F	10
6	G	9
7	H	10
8	I	3
9	L	3
10	M	7
11	N	9
12	O	3
13	Q1	9
14	Q2	3
15	Q3	10
16	Q4	3

According to table 1 scores the subject have shown a tendency or inclination towards the higher direction or high sten score description in ten (A, B, C, E, F, G, H, N, Q1 and Q3) out of sixteen personality factors. The subject was average in one (M) out of the sixteen factors.

Towards the lower direction or low sten score description in five (I, L,O,Q2 and Q4) out of the sixteen personality factors.

Findings of the 16 primary personality factors

Factor A: Reserved Vs Outgoing

K B Pawan tends to be good natured, easy going, emotionally expressive, ready to co-operate, attentive to people, softhearted, kindly and adaptable. He like occupations dealing with people and socially impressive situations and he rapidly from active groups. He is generous in personal relations, less afraid of criticism, and better able to remember names of people.

Factor B: Less Intelligent Vs More Intelligent :K B Pawan tends to be quick to grasp ideas, a fast learner, intelligent. There is some correlation with level of culture, and some with alertness.

Factor C: Affected by Feelings Vs Emotionally Stable :K B Pawan tends to be emotionally mature, stable, realistic about life, unruffled, possessing ego strength, better able to maintain solid group morale.

Factor E: Submissive Vs Dominant :K B Pawan was assertive, self assured and independent minded. He tend to be authoritarian.

Factor F: Sober Vs Enthusiastic ; K B Pawan tends to be cheerful, active, talkative, frank, expressive, effervescent and carefree. He was frequently chosen as elected leader.

Factor G: Expedient Vs Conscientious : K B Pawan tends to be exacting in character, dominated by sense of duty, preserving, responsible, planful, “fill the unforgiving minute”. He was usually conscientious and moralistic and he prefers hard working people to witty companions.

Factor H: Timid Vs Venturesome : K B Pawan was sociable, bold, ready to try new things, spontaneous and abundant in emotional response. His “thick skinned ness” enables them to face weal and tear in dealing with people and grueling emotional situations, without fatigue.

Factor I: Tough-minded Vs Tender-minded:K B Pawan tends to be tough, realistic, “down to earth”, independent, responsible but skeptical of subjective, cultural elaborations. He tends to keep a group operating on a practical and realistic “no-nonsense” basis.

Factor L: Trusting Vs Suspicious :K B Pawan tends to be free of jealous tendencies, adaptable, cheerful, uncompetitive, concerned about others and a good team worker.

Factor M: Practical Vs Imaginative : K B Pawan tends to be anxious to do the right things, attentive to practical matters and subject to the dictation of what is obviously possible.

Factor N: Forthright Vs Shrewd : K B Pawan, tends to be polished, experimental and shrewd. His approach to people and problems is usually perceptive, hard-headed and efficient.

Factor O: Self-assured Vs Apprehensive : K B Pawan tends to be unruffled and to have unshakable nerve. He has a mature, unanxious confidence in themselves and their capacity to deal with things.

Factor Q₁: Conservative Vs Experimenting : K B Pawan tends to be interested in intellectual matters and have doubts on fundamental issues. He was skeptical and inquiring regarding ideas, either old or new. Usually he was more well informed, less inclined to moralize, more inclined to experiment in life generally and more tolerant of inconvenience and change.

Factor Q₂: Group-oriented Vs Self-sufficient : K B Pawan prefers to work and make decisions with other people and like and depend on social approval and admiration.

Factor Q₃: Undisciplined self-conflict Vs Following Self-image

K B Pawan tends to have strong control of their emotions and general behavior, are inclined to be socially aware and careful, and evidence what is commonly forced “self respect” and high regard for social reputation.

Factor Q₄: Relaxed Vs Tense

K B Pawan tends to be sedate, relaxed, composed and satisfied (not frustrated).

Based on the results of personality traits of Karnataka Ranji cricketer K B Pawan it is felt that because of the above qualities he would able to achieve the following achievements.

Full name KB Pawan

Born December 19, 1987, Bengalooru

Current age 23 years 132 days, **Major teams** Karnataka

Batting style Right-hand bat **Fielding position** Wicketkeeper

Batting and fielding averages

	Mat	Inns	NO	Runs	HS	Ave	BF	SR	100	50	4s	6s	Ct	St
First-class	32	57	3	1771	152	32.79	4391	40.33	4	9	222	6	27	0
List A	3	3	0	25	16	8.33	68	36.76	0	0	4	0	1	0

Bowling averages

	Mat	Inns	Balls	Runs	Wkts	BBI	BBM	Ave	Econ	SR	4w	5w	10
First-class	32	-	-	-	-	-	-	-	-	-	-	-	-
List A	3	-	-	-	-	-	-	-	-	-	-	-	-

Career statistics

First-class debut Bengal v Karnataka at Kolkata, Jan 23-27, 2007

Last First-class Baroda v Karnataka at Vadodara, Jan 3-4, 2011

List A debut Karnataka v Hyderabad (India) at Hyderabad (Deccan), Feb 16, 2007
Hyderabad (India) v Karnataka at Chennai, Feb 27, 2008

CONCLUSIONS

- K B Pawan is good natured, easy going, emotionally expressive, ready to co-operate, attentive to people, softhearted, kindly, adaptable, quick to grasp ideas, a fast learner, intelligent, emotionally mature, stable, realistic about life, unruffled, possessing ego strength, better able to maintain solid group morale, assertive, self assured, independent minded, cheerful, active, talkative, frank, expressive, effervescent and carefree.
- He is exacting in character, dominated by sense of duty, preserving, responsible, planful, “fill the unforgiving minute, sociable, bold, ready to try new things, spontaneous and abundant in emotional response. His “thick skinned ness” enables them to face wear and tear in dealing with people and grueling emotional situations, without fatigue.
- He is tough, realistic, “down to earth”, independent, responsible but skeptical of subjective, cultural elaborations, free of jealous tendencies, adaptable, cheerful, uncompetitive, concerned about others, a good team worker, anxious to do the right things, attentive to practical matters, polished, experimental and shrewd, unruffled and to have unshakable nerve. He has a mature, unanxious confidence in themselves and their capacity to deal with things.
- He is experimenting, interested in intellectual matters, he has doubts on fundamental issues, prefers to work and make decisions with other people and like and depend on social approval and admiration

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Comparison of selected physical fitness variables of school level football and handball players

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ABSTRACT

The purpose of the present study was to compare the selected physical fitness variables of school level football and handball players. Total sixty subjects were randomly selected (football players: N=30 and handball players: N=30) from various Schools of Gurdaspur District of Punjab were taken as a sample. Their age ranged between 14-16 years. Physical fitness tests were utilized to measure the selected physical fitness variables of players. For analysis of the data Mean & SD were calculated and to examine the significance difference between the group mean of different physical fitness variables, independent samples 't' test was applied, and level of confidence was set at 0.01 level. Study concluded that significant difference ($p < 0.01$) found between the means of selected physical fitness variables such as speed, Coordinative ability and Endurance (except flexibility) between school level football and handball players.

Keywords: Physical fitness, Speed, Coordinative ability, Endurance and Flexibility.

INTRODUCTION

Physical fitness refers to the organic capacity of the individual to perform the normal task of daily living without undue tiredness or fatigue having reserve of strength and energy available to meet satisfactorily any emergency demands suddenly placed upon him. Physical fitness is a state of well-being that comprises skill-related and health-related components. Skill related physical fitness refers to an individual's athletic ability in sports such as tennis and encompasses skill-related attributes like dynamic balance, power, speed and agility; the health-related aspect is a measure of cardiovascular endurance, muscle strength, endurance, and flexibility, and body composition (Hopkins & Walker, 1988).

Purpose of the study

Purpose of this study was to compare the selected physical fitness of school football and handball players.

Subjects: Total sixty subjects were randomly selected (football players: N=30 and handball players: N=30) from various Schools of Gurdaspur District of Punjab were taken as a sample. Their age ranged between 14-16 years. A written consent was obtained from the subjects. The study was approved by the local ethical committee.

Methodology: A 50 meter Run test (Johnson and Nelson 1979) was used to estimate Speed. The time was recorded correct unto tenth of seconds Shuttle Run (6x10m) test (Jension and Hirst 1980) was used to monitor the Coordinative ability of the athletes. The total time in seconds was recorded. 600 yards Run or Walk test (AAPHER 1965) was used to measure Endurance. The time taken to run 600 yards recorded in minutes. Flexibility was assessed using the sit-and-reach test (Johnson and Nelson 1979). The best reach of the subject was taken .The distance measured in centimeters.

Statistical analyses: Values are presented as mean values and SD. Independent samples t tests were used to test if population means estimated by two independent samples differed significantly. Data was analyzed using SPSS Version 16.0 (Statistical Package for the Social Sciences, version 16.0, SPSS Inc, Chicago, IL, USA).

RESULTS:Table-1: Show the comparison of selected physical fitness variables of school level football and handball players.

Variables	Football Players (N=30)		Handball Players (N=30)		t-value
	Mean	SD	Mean	SD	
Speed	8.74	0.79	7.98	0.54	4.35*
Coordinative ability	15.76	0.75	14.72	0.92	4.80*
Endurance	2.41	0.24	2.27	0.13	2.67*
Flexibility	11.98	2.81	12.65	2.57	0.96

*indicates $p < 0.01$

The results of selected physical fitness variables of school level football and handball players are presented in table-1. Analysis of data revealed significant group differences were found for speed (4.35*), coordinative ability (4.80*) and Endurance (2.67*). Analysis of data revealed no significant group difference was found for flexibility (0.96). Thus it may be concluded that the selected physical fitness variables of school level football and handball players were found to be statistically significant except Flexibility. The graphical representation of mean Values of speed, Coordinative ability, Endurance and Flexibility of school level football and handball player has been exhibited in figure 1&2.

Figure 1. Show the comparison of Speed and Coordinative ability variables of school level football and handball players.

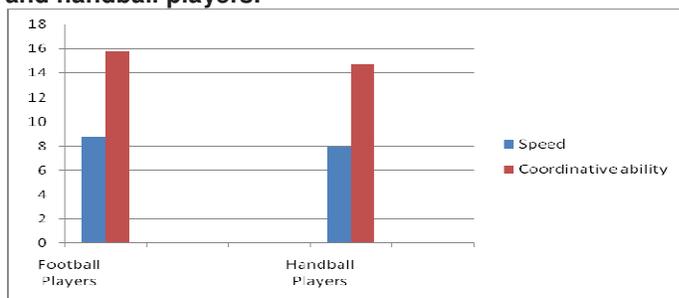
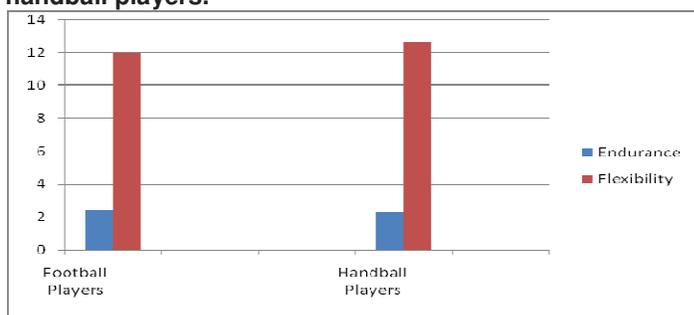


Figure 2. Show the comparison of Endurance and Flexibility variables of school level football and handball players.



DISCUSSION

Physical fitness variables are very important in both athletes and form a condition for higher performance. Mal (1982) stated that the components of physical fitness like speed, endurance, flexibility and the various coordinative abilities are essential for a high technique and tactical efficiency. Depending upon the demand of the game, each factor of physical fitness should be optimally developed. In the present study there was significant difference observed between the school level football and handball players in all the selected physical fitness variables except flexibility. Different training program of both games players made these differences. The analysis of results indicates a higher level of all physical fitness variables in the group of the examined football players compared to handball players. The present study showed that the group differences were found for speed (4.35*), coordinative ability (4.80*) and Endurance (2.67*). These results are in conformity with the study carried out by Das, et al. (2007) to compare the physical fitness components of junior footballers and sprinters of Kolkata, of the age group 14 to 16 years. Results revealed that there exist significant difference in flexed arm hang (arm & shoulder strength), bent knee sit-ups (muscular strength & endurance), shuttle run (co coordinative ability), 600 yard run/walk (endurance) of junior footballers and sprinters. Pate, R.R. (1990) also reported that physical activity and physical fitness are significantly, although moderately, associated in young children. The data presented in the present study carry immense practical application and should be useful in future investigations on player's selection.

CONCLUSION

In conclusion, the present study suggests that selected physical fitness variables i.e., speed, coordinative ability and Endurance (except flexibility) of school level football and handball players found to be statistically significant. Different training program of both games players made these differences.

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Analyzing Anxiety among school players and non players

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Abstract:

There are many difference between school players and non-players in comparison of Anxiety. Some studies found that Anxiety is also important aspects. Which realated to sports. The present research examines the important of Anxiety among school players and non-players. The study was conducted to see the difference among school players and non-players in Anxiety. There will be significant difference between school players and non players in Anxiety. The sample of the study has been selected randomly. The sample consists of 30 school players and 30 non-players studying in Shree Kadvibai Virani Kanya Vidhyalaya, Rajkot. For measurement of Anxiety, Sinnas comprehensive Anxiety test was used. The data was subjected to mean, standard deviation and 't' value. The aim of the study was to see the difference among school players and non-players in Anxiety. The results clearly indicate that there is significant difference among players and non-players in Anxiety. Results of the present study indicate that players group have lower Anxiety a compare with non-players. From the analysis of results it can be concluded that players seem to be lower in Anxiety than the non-player.

Introduction:

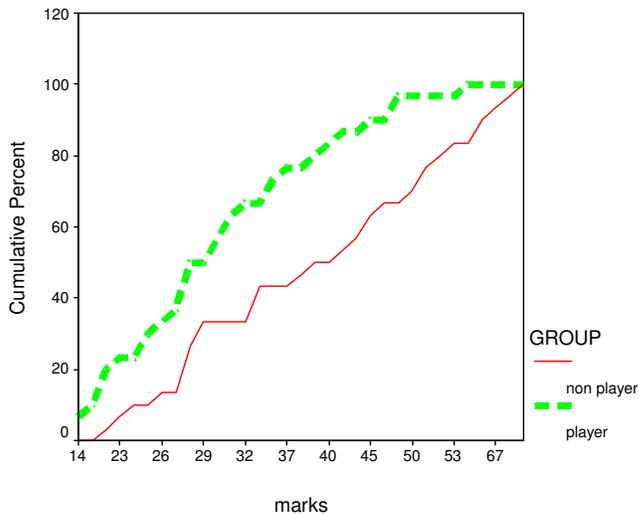
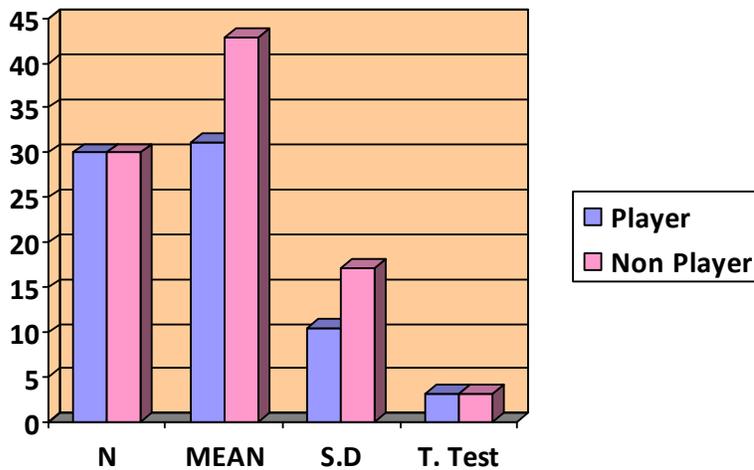
Anxiety is considered to be a normal relation to stress. It helps one deal with a tense situation in the office, study for an exam keep focused on an important speech and on ground. In general helps one cope, but when anxiety becomes an excessive , irrational deal of everyday situations. It has become a disabling disorder. Anxiety is a psychological and physiological state characterized by cognitive, somatic, emotion and behavior components. Anxiety can be accompanied by physical effects. Anxiety does not only consist of physical symptoms. Anxiety is distinguished from fear , the main types of fear are described and the concept of anxiety disorders is elucidated. Anxiety is a pervasive and significant negative affect that is now under intense investigation it is an intriguing and complex phenomenon that lends it self of cognitive analyses : Anxiety involves the inter play of vigilance , attention , perception ,reasoning and memory the very meat of cognitive processing. Anxiety is the tense , under setting anticipation of a threatening but vague event, a feeling of uneasy suspense. It is a negative affect so closely related to fear that in many circumstances the two terms are used interchangeably like a anxiety , fear also is a combination of tension and unpleasant anticipation. The present research examines the level of anxiety among school players and non players.

Method:

The study was conducted to see the difference among school players and non players in anxiety. The hypothesis is that , "There will be significant difference school players and non players in anxiety". The sample of the study has been selected randomly. The sample consists of 30 school players and 30 non school players studying in Shree Kadvibai Virani Kanya Vidhyalaya, Rajkot . For measurement of anxiety , sinhas comprehensive anxiety test was used . Test is taken by researcher.

Results :

There are 30 subject in player group and 30 subjects in non player group . Mean of a player group is 31.17. Standard deviation of a player group is 10.49. Mean of a non player group is 42.90. Standard deviation of a non player group is 17.19. 't' value is 3.19.



Results shows in the following table

Group	N	Mean	S.D.	'T' Value
Player	30	31.17	10.49	3.19
Non Player	30	42.90	17.19	

Discussion :The results clearly indicate that there is significant difference among players and non players in anxiety. Results of the present study indicate that players group have lower anxiety a compare with non players group.

Conclusion :

When feeling anxious, the person has difficulty in identifying the cause of the uneasy tension or the nature of the antedated event or disaster. Anxiety is unpleasent ,unsetting persistante, pervasive and draining . Intense and prolonged anxiety can be disabling and even destructive . anxiety is state of heightened vigilance rather than an emergency reaction Anxiety is not a lesser and pale form of fear and in many ways is more difficult to tolerate than fear. From the analyses of results it can be concluded that players seem to be lower in anxiety than the non player

Strategic action plan for implementing physical education at college level

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ABSTRACT

High-quality physical education programs are an integral part of any coordinated physical education program for colleges (CPEPC). Currently, there is no specific physical education curriculum or period implemented for PUC to graduation grades. Providing daily physical education, or its equivalent, for the entire year or semester is ideal for the college students. This strategic action plan reveals that colleges need to be where youth learn the benefits of physical activities and participate in a quality physical education program. Introducing physical education at college level will provide strength and awareness about physical education, physical fitness, sports and health which in turn will lead to better knowledge of sports, physical activity, health (physical and mental) and physique among students to maintain quality of life. It helps and guides the students to choose professional carrier in physical education and sports. This kind of strategic action plan would helps to improve the standard of physical education at college level.

INTRODUCTION

High-quality physical education programs are an integral part of any coordinated physical education program for colleges (CPEPC). In childhood and adolescence, regular participation in physical activity helps prevent many chronic diseases and maintain an overall healthy lifestyle. Unfortunately, many colleges are decreasing the availability of physical education programs and daily recesses are on. From 2000 to 2011, the percentage of students who attended daily physical education classes declined. The majority of college students take participation in physical education and sports during leisure hours and competition periods from PUC to graduation grades. Currently, there is no specific physical education curriculum or period implemented for PUC to graduation grades. Providing daily physical education, or its equivalent, for the entire year or semester is ideal for the college students. To remedy this situation, we need to know that everyone can do something about promoting and implementing physical education into a CPEPC and why this is important. With standards based achievement now mandatory for all colleges, research shows that increased physical activity leads to higher test scores in math, reading and writing, increased concentration in class, and a decrease in disruptive behavior. This research reveals that colleges need to be where youth learn the benefits of and participate in a quality physical education program. Achieving this can be as simple as mandating daily recess periods and extracurricular activities, such as after college competitive sports and physical activities and these should be included in college policy.

OBJECTIVES

- To provide effective, enjoyable instructional programs of physical education, preferably daily, for all students in colleges from PUC to graduation grades based on a written curriculum consistent with national and international standards for physical education.
- To Develop and enforce policies that support physical education.
- To involve families and communities in the promotion of physical education and physical activity.

CO-ORDINATED PHYSICAL EDUCATION PROGRAM (CPEPC) FOR COLLEGES

Actions for Colleges

- Provide effective, enjoyable instructional programs of physical education, preferably daily, for all students in colleges from PUC to graduation grades based on a written curriculum consistent with national and international standards for physical education.
- Offer programs that meet the needs of special populations.
- Ensure that physical education is taught by a qualified teacher with a minimum master degree and doctorate in physical education.
- Provide teachers with in-service training in physical activity promotion and coaches with appropriate coaching competencies.
- Provide theoretical instruction in physical education for a minimum of 180 minutes per week and 120 minutes per week for practical instruction.
- Make sure indoor and outdoor facilities are adequate, clean, and safe and open to students during non-college hours and vacations.

- Have technology incorporated on a regular and continuing basis.

Actions for State and National Organizations and Colleges and Universities

- Promote physical education for the all round development (physical, mental, emotional, and social) of the student.
- Promote physical activity as a measure to prevent chronic disease.
- Collaborate with local agencies to share best practices and effective solutions.
- Develop and disseminate assessment systems that individuals can use to determine their health and fitness status.
- Allow third-party reimbursement for health care providers who regularly assess and counsel students and their families about physical activity.
- Provide incentives through health insurance and employee wellness programs to students and staff who engage actively in this programme.
- Develop guidelines that recommend the frequency, duration, and quality of offerings in physical education and hold colleges accountable for meeting those guidelines.
- Adopt and enforce certification requirements that are consistent with national standards for those who teach physical education and provide staff development.
- Ensure quality of college buildings and facilities used for students' and college staff's physical activities and provide funds for construction of safe facilities for physical activity.
- Refine and enhance the quality of pre-service and in-service education that addresses physical education as a component.
- Fund or conduct research that can inform and support college physical education.
- Include in the health care reform agenda incentives for participation in physical activity.
- **Actions for Families and Communities**
- Advocate for physical education classes and after colleges programs that are attractive to all students by encouraging college administrators and board members to support activities that promote lifelong physical education, physical fitness, and not just competitive sports.
- Make sure the physical education program includes adequate student participation in practices and contests with no discrimination based on ability, gender or race.
- Volunteer to help college student's sports teams and recreation programs.
- Teach students safety rules and make sure that they have the clothing and equipment needed to participate safely in physical activity.
- Ensure that physical facilities meet or exceed safety standards.
- Work with colleges, businesses, and community groups to ensure that low-income young people have transportation and appropriate equipment for physical activity programs.
- Communicate with colleges, teachers and coaches about appropriate physical education including competitive sports teams.

CONCLUSIONS

- ✓ To conclude, introducing physical education at college level will provide strength and awareness about physical education, physical fitness, sports and health, which in turn will lead to better knowledge, health (physical and mental), sports awareness and physique among students to maintain quality of life.
- ✓ It helps and guides the students to choose professional carrier in physical education.
- ✓ This kind of strategic plan will helps to improve the standard of physical education at college level.

RECOMMENDATIONS

- ❖ Before implementing these strategic plans, a survey should be made with a standard and quality orientation of physical education in all the govt. and private colleges by the experts of physical education.
- ❖ Give knowledge about professional carrier opportunities in physical education to the college students along with the survey.

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Comparison of organisational climate, occupational stress and work motivation of physical education teachers working in different management schools of gulbarga district

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ABSTRACT

The purpose of this study is to compare the organizational climate, occupational stress and work motivation of physical education teachers working in different management of schools in Gulbarga. To achieve the purpose of the 93 physical education teachers aged 25 to 40 years, with at least one year experience in anyone of different management of schools in Gulbarga were selected for this study. The sample was selected randomly, 31 subjects each from government, govt. aided and unaided schools out 500 schools. The following criterion measures chosen for testing the hypothesis in the study, organizational climate is measured by organizational climate scale by S.Pethe., S. Chaudhari and U. Dhar, Occupational stress is measured by occupational stress index by Dr. A.K. Srivastava and Dr. A.P. Singh, Work motivation is measured by work motivation questionnaire by P.K.G. Agarwal. The data is collected through mail as well as direct contact with the respondents. It is concluded that significant difference obtained in occupational stress of physical education teachers working in different management of schools in Gulbarga. Significant differences found on occupational stress of physical education teachers working in unaided and government schools. Un-aided schools teachers have better organizational climate than the aided and government school. Unaided schools teachers have higher occupational stress in comparison to the aided and government school. The government school teachers have better work motivation than the aided and unaided schools.

INTRODUCTION

One of the characteristics of modern way of life is the great prevalence of organizations. They are created when a group of people comes together to accomplish certain objectives that as individuals they could not do for themselves or could not do as well. It is apparent that such organizations, as educational institutions, hospitals, factories, and bank and government departments can render a quality of service that could never be offered by individuals working independently. Btzioni (1964) "We are born in organizations, educated in organizations and generally spend much of our lives working for organization

Organizational climate reflects the history of internal and external struggle, the types of people the organization attracts its work process, the modes of communication and the exercise of authority within the system. Just as society has cultural heritage, likewise the social organization possesses a distinctive pattern of collective feelings. In organizational climate, the focus is generally on the interpersonal relationship, between members and the organization.

Stress is inevitable to the life of an employee. It has positive functional and negative dysfunctional effects on the mark of life and job behavior of an employee. It has significant implication on the health and effectiveness of an employee in the job. Hence, it is necessary to examine some of the dimensions of stress and health on effective job commence. This is the positive effect of stress and mental health on the job performance of employee.

Today management pays more attention towards motivation of employee. The main task of management is to the working force n such a way so that their collective achieve efforts objectives of the enterprise. This is only able when the workers take interest in their work and have the desire to do good work. This depends on the fact that worker is how much motivated. There is basic difference between the capability to work and desire to work.

PURPOSE OF THE STUDY

The purpose of the study is to compare the organizational climate, occupational stress and work motivation of physical education teachers working in different management of schools in Gulbarga.

MATERIAL AND METHODS

Selection of Subjects

The subjects were physical education teachers both male and female of the different management of schools that is government schools, government aided schools and unaided schools were selected randomly from the whole population of physical education teachers of various regions of the Gulbarga District. Thirty one physical education teachers (31) each from government schools, government aided schools and unaided schools totaling 93 subjects ranging from 25-40 years were selected.

Ninety three (93) physical education teacher who were working or worked at least one year in any one of the different management of schools that is government schools, government aided schools and unaided schools from the various regions both rural and urban of the Gulbarga.

Criterion Measures

1. Organizational climate is measure by organizational climate scale prepared by Sanjoy Pethe, Sushma Chaudhari and Upinder Dhar.
2. Occupational stress is measured by occupational stress index prepared by Dr. A.K. Srinivastava and Dr. A.P. Singh.
3. Work motivation is measured by work motivation questionnaire prepared by P.K.G. Agarwal.

Administration of Questionnaire

The research scholar administered the questionnaires, through mail as well as direct contact with the respondents. For this purpose, the physical education teachers of government schools, government aided schools and aided schools of the Gulbarga state were approached for their help and cooperation in this study. The physical education teachers were requested to answer the questionnaires. After obtaining the permission they all were contacted and also personally requested by the research scholar to respond to the questionnaires. A total of 93 subjects (31 total physical education teachers from each group i.e., government schools, government aided schools and unaided schools of Gulbarga District) were administered to the questionnaires.

STATISTICAL TECHNIQUE

To compare the difference in the organizational climate, occupational stress and work motivation of physical education teachers working in different management of schools in Gulbarga were analyzed using the Analysis of Variance (F ratio test). To test the hypothesis, 0.05 level of significance is chosen based on the nature of the study.

FINDINGS AND RESULTS

The mean scores of the organizational climate, occupational stress and work motivation of physical education teachers working in different management of schools that is government schools, government aided schools and unaided schools in Gulbarga is given in table-1.

Table-1

Mean Scores of the organizational climate, occupational stress and work motivation of physical education teachers working in different management of schools in Gulbarga.

Scores of Variance	Df	SS	MSS	'F' Ratio
Between groups	2	22.37	11.56	0.02
Within group	28	60435.3	277.43	

Findings of the study of the organizational climate, occupational stress and work motivation of physical education teachers working in different management of schools that is government schools, government aided schools, and unaided schools in Gulbarga has been presented below.

'F' ratio test computed with regard to the organizational climate of physical education teacher working indifferent management of schools that is government schools, government aided schools, and unaided schools in Gulbarga has been presented in table-2.

Table-2

Analysis of variance for organization climate of physical education teachers working indifferent management of schools in Gulbarga.

S.No	Variables	Govt.	Govt. aided	Un aided
1.	Organizational Climate	93.36	93.43	94.11
2.	Occupational Stress	108.24	110.94	115.47
3.	Work Motivation	93.3	92.5	88.17

Level of Significance .05 level, F.05 (2,207) =3.04

Table-2 reveals that there were insignificant difference in organizational climate of physical education teachers working in different management of schools in Gulbarga as the obtained 'F' ratio 0.02 is not higher than the tabular values or 3.04 required for the 'F' ratio to be significant at .05 level with (2,207) degree of freedom.'F' ratio test computed with regard to the occupational stress of physical education

teacher working in different management of schools that is government schools, government aided schools and unaided schools in Gulbarga has been presented in Table-3.

Table-3
Analysis of variance for occupational stress of physical education teachers working in different management of schools in Gulbarga

Scores of Variance	Df	SS	MSS	'F' Ratio
Between groups	2	186.85	922.914	3.82
Within group	28	56455.08	272.73	

Level of Significance .05 level, F.05 (2,207) =3.04

Table-3 reveals that there were significant difference in occupational stress of physical education to working in different management of schools that is government schools, government aided schools, and unaided in Gulbarga as the obtained 'F' ratio 3.82 is higher than the tabular value of 3.04 required for the 'F' ratio significant at .05 level with (2,207) degree of freedom. As the 'F' ratio of occupational stress is found to be significant, the post hoc test (Least significance difference test) is applied to test the significance of difference between the paired means for different management of schools that is government schools, government aided schools, and unaided schools. The ordered paired means and the difference between the means has been presented in table-4.

Table-4: Ordered paired means and the difference between the means for occupational stress of physical education teachers working in different management of schools

Govt.	Govt. aided	Un-aided	Difference Between Means (DM)
106.54	109.34		2.80
	109.34	114.25	4.78
106.54		114.25	7.48*

Level of Significance .05 level, C.D. 0.05=7.04

Table-4 reveals that the means difference of occupational stress for different management of schools. There were significant differences between Government and Unaided Schools, where the difference are 7.48, which is higher than critical difference value C.D. 0.05=7.04 the table further reveals that there is no significant difference between the means of Govt. aided and government and aided and unaided schools, where the means difference are 2.80 and 4.78 respectively.

'F' ratio test computed with regard to the work motivation of physical education teacher working in different management of schools that is government schools, government aided schools government aide school, and unaided schools in Gulbarga has been presented in table-5.

Table-5: Analysis of variance for work motivation of physical education teachers working in different management of schools in Gulbarga

Scores of Variance	Df	SS	MSS	'F' Ratio
Between groups	2	1065.83	532.91	2.71
Within group	28	47171.15	227.88	

Level of Significance .05 level, F.05 (2,207) =3.04

Table-5 reveals that there were insignificant difference in work motivation of physical education teacher working in different management of schools in Gulbarga as the obtained 'F' ratio 2.71 is not higher than the tabular value of 3.04 at .05 level with (2,207) degree of freedom.

DISCUSSIONS: The results of the study have shown significant difference on occupational stress of physical education teachers working in different management of school, Un-aided schools differ from government schools in occupational stress.

CONCLUSIONS:

- Significant difference obtained in occupational stress of physical education teachers working in different management of schools in Gulbarga.
- Significant differences in occupational stress of physical education teachers working in unaided and government schools.
- Un-aided schools teachers have better organizational climate than the aided and government school.
- Unaided schools teachers have higher occupational stress in comparison to the aided and government school.

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Effect of six week training on the physical fitness performance of u-16 age groups athletes

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ABSTRACT

The present study aims at the effect of six weeks training on the physical fitness tests performance of U-16 Gulbarga District sports hostel athletes. This kind of physical fitness intervention training programme is very effective at grass root level in athletics and it helps to find out fittest athletes and they can achieve at greater level.

The sample consists of 20 Gulbarga District sports hostel athletes ranging 14-16 years of age selected. The selected sample's physical fitness was measured in five motor tests-speed, endurance, flexibility, agility and strength. Further, the sample was given training for six weeks during morning and evening hours. After the training, physical fitness is again measured in terms of performance of the players in all the five physical fitness tests used in pre-training condition. Thus the performance of the sample before and after training conditions is taken to assess the physical fitness.

It is concluded that there is a significant difference in physical fitness test performances of speed, endurance, agility, flexibility and strength tests between pre and post training.

Hence there is a significant effect of six weeks physical fitness training on the performance of Gulbarga District sports hostel athletes.

INTRODUCTION

The present study aims at the effect of six weeks training on the physical fitness tests performance of U-16 Gulbarga District sports hostel athletes. This kind of physical fitness intervention training programme is very effective at grass root level in athletics and it helps to find out fittest athletes and they can achieve at greater level.

METHODOLOGY

Statement of the Problem

To study the effect of six-week training on the performance physical fitness tests of U-16 age groups sports hostel athletes.

Hypotheses of the Study

- There would be a significant effect of training on the physical fitness tests performances of sports hostel athletes.
- There would be a significant difference on the physical fitness tests performances of sports hostel athletes in pre and post training.

Sample:

The sample consists of 20 Gulbarga District sports hostel athletes ranging 14-16 years of age selected. The selected sample's physical fitness was measured in five motor tests-speed, endurance, flexibility, agility and strength. Further, the sample was given training for six weeks during morning and evening hours. After the training, physical fitness is again measured in terms of performance of the players in all the five physical fitness tests used in pre-training condition

Tools :

The following physical fitness tests have been used in the study,

Physical Fitness Tests (AAHPER)

Motor ability	Test	Unit of measurement
Speed	50 – mtrs. Dash	Time
Endurance	12 minute Run & Walk	Distance
Flexibility	Sit & Reach	Inches
Agility	Shuttle Run 10 X 4 yards	Time
Strength	Pull – up	Score

Statistical Analysis

To meet the objective of the study and to verify the formulated hypothesis the data were statistically analyzed. The Mean, standard deviation and 't' test is calculated and data analyzed.

ANALYSIS AND INTERPRETATION OF RESULTS

Table 1
Five Physical fitness tests performances of sports hostel athletes in two conditions

Tests	Conditions	Mean	SD	t-value
ENDURANCE	Pre	1607.16	63.55	12.76**
	Post	1831	69.93	
SPEED	Pre	8.91	0.31	23.65**
	Post	6.79	0.37	
AGILITY	Pre	9.87	037	15.46**
	Post	8.06	0.51	
FLEXIBILITY	Pre	3.76	0.45	9.19**
	Post	4.80	0.41	
STRENGTH	Pre	1.41	0.22	8.92**
	Post	1.91	0.21	

**Significant at 0.01 level

Table-1 presents the mean scores of physical fitness tests performances in two conditions. The mean scores of endurance test performances in pre-training (1607.16) is higher than the post-training (1831). It indicates that the athletes have covered less distance in the given task in pre training while more distance is covered in post training condition. The t-value (12.76) is significant at 0.01 level.

It can be observed that the mean scores of speed test performances in pre training is 8.91 and in post-training is 6.79. This shows that the athletes have taken more time to complete in the given task in pre training while less time is taken in post training condition. The t-value (23.65) is significant at 0.01 level.

The mean scores of agility test performances in pre-training (9.87) and in post training (8.06) condition. It clearly indicates that the athletes have taken more time to complete in the given task in pre training while less time is taken in post training condition. The t-value (15.46) is significant at 0.01 level.

The mean scores of flexibility test performances in pre-training is 3.76 and mean score of post-training is 4.80. This shows that the flexibility is found to be improved after training. The t-value of 9.19 which is significant at 0.01 level.

CONCLUSIONS

- There is a significant difference in physical fitness test performances of speed ,endurance,agility,flexibility between pre and post training.
- There is a significant difference in physical fitness test performances of strength test between pre and post training.
- Hence there is a significant effect of six weeks physical fitness training on the performance of Gulbarga District sports hostel athletes.

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Influence of self confidence and achievement motivation on the performance of sportswomen

Sharanamma S Kuppi, Prof. Pratap Singh Tiwari and Dr.Rajkumar Karve

ABSTRACT

When the individual was exposed to the different environment, atmosphere and socio-cultural conditions he would tend to develop different types of personality traits, self confidence and achievement motivation are important factors, which would help individual to excel in his sports performance.

To achieve the purpose of the study hundred (80) sportswomen, participated in inter-collegiate athletic meet, served as subjects for the present study. The selected subjects were administered to Self confidence questionnaire Inventory (SCI) and Achievement motive test (ACMT). After the scoring of the completed questionnaire the subjects were divided into "High" and "Low" groups in both the variables according to the key manual and then the physical fitness tests were administered for both the groups.

It is concluded that there is a significant difference in physical fitness tests performance between high self confidence and low self confidence and also between high achievement motivation and achievement motivation groups. There is a positive and significant correlation between the self confidence, achievement motivation and physical fitness tests performances.

Key words: Self confidence, Achievement motivation Physical fitness and Performance.

INTRODUCTION

Sports are a highly specialized activity, the participation in sports warrants a fundamental desire to compete and surpass others in performance, and since any sports activity involves competition. However, winning in a competition surely depends on performance. Better the performance, greater the chance of winning. Nevertheless, the quality of performance displayed by the athletes in competitive events is determined by the several aspects.

Self confidence

Self confidence is an attitude, which all individuals have positive yet realistic views of themselves and their situations. Self confidence people trust their own abilities have a general sense of control in their lives and believe that, within reason, they will be able to do what they wish, plan, and expect.

Like self esteems, self confidence refers to individual's perceived ability to act effectively in a situation to overcome obstacles and to get things goes all right. Hence self-confidence is believed to increase one's performance. The higher level of confidence generates enthusiasm for the given activity. It is the variation in confidence that makes differences in performance of sports activity. Therefore studying the influence of confidence assumes importance.

Basavanna .M (1975) studied self-confidence in relation with self and ideal self and found that self-confidence people particularly who were capable. Successful and adjusted, had significantly higher self-ideal and self-congruence than those who were low in their level of self-confidence.

Achievement Motivation

Defined as the need to perform well or the striving for success, and evidenced by persistence and effort in the face of difficulties, achievement motivation is regarded as a central human motivation.

Sangwan (1989) administered Achievement Motive Test (Bhargava's 1984) to 603 sprinters. The results revealed that high proficiency sprinters scored significantly higher on achievement motivation as compared to low proficiency and middle proficiency sprinters.

MATERIALS AND METHODS

The purpose of the present work is to study the effect of self confidence and achievement motivation on the performance of sportswomen. The investigator has come across many questionnaires that would measure the level of self confidence and achievement motivation. After a thorough search and examination of the literature on the various psychological studies, it was decided by the investigator to administer the Bhargava's Achievement Motive Test (1994), Self Confidence Inventory (SCI) developed by Basavanna .M (1975) and physical fitness tests (AAPHER and French Bobbing).

Sample

Hundred (80) sportswomen, participated in inter-collegiate volley ball tournament, served as subjects for the present study. These 80 subjects together represented the sample for the present study.

Test Administration and Collection of Data

To collect necessary data pertaining to the present study, all the selected subjects were administered to Self confidence Inventory (SCI) and Bhargava's Achievement Motive Test during the inter-collegiate volley ball competitions. The data were in the form of answer given by the subjects in response to the various questions of the questionnaire. The subjects completed answering the questionnaire within the stipulated time after which the questionnaires were collected back and the standard scoring manual was used to get the score. After the scoring of the completed questionnaire the subjects were divided into "High" and "Low" groups in both the variables according to the key manual and then the physical fitness tests were conducted for both the groups.

Tools

1. Self Confidence Inventory (SCI).
2. The self confidence inventory (SCI) developed by Basavanna .M (1975). The questionnaire consists of 100 items. The odd-even (split-half) reliability co-efficient calculated by spearman brown formula is found to be 0.94.
3. Bhargava's Achievement Motive Test (1994).
4. Bhargava's Achievement Motive Test consists of 50 items. The reliability and validity were 0.85 and 0.91 respectively. Physical fitness tests (AAPHER and French Bobbing).

Sl.No.	Components	Test	Unit of Measurement
1.	Speed	50 yard dash	Time
2.	Endurance	12 min. Run & Walk	Distance
3.	Flexibility	Sit & Reach test	Inches
4.	Agility	Shuttle run 10x4 yards	Time
5.	Strength	Pull Ups	Score

The procedure and scoring of selected physical fitness tests are done as per the norms given in the manual of tests and scales.

Statistical Analysis: To meet the objective of the study mean, standard deviation, t-value and correlation were used to calculate and analyze the data.

RESULTS AND DISCUSSION

Table.No.1
Physical Fitness performance of Sportswomen in two levels of SC

Components	SC	Mean	SD	t- value
Endurance	Low	2025.9	161.9	8.69**
	High	2312.8	164.6	
Speed	Low	11.42	1.77	5.81**
	High	10.12	1.43	
Agility	Low	15.32	1.82	6.76**
	High	12.41	1.69	
Strength	Low	11.47	2.78	8.09**
	High	15.60	2.18	
Flexibility	Low	2.14	1.69	4.05**
	High	3.52	1.76	

**Significant at 0.01 level Table.No.1 presents the mean scores of five physical fitness tests performances of sportswomen in low and high self confidence level. It can be observed that the mean score in low self confidence is lower than the high self confidence. This shows that the high self confidence participants have taken less time to complete the given task (Speed and Agility test) than the low self confidence participants. In endurance test the high self confidence participants have covered more distance in the given task than the low self confidence participants. In pull-ups (Strength) test the high self confidence participants have scored more in the given task than the low self confidence participants. In flexibility test the high self confidence participants have reached more range of motion or scored more in the given task than the low self confidence participants. The t-values were significant at 0.01 level which states that there is a significant difference in the physical fitness tests performances between the two self confidence level groups.

Thus the self confidence proves to be significant influencing factor in increasing performance. Therefore, the results indicated that there is an influence of self confidence on the physical fitness tests performances.

Table No.2
Physical Fitness Performance of Sportswomen in two levels of Achievement motivation

Components	ACMT	Mean	SD	t- value
Endurance	High	2428.5	162.9	5.99**
	Low	2224.2	174.3	
Speed	High	10.12	1.43	9.19**
	Low	12.51	1.21	
Agility	High	13.02	1.29	9.52**
	Low	16.45	2.21	
Strength	High	17.28	2.68	8.78**
	Low	12.71	2.49	
Flexibility	High	3.42	1.22	5.95**
	Low	2.11	1.04	

**Significant at 0.01 level

Table.No. 2 presents the mean scores of five physical fitness tests performances of sportswomen in two levels of Achievement motivation. It can be observed that the mean score in high achievement motivation group is higher than the low achievement motivation group. This shows that the high achievement motivation group participants have taken less time to complete the given task (Speed and Agility test) than the low achievement motivation group. In endurance test the high achievement motivation group participants have covered more distance in the given task than the low achievement motivation group. In pull-ups (Strength) test the high achievement motivation group participants have scored more in the given task than the low achievement motivation group. In flexibility test the high achievement motivation group participants have reached more range of motion or scored more in the given task than the low achievement motivation group. The t-values were significant at 0.01 level which states that there is a significant difference in the physical fitness tests performances between the two achievement motivation level groups. The high achievement motivation is facilitated the higher performance of the sportswomen.

Table.No. 3
Correlation between the Variables

Sr.No.	Variables	r-values
1	SC and Strength	0.567**
2	SC and Flexibility	0.531**
3	SC and Endurance	0.351**
4	SC and Speed	0.254**
5	SC and Agility	0.153**
6	ACMT and Strength	0.698**
7	ACMT and Speed	0.602**
8	ACMT and Endurance	0.587**
9	ACMT and Flexibility	0.452**
10	ACMT and Agility	0.354**

**Significant at 0.01 level

SC- Self confidence, **ACMT-** Achievement motivation, **PFCF-** Physical fitness tests performance

Table.No.3 presents the r-values between Self confidence, Achievement motivation and Physical fitness test performances. It can be seen that r-values were significant at 0.01 level to indicate the significant relationship between the self confidence, achievement motivation and physical fitness test performances. Thus the results clearly indicate the fact that there is a positive and significant relationship between self confidence, achievement motivation and physical fitness test performances.

CONCLUSIONS

- There is a significant difference in physical fitness test performances between high and low SC. High SC group is significantly higher performance in physical fitness tests than the Low SC group.
- There is a positive and significant correlation between the self confidence and physical fitness test performances.
- There is a significant difference in physical fitness test performances between high and low achievement motivation groups. High achievement motivation group is significantly higher performance in physical fitness tests than the low achievement motivation group.
- There is a positive and significant relationship between the physical fitness test performances and physical fitness test performances.

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Effect of yoga on academic performance in relation to stress

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Abstract

Academic performance is concerned with the quantity and quality of learning attained in a subject or group of subjects after a long period of instruction. Excessive stress hampers students' performance. Improvement in academic performance and alertness has been reported in several yogic studies.

INTRODUCTION

Academic achievement is an attained ability or degree of competence in school task, usually measured by standardized tests and expressed in grades or units based on norms derived from a wide sampling of pupils' performance. Studies reveal that even low or moderate levels of stress can interfere with task performance. Cognitive reactions of stress result in the inability to concentrate. Yoga, which is a way of life, is characterized by balance, health, harmony, and bliss. Meditation, being part of yoga, which is the seventh limb of Ashtanga Yoga - a state of alert rest as stated by Maharishi Mahesh Yogi, who founded a new technique of meditation, popularly known as transcendental meditation. By practicing yoga, a person is supposed to reach a state of mental equanimity, where responses to favorable or unfavorable external events are well under the individual's control, and responses are moderate in intensity. The science of yoga is a powerful stream of knowledge, which enables the practitioners to achieve radiant physical health, serene mind, continues spiritual uplift, and creates the ability for harmonious social living.

MATERIALS AND METHODS

Subjects

The study was conducted in eight public schools of Hyderabad, Andhra Pradesh. Bisht Battery of Stress Scale (BBSS) was administered on 800 students of Class 9. The participants were 400 boys and 400 girls, with ages ranging from 14 to 15 years. BBSS was administered to identify two stress levels of the students, i.e., high stress and low stress. This test was developed for the measurement of 13 types of stress. Out of 13 scales, two scales, i.e., scale of academic stress and scale of achievement stress were selected. These scales were consisted of 52 and 80 items, respectively, which were 132 in total. Each item is of statement type (closed), to which students were to answer by ticking their option prescribed on the answer sheet. The students were assembled in a hall and made to sit in rows. Booklets containing statement items along with answer sheets were distributed to each student. Instructions were delivered by the investigator. Statements were written in English. Meaning of difficult words was also explained. The students were told to finish their test within an hour. The scoring was done as prescribed in the manual. On the basis of their stress scores arranged in ascending order, top 30% (i.e., 240) subjects were identified as students with low stress and bottom 30% (i.e. 240) students were identified as student with high stress. Out of these students, 50% of them were kept in experimental group and another 50% in control group. Finally 30% subject [high stress (exp) = 89 + low stress (exp) = 75 + high stress (control): 70 + low stress (control) = 67] were selected. Pre test was conducted in three subjects, i.e. Mathematics, Science, and Social Studies for both the groups. Ultimately, 301 subjects (116 girls and 185 boys) were selected for the present study. Yoga module was used as an intervention treatment for the experimental group for an hour daily in the morning for 7 weeks. Academic performance test was used as a pre test and post test for the experimental as well as control groups to assess the effect of yoga module on the academic performance of the experimental group and to compare it with the control group, who never practiced yoga module.

Statistical analysis

Table 1

Means and SDs of academic performance gain scores of three subjects combined

	EXP (Yoga intervention)	C (without yoga intervention)	
HS	-	-	$M_{HS} = 24.83$
	$X_1 = 30.99$	$X_2 = 18.68$	
	$\sigma_1 = 17.50$	$\sigma_2 = 13.14$	
LS	-	-	$M_{LS} = 30.24$

EXP (Yoga intervention) C (without yoga intervention)

$X_3 = 34.28$	$X_4 = 26.20$
$\sigma_3 = 21.56$	$\sigma_4 = 18.72$
$M_{EXP} = 32.63$	$M_C = 22.44$

Table 1

Summary of anova on the academic performance scores of social studies, mathematics and science in relation to stress and yoga intervention

Source of variance	df	S.S.			M.S.S.			F-ratio		
		Social studies	Maths	Science	Social studies	Maths	Science	Social studies	Maths	Science
Yoga 'A'	1	408.65	556.34	277.04	408.65	556.34	277.04	17.13*	37.02*	18.58*
Stress 'B'	1	39.08	0.247	4.28	39.08	0.247	4.28	1.63	0.016	0.28
Interaction	1	25.95	14.92	6.04	25.95	14.92	6.04	1.08	0.99	0.40
Within	296	7108.37	4479.14	4441.06	24.01	15.13	15.00	-	-	-
Total		7582.05	5050.65	4728.42	-	-	-	-	-	-

*Significant at the 0.01 level of confidence.

RESULTS

[Table 2](#) reveals that F-ratio for the difference between means of experimental group (yoga) and control group on the gain scores of combined academic performance (in Mathematics, Science, and Social Studies) is found to be significant at the 0.01 level of confidence, which indicates that students of the experimental group and the control group differ on the gain scores of academic performance. [Table 1](#) depicts means and SDs of combined academic performance gain scores of three subjects, in which the mean of experimental group [$M_{exp} = 32.63$] is found to be greater than that of the control group [$M_c = 22.44$], meaning thereby that those students who experienced yoga module performed better than those who never experienced it.

Table 2

Summary of ANOVA on the academic performance gain scores of three subjects combined in relation to stress and yoga intervention

Source of variance	df	SS	MSS	F-ratio
Yoga "A"	1	7669.77	7669.77	23.39**
Stress "B"	1	1802.3	1802.3	5.50*
Interaction	1	575.68	575.68	1.75
Within	296	97702.53	330.07	-
Total		107750.28	-	-

*Significant at the 0.05 level of confidence;

**Significant at the 0.01 level of confidence

[Table 2](#) further shows that F-ratio for the difference between means of high stress group and low stress group on the gain scores of combined academic performance was found to be significant at the 0.05 level of confidence, indicating that academic performance differs among students with high stress and students with low stress. [Table 1](#) shows that the group means of students with low stress [$M_{LS} = 30.24$] is greater than the group mean of the students with high stress [$M_{HS} = 24.83$], meaning thereby that students with low stress performed better than the students with high stress. Thus, this study reveals that the high stress affects students' performance negatively, [Table 2](#) further depicts no interaction between yoga intervention treatment and stress on the gain scores of academic performance in three subjects combined. After seeing the positive effect of yoga on the three subjects combined, we thought to have a deeper analysis to study the effect of yoga on different subjects separately.

The results shows that F-ratio for the difference between means of high stress group and low stress group on the gain scores of academic performance in Mathematics, Science, and Social Studies (separately) is found to be significant at 0.01 level of confidence, which indicates that students of the experimental group and the control group differ on the gain scores of academic performance in the three subjects. [Table 3](#) gives the details of means and SDs, which depicts that the experimental group showed higher group mean [M_{Soc} .

$\sigma_{St.}=5.11$, $M_{Maths}=5.53$, $M_{Sc}=5.28$] than control group [$M_{Soc. St.}=2.82$, $M_{Maths}=2.83$, $M_{Sc}=3.37$]. It is inferred that the students who experienced yoga module performed better than those students who never experienced it.

Table 3

Means and sd's of academic performance gain scores of social studies, mathematics and science in high stress and low stress group with and without yoga intervention

	EXP			Control			
	Social St.	Maths	Science	Social st.	Maths	Science	
HS	-	-	-	-	-	-	$M_{HS} S. St = 4.26$
	$X_1 = 5.74$	$X_1 = 5.73$	$X_1 = 5.52$	$X_2 = 2.78$	$X_2 = 2.57$	$X_2 = 3.28$	$M_{HS} Maths = 4.15$
	$\sigma_1 = 6.85$	$\sigma_1 = 3.93$	$\sigma_1 = 3.84$	$\sigma_2 = 3.43$	$\sigma_2 = 3.43$	$\sigma_1 = 3.75$	$M_{HS} Sci = 4.4$
LS	-	-	-	-	-	-	$M_{HS} S. St = 3.67$
	$X_3 = 4.48$	$X_3 = 5.34$	$X_3 = 5.04$	$X_4 = 2.86$	$X_4 = 3.09$	$X_4 = 3.46$	$M_{LS} Maths = 4.21$
	$\sigma_3 = 4.07$	$\sigma_3 = 4.24$	$\sigma_4 = 4.004$	$\sigma_4 = 3.59$	$\sigma_4 = 3.70$	$\sigma_4 = 3.74$	$M_{LS} Sci = 4.25$
	$M_{EXP} Social St. = 5.11$	$M_{EXP} Maths = 5.53$	$M_{EXP} Sci. = 5.28$	$Mc S. St. = 2.82$	$Mc Maths = 2.83$	$Mc Sci. = 3.37$	

Further, [Table 4](#) shows that F-ratio for the difference between means of high stress group and low stress group on the gain scores of academic performance in all three subjects (separately) is not found to be significant even at the 0.05 level of confidence. [Table 3](#) gives details which reveal that means of academic performance in all three subjects in two groups, i.e., high stress and low stress, are comparable.

DISCUSSION

The findings of this study reveal that the students who experienced yoga module performed better in overall academics as well as in their separate subjects than those students who did not experience yoga module. The results are in tune with the earlier studies, which found that meditation, practiced over long periods, produces definite changes in perception, attention, and cognition. Other study showed that yoga techniques are helpful in management of anxiety and improvement in concentration. Other researchers found that Transcendental Meditation improves academic performance and enhances problem-solving ability. [Table 2 \(a\)](#) shows that the students with high stress performed better in the subjects of Social Studies and Science. Which explains that at first, performance improves as stress increases presumable because the stress is arousing or energizing. Beyond some point, though stress becomes distracting and performance actually drops as depicted in

Further the findings reveal that excessive stress affects overall academic performance negatively, and this result is in tune with the earlier studies, which conclude that excessive stress is harmful to academic performance and may lead to dropping out. Moreover, when academic performance in individual subjects was analyzed, the performance was comparable in high stress and low stress groups, but having values very close to significant values.

It may be concluded from the finding of the study that with the intervention of yoga, academic performance improves by optimizing the stress levels. So it is suggested that yoga module should become a regular feature in the schools.

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Study of performance of andhra university students at all india inter – university tournaments

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ABSTRACT

The Study was conducted with the primary objective of assessing the performance of Andhra Pradesh University Students at All India Inter – University Tournaments for the last 10 years from 2001-02 to 2010-2011. The data was collected from the Department of Physical Education, Andhra University, Physical Education departments of all the affiliated colleges and concerned students. It was found that most of the medals have come from the individual sports disciplines and handful of medals comes from team games only. It was also found that women secured more medals than men and the bulk of the medals have come from Weight lifting, Swimming and Powerlifting disciplines only. It was also found that every year atleast a medal was secured from Weightlifting and in Swimming the total medals secured were two swimmers only.

INTRODUCTION Andhra University was established in the year 1926. The university sports board is promoting activities in the field of sports and games with excellent infrastructure facilities and also to provide a systematic and scientific training to the students of all the affiliated colleges. Physical education programme was accepted as a part of curriculum in all the affiliated colleges of the university. The university players were selected from Inter - Collegiate cum selection trials conducted every year. Nearly, 22 teams from Andhra University both men and women take part in the South Zone and All India Inter-University Tournaments every year. . For convenience of conducting Inter - Collegiate Tournaments, the University area is divided into (4) Zones. The University is conducting the Zonal Tournaments, Inter - Zonal Inter - Collegiate Tournaments and separate Inter - Collegiate Tournaments for Women

STUDENTS ACHIEVEMENTS

ALL INDIA LEVEL

Ms. S. Geetha secured 2 Gold and 1 Silver medal in Athletics in the All India Inter University Athletic meet at Gulbarga during the year 2002-03 and adjudged as Best Athlete in the above Championship. Ms. CH. V.L.N. Renuka was adjudged as the Strong Women and also Ms. Pujari Sailaja as best lifter in the All India Inter – University Weightlifting (Men & Women), Powerlifting (Men & Women) and Best Physique Championship at Andhra University during the year 2004-05. Ms. Amreen Malik secured 5 Gold & 2 Silver medals and also T. Shilpa Naidu secured 5 Silver and 2 Bronze medal in the All India Inter University Swimming Competition at Kerala University during the year 2007-08. Ms. N. Sudha secured 2 Gold medals in 100 mts. & 200 mts. in the All India Inter – University at Kottayam in the year 2008-09. The University Men Tennis team won Gold in the South Zone Tennis Tournament at Annamalai University in the year 2009-10. Andhra University Men Tennis team secured 4th Place in All India Inter – University Tennis (Men) Tournament at Hissar during the month of January, 2010. Mr. S. V. Abhishek, University Engineering College Student received the Best Outstanding Performance award in the above Tournament.

INTERNATIONAL LEVEL

Ms. N. Nalini participated in the Asian Youth Volleyball Championship at Thailand in the month of September, 2003. Ms. Y. Smitha represented India in the Invitation Volleyball Tournament at Singapore in the month of October, 2003. Ms. S. Geetha participated in the 4X400 Mts Relay in 2004 Olympics Games at Athens (Greece). Ms. CH. V.L.N. Renuka secured 7th position in the World Women Powerlifting Championship at Paris in France in the year 2004. Mr. S. Suryanarayana secured silver medal in the Asian Powerlifting Championship held at Uzbekistan in the year 2003-04. In the year 2007-08, Mr. R. Bangaraiyah represented Indian Universities Athletic Team in the World University Athletics Championship at Bangkok, Thailand. Ms. Amreen Malik of University Engineering College student participated in the Commonwealth games at New Delhi in 2010 and also participated in Commonwealth Youth Games in the same year in Swimming. Mr. S.V. Abhishek Engineering College student participated in the World University Games at Malaysia in the month of April, 2010 in Tennis

METHODOLOGY: The Study was confined to Andhra University students performance at All India Inter – University tournaments for the last 10 years from 2001-02 to 2010-11 are taken in to consideration. The results were discussed.

RESULTS & DISCUSSIONS:The results from the last 10 years showed that the University students both Men and Women has secured 116 Medals (42 Gold, 41 Silver and 33 Bronze). Out of which Women secured 73 medals (31 Gold, 24 Silver, 18 Bronze). The results shows that Individuals disciplines

Table 1 : Year– Wise Medal Distribution

Sl. No	Year	Gold		Silver		Bronze		Total	
		M	W	M	W	M	W	M	W
1	2001-02	01	-	01	01	01	-	03	01
2	2002-03	-	03	02	02	01	-	03	05
3	2003-04	01	02	03	01	02	-	06	03
4	2004-05	03	05	02	01	04	04	09	10
5	2005-06	01	01	02	-	-	02	03	03
6	2006-07	-	03	01	04	01	03	02	10
7	2007-08	-	05	01	09	03	01	04	15
8	2008-09	02	10	02	03	03	05	07	18
9	2009-10	-	01	02	01	-	02	02	04
10	2010-11	02	02	-	03	-	01	02	06
	Total	10	32	17	25	15	18	41	75

Table 2 : Discipline Wise Medal Distribution

Sl. No	Discipline	Gold		Silver		Bronze		Total	
		M	W	M	W	M	W	M	W
1	Weight lifting	02	11	05	04	05	06	12	21
2	Power lifting	01	08	07	02	02	03	10	13
3	Swimming	-	07	-	13	-	07	-	27
4	Best Physique (Men)	06	-	01	-	05	-	12	-
5	Athletics	-	04	02	03	01	-	03	07
6	Boxing	01	01	01	02	01	01	03	04
7	Kho – Kho	01	-	-	-	-	-	01	-
8	Ball Badminton	-	-	01	-	01	-	02	-
9	Handball	-	-	-	-	-	01	-	01
	Total	11	31	17	24	15	18	43	73

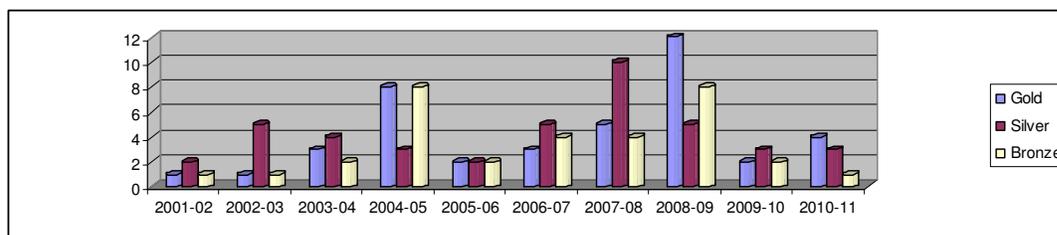


Figure 1. Showing of year wise distribution of Medals

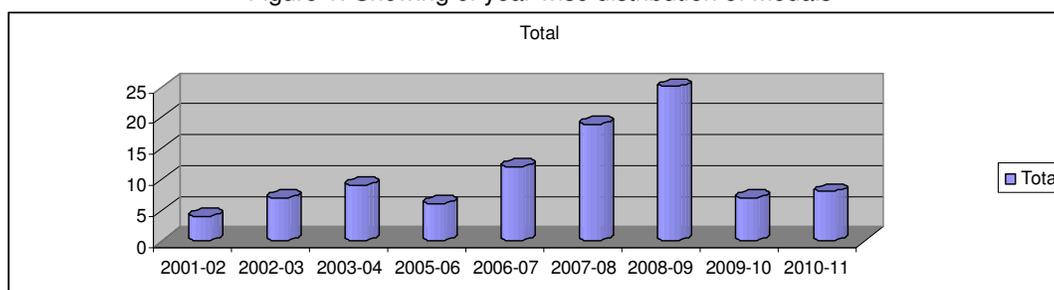


Figure 2. Showing year wise distribution of total medals

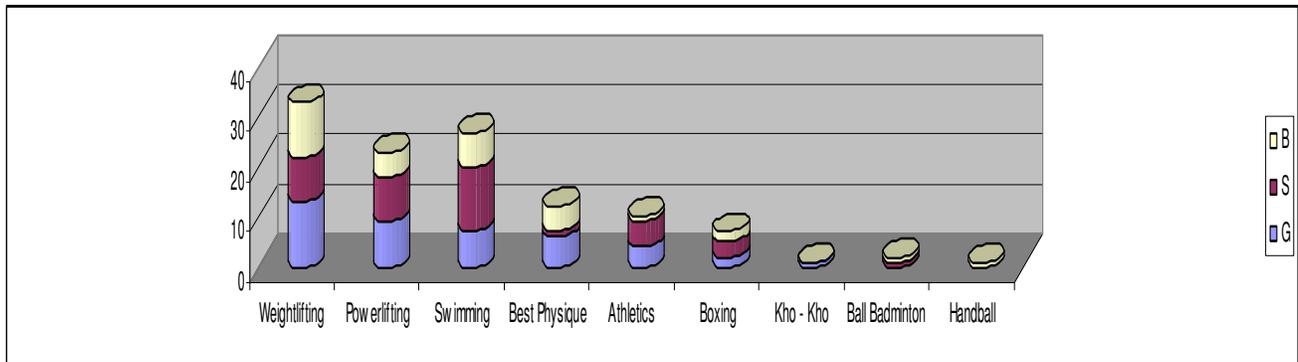


Figure 3. Showing of disciplined wise distribution of medals

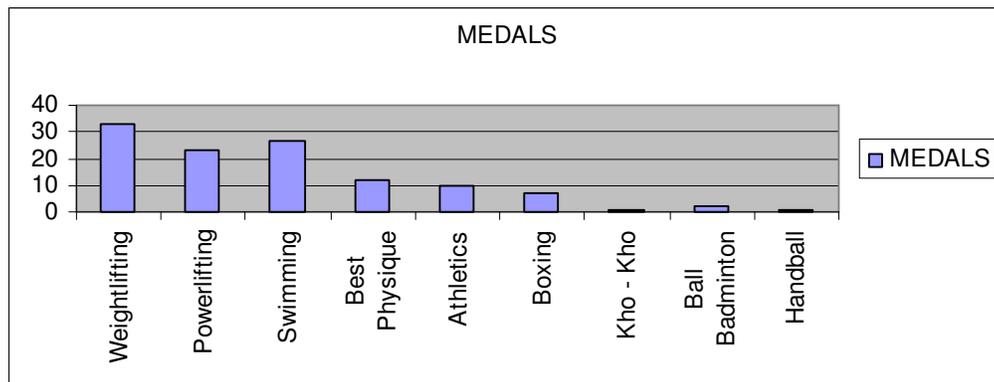


Figure 4. Showing of disciplines wise total medals

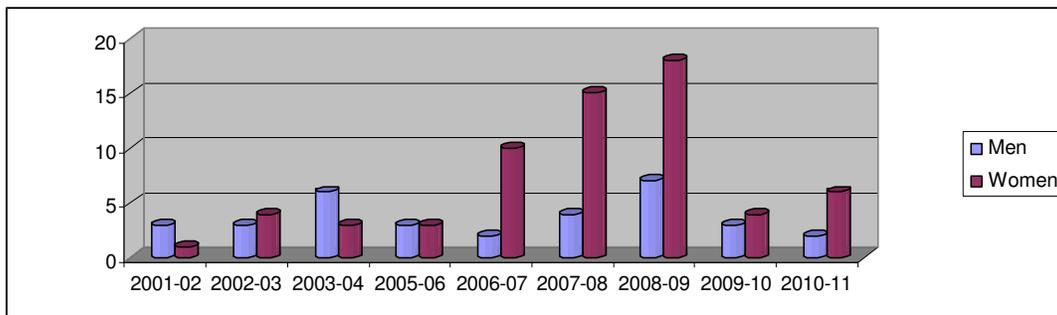


Figure 5. Showing of Year wise Distribution of Men and Women Medals

RECOMMENDATIONS

On the basis of above results it is recommended that the University has to concentrate more on individual disciplines particularly Weightlifting, Powerlifting, Best Physique, Swimming, Athletics and Boxing which has good potential for getting medals at All India Inter – University Tournaments. It is also recommended that Women should be encouraged to participate in Sports and Games activities. It is also recommended that Summer Coaching Camps should be conducted regularly and also atleast 2 – 3 Weeks Coaching Camp before the University team leaving for the Inter - University Tournaments with Coaches. It is also recommended that the University shall appoint Coaches for systematic and scientific training. It is also recommended that Coaches shall be accompanied with University teams at Inter - University Tournaments. It is also recommended that on the lines of Association of Indian Universities (AIU), the University also institute Overall Trophy in the Sports and Games among the affiliated Colleges every year and also Cash Prizes to Top 3 Colleges. It is also recommended that measures should be taken for getting medals by those disciplines which are not secured any medal in the Inter University tournaments. It is also recommended that Scholarships for Outstanding Sportspersons in the University will be sanctioned.

Effect of yogic pranayama and meditation on selected physical and physiological variables.

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Abstract:Thirty boys in the age group of 12 to 15 years were selected from Karnataka university department of yoga, Dharwad. The subjects were divided into two groups namely control group and Experimental group. The Experimental group was given yogic pranayama and meditation for a period of twelve weeks, both morning and evening on alternative days in a week. The control group did not participate in yogic pranayama and meditation training programmer. The collected data were statistically analyzed by using analysis of covariance (ANCOVA). The experiment group had a significant improvement on the selected physical and physiological variables except systolic and diastolic Blood pressure than that of control group. Key Words: Flexibility, breath holding time, systolic pressure, diastolic pressure, pulse rate and respiratory rate.

Introduction:Yogasana and pranayama have their origin in India and have taken a form of science, which is considered to be great legacy of India to the world. Yoga is the science of right living and it can be incorporated into every day life. Yoga has an impact on all aspects on the individual physical, mental emotional spiritual and religious. Yoga helps to achieve a perfect balance between the bodies, mind and complete a harmony between the individual and the universal. For meditation, healthy and sound body and tensionless mind are required. Various postures of yogasanas which include standing, sitting, supine and prone position asana help to keep body healthy and tension free mind.

Pranayama and meditation:For this study, the subjects were practiced nadi sodhana, bhastrika, pranayama and kaplabhati kriya. For meditation the silent and object meditation were also practiced during the training.

Methodology:The purpose of the present study was to find out the effect of yogic pranayama and meditation on selected physical and physiological variable of adolescents. For he purpose 30 students were selected at random, Karnataka university department of yoga, Dharwad. Group – A (Experimental group) having 15 students. The Group – B (Control group) having 15 students. The group – B (Control Group) having 15 students. They were in the age group of 12 to 15 years. They participated in this research voluntary and cheerfully without any compulsion. Flexibility were measured by breath count method and the blood pressure, pulse rate and respiratory rate were assessed by using standard test using Sphygmomanometer, pulse radial artery by using the finger and counting breathing cycle respectively. The experimental groups were given yogic pranayama and meditation practice for a period of twelve weeks, both morning and evening on alternative days a week. Control group did not participate in any training programme.

Analysis of Data and Interpretation of Results

The data, collected from the control group and experimental group on selected physical and physiological variables, were statistically analyzed by using the analysis of covariance (ANCOVA) as statistical technique since the two groups namely Experimental Group and Control Group tested Twice before (Pre Test) the training Programme. The level of significance, fixed at 0.05 level of confidence, was used in this study.

TABLE – 1
Mean and Analysis of covariance for the Pre-Test and
Post Test Data on Flexibility

Test		Control Group	Experimental Group	Source of Variance	Sum of square	df	Mean square	F ratio
Pretest	Mean S.D	34.73 6.55	35.133 7.03	Between With in	1.20 1294.67	1 28	1.20 46.24	0.26
Post test	Mean S.D	35.06 7.06	40.60 7.01	Between With in	229.63 1388.53	1 28	229.6 49.59	4.63*
Adjusted Post test	Mean	32.27	40.39	Between With in	196.75 34.39	1 27	196.75 1.27	154.4*

F0.05 (1,27) =4.20. (or) Table value 4.20., Significance at 0.05 Levels

TABLE – 2
Mean and Analysis of covariance for the Pre-Test and
Post Test Data on Breath Holding Time

Test		Control Group	Experimental Group	Source of Variance	Sum of square	df	Mean square	F ratio
Pretest	Mean S.D	27.45 1.99	27.47 2.05	Between With in	0.003 921.35	1 28	1.20 46.24	0.0001
Post test	Mean S.D	27.45 2.12	30.02 1.56	Between With in	49.41 789.69	1 28	229.6 49.59	1.75
Adjusted Post test	Mean	27.46	30.01	Between With in	48.71 0.88	1 27	196.75 1.27	55.32*

F0.05 (1,27) =4.20. (or) Table value 4.20., Significance at 0.05 Levels

TABLE – 3
Mean and Analysis of covariance for the Pre-Test and
Post Test Data on pulse rate

Test		Control Group	Experimental Group	Source of Variance	Sum of square	df	Mean square	F ratio
Pretest	Mean S.D	80.00 2.61	80.133 3.38	Between With in	0.1333 255.73	1 28	0.133 9.1333	0.015
Post test	Mean S.D	76.60 2.94	77.20 2.57	Between With in	43.20 214 7.643	1 28	43.20 7.643	5.652*
Adjusted Post test	Mean	79.60	77.20	Between With in	46.00 141.04	1 27	46.00 5.22	8.756*

F0.05 (1,27) =4.20. (or) Table value 4.20., Significance at 0.05 Levels

TABLE – 4
Mean and Analysis of covariance for the Pre-Test and
Post Test Data on Respiratory rate

Test		Control Group	Experimental Group	Source of Variance	Sum of square	df	Mean square	F ratio
Pretest	Mean S.D	19.13 1.73	18.80 2.21	Between With in	0.8333 110.13	1 28	0.833 3.933	0.212
Post test	Mean S.D	19.33 1.72	20.93 2.25	Between With in	19.20 112.30	1 28	19.20 4.010	4.780*
Adjusted Post test	Mean	19.33	21.00	Between With in	26.702 27.00	1 27	26.702 1.00	27.10*

F0.05 (1,27) =4.20. (or) Table value 4.20., Significance at 0.05 Levels

The finding of the study shows a significant difference existing between control group and experimental group in flexibility where significance difference of adjusted post means values were 19.33 and 21.00. The 'F' ratio values 27.10 respectively were greater than the table value of 4.20 for significance. Since the results of the study indicate that there is significant difference existing among the adjusted post test means value 27.46 and 30.01. The 'F' ratio values 55.32 respectively were greater than the table value of 4.20 for significance. The results of the study indicate a significant difference existing among the adjusted post test means of experimental and control group on breath holding time. However, the obtained 'F' ratio of 3.74 and 2.121 was less than that of the table value of 4.20 for degree of freedom 1 and 27. Pulse Rate calculated adjusted mean value were 79.6 and 77.20 and the calculated 'F' ratio value was 8.76 which is greater than the table value of 4.20 for significance for degree of freedom of 1 and 27. The result of study indicate that there is significant difference existed among the adjusted post test means of experimental and control group on the improvement of Pulse Rate. For Respiratory rate the calculated 'F' ratio value was 27.10 which was greater than that of table value of 4.20 for significance for degree of freedom of 1 and 27. The result of study indicate that There is significant difference existing among the adjusted post test means of experimental and control group on the improvement of Respiratory Rate.

➤ Discussion

The results of the study specify that physical and physiological changes improved significantly by undergoing the selected yogic pranayama and meditation practice. The changes in the selected parameters were attributed to the regular practice of yogic pranayama and meditation practice programme. Specifically the results indicated significant increases in efficiency of selected variables during twelve week of training programme. The flexibility, breath holding time, pulse rate and respiratory rate improved through yogic pranayama and meditation practice for the experimental group when compared with control group. The evidence based on research found that effect of yogasanas and pranayama on blood pressure, Pulse Rate and respiratory functions.

Conclusion

The findings of this study showed that there was a significant that there was a significant change in physical and physiological variables. The study suggests that yogasanas, pranayamas and meditation might have good improvement on the physiological variables of Respiratory Rate, Pulse Rate and Physical Variables like muscular flexibility.

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Effect of plyometric training on muscular power and anaerobic ability of the noviced sprinters

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Abstract

The purpose of this study was to examine the effect of plyometric training on muscular power and anaerobic ability of noviced sprinters. The subjects for the present study were selected on the basis of random group design. To test the muscular power and anaerobic ability considered standing broad jump and 50 meters dash. Forty subjects underwent training for twelve weeks with the plyometric training. The difference in the mean of each group for selected variable was tested for the significance of difference by "t" test. The level of significance was set at 0.05. Results shows that the plyometric training have a significant improvement on muscular power and anaerobic ability of the noviced sprinters

Keywords: Plyometric, Standing Broad Jump, 50 meter dash, Noviced sprinters.

INTRODUCTION

Plyometric is a method of developing explosive power. Previously referred to as jumping training the term plyometric first appeared in literature in the late 1960. Yuri verkhoshensky the father of plyometric. Plyometric as a term was formed from the Greek root pleythein which loosely translated means to increase. An American coach by the name of Fred Wilt is believed to be the first person to use the term Plyometrics to describe the jump training that some U.S coaches were implementing with their athletes. The movements traditionally employed in a plyometric training program will involve a pre-stretch and stretch-shortening cycle. Over time, a plyometric training program with result in increased force production due to mechanical factors such as increased stored elastic energy and neurophysiologic factors such as changes in the muscle's force/velocity characteristics. The true purpose of plyometric training is to decrease the ground contact time of an athlete while sprinting, jumping, and throwing. Ground contact time can simply be seen as the phase of time that elapses while the eccentric contraction (stretch) of a muscle group is reversed and the concentric contraction contract of that group begins. Before ever starting a plyometric program, you must assess your previous training experience, age, physical maturity and conditioning, flexibility and strength.

Sample:

The present study had been undertaken to compare the effect of plyometric training on muscular power and anaerobic ability of noviced sprinters. A total of 40 participants of 18 to 25 years in age participated in the current study is selected from district sports stadium, Shahjanpur, U.P. They were divided in to two groups. Group A worked as experimental and Group B as control. Muscular power and anaerobic ability were taken as criterion measures for the study. The data were collected twice on each selected variables i.e., once before the training programme and secondly at the end of twelve weeks training programme.

PROCEDURE

1. Muscular power :Standing Broad Jump.
2. Anaerobic ability : 50 Meters

RELIABILITY OF DATA

The reliability of test score was established by test retest method. The reliability of data is presented in table-1.

TABLE-1

Sr. No.	Test Item	Coefficient of correlation
1.	Muscular power	.88
2.	Anaerobic ability	.83

SIX WEEK OF PLYOMETRIC TRAINING PROGRAMME

The students went through plyometric exercises (for twelve week) through training programme under strict supervision of the researcher. Experimental group practiced following exercise during the training:

1. Single leg speed hop
2. Alternate leg bounding
3. Double leg hop progression
4. Depth Jump
5. Fast skipping
6. Medicine ball chest pass.

RESULTS: The study was conducted to determine the effects of plyometric on muscular power and anaerobic ability of noviced sprinters. The statistical analysis of data collected on forty (N=40) subjects. For each of the chosen variable, the results pertaining to significant difference, if any, between experimental and control groups were assessed by "t" test and are presented in following tables:

Table 2. Muscular Power of Experimental Group Paired Samples t-Test

	Pre test	Post test
Sample size	20	20
Arithmetic mean	2.6120	2.6725
95% CI for the mean	2.5518 to 2.6722	2.6113 to 2.7337
Variance	0.01652	0.01713
Standard deviation	0.1285	0.1309
Standard error of the mean	0.02874	0.02926

Paired samples t-test

Mean difference	0.0605
Standard deviation	0.05586
95% CI	0.03435 to 0.08665
Test statistic t	4.843
Degrees of Freedom (DF)	19
Two-tailed probability	P = 0.0001

Table 3. Muscular Power of Control Group Paired Samples t-Test

	Pre Test	Post test
Sample size	20	20
Arithmetic mean	2.5880	2.5910
95% CI for the mean	2.5330 to 2.6430	2.5412 to 2.6408
Variance	0.0138	0.01133
Standard deviation	0.1175	0.1064
Standard error of the mean	0.02626	0.0238

Paired samples t-test

Mean difference	0.0030
Standard deviation	0.01525
95% CI	-0.004138 to 0.01014
Test statistic t	0.880
Degrees of Freedom (DF)	19
Two-tailed probability	P = 0.3900

TABLE-4
MEAN, STANDARD DEVIATION (SD), STANDARD ERROR OF MEAN (SEM) OF MUSCULAR
POWER OF EXPERIMENTAL AND CONTROL GROUP

Group	Number	Mean	S.D.	SEM	't' Value
Experiment (Pre-test)	20	2.612	0.128	0.028	4.843
Experimental (Post-test)	20	2.672	0.130	0.029	
Control (Pre-test)	20	2.588	0.117	0.026	0.880
Control (Post-test)	20	2.591	0.106	0.023	

*Significant at 0.05 level of confidence.

"t" .05 (19) = 2.093 Table-4 shows that the mean of Muscular power of pretest of experimental group and posttest of experimental group was 2.612 and 2.672 respectively, whereas the mean of muscular power of pre test of control and post test of control group was 2.588 and 2.591. The "t" value in case of experimental group was 4.843 and for control group it was 0.880. Since cal. t (=4.843) > tab t .05 (19) (=2.093), Ho (null hypothesis) is rejected at .05 level of significance. Thus it may be concluded that twelve week plyometric training programme showed significant improvement in muscular power. As per the study the above remark can be given at 95% confidence. The graphical representation of responses has been exhibited in figure-1.

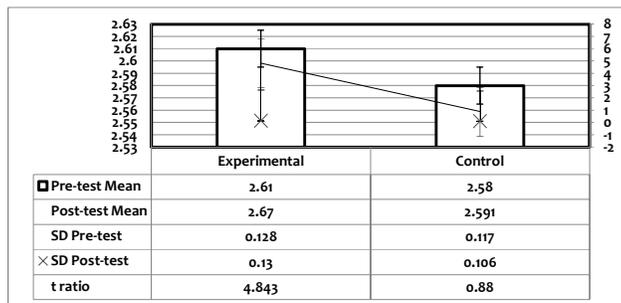


Table 5. Anaerobic ability of Control Group Paired Samples t-Test

	Pre Test	Post Test
Sample size	20	20
Arithmetic mean	6.3800	6.3100
95% CI for the mean	6.2907 to 6.4693	6.2270 to 6.3930
Variance	0.03642	0.03147
Standard deviation	0.1908	0.1774
Standard error of the mean	0.04267	0.03967
Paired samples t-test		
Mean difference		-0.0700
Standard deviation		0.1081
95% CI		-0.1206 to -0.01941
Test statistic t		-2.896

Degrees of Freedom (DF)	19
Two-tailed probability	P = 0.0093

Table 6. Anaerobic ability of Control Group Paired Samples t-Test

	Pre Test	Post Test
Sample size	20	20
Arithmetic mean	6.5200	6.5250
95% CI for the mean	6.4563 to 6.5837	6.4608 to 6.5892
Variance	0.01853	0.01882
Standard deviation	0.1361	0.1372
Standard error of the mean	0.03044	0.03067
Paired samples t-test		
Mean difference		0.0050
Standard deviation		0.09987
95% CI		-0.04174 to 0.05174
Test statistic t		0.224
Degrees of Freedom (DF)		19
Two-tailed probability		P = 0.8252

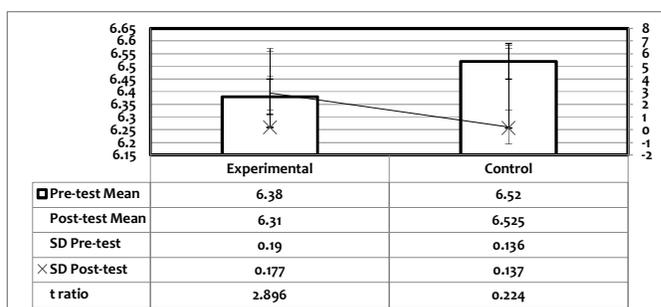
**TABLE-7
MEAN, STANDARD DEVIATION (SD), STANDARD ERROR OF MEAN (SEM) OF ANAEROBIC ABILITY OF EXPERIMENTAL AND CONTROL GROUP**

Group	Number	Mean	S.D.	SEM	't' Value
Experiment (Pre-test)	20	6.380	0.190	0.042	2.896
Experimental (Post-test)	20	6.310	0.177	0.039	
Control (Pre-test)	20	6.520	0.136	0.03	0.224
Control (Post-test)	20	6.525	0.137	0.03	

***Significant at 0.05 level of confidence.**

"t" .05 (19) = **2.093**

Table-7 shows that the mean of anaerobic ability of pretest of experimental group and posttest of experimental group was 6.380 and 6.310 respectively, whereas the mean of anaerobic ability of pre test of control and post test of control group was 6.520 and 6.525. The "t" value in case of experimental group was 2.896 and for control group it was 0.224. Since cal. t (=2.896) > tab t .05 (19) (=2.093), Ho (null hypothesis) is rejected at .05 level of significance. Thus it may be concluded that twelve week plyometric training programme showed significant improvement in anaerobic ability. As per the study the above remark can be given at 95% confidence. The graphical representation of responses has been exhibited in figure-2.



DISCUSSION

Today the sports persons are trained scientifically with the latest training methods and sophisticated instruments for higher performance improvement in different sphere of sports. [1]. In this study, the 12-week of plyometric training programme showed significant improvement in muscular power and anaerobic ability. These findings are supported by other reports. Plyometric exercises increase muscular power and are most effective when designed to complement the specific movements required of the athletic activity [2]. Plyometric training technique is also the best for improving vertical jumping ability, positive energy production and elastic energy utilization [3]. 8-week sprint-specific plyometrics training program improve sprint performance. [4].

CONCLUSIONS

In conclusion, the present study suggests that a Twelve week of plyometric training had significant effect on muscular power and anaerobic ability of noviced sprinters. The world of training methodology has crossed many milestones. In modern time athletes are being trained by highly sophisticated means for better achievements in their concerned sports, and greater stress has been laid on the quality rather than the quantity of training. Such training recommends to enhance similar training programmes on other games and sports where speed and explosiveness are important factors.

APPLICATIONS IN SPORT

The world of training methodology has crossed many milestones. In modern time athletes are being trained by highly sophisticated means for better achievements in their concerned sports, and greater stress has been laid on the quality rather than the quantity of training. Twelve weeks of Plyometric training exercises are useful program to improve the muscular power and anaerobic ability of noviced sprinters.

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Program of physiological exercises in the institutions of rural and urban area of Warangal district

A Comparative Study

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ABSTRACT

Physical education aims of all round development of children. All round development of different aspects of personality of a child is possible with proper planning of various programs of physical education. The study is intended to find out the present status of physical education as daily programs in the institutions of rural and urban areas of Warangal District. The technique of survey by questionnaire is adopted for data collection. The data collected reveals that the physical education is poor in the organization of program of physiological exercises in both rural and urban areas. These exercises play a significant roll in the sound development of children. Realizing the important of sports and exercises in promoting health and maximizing the efficiency of work. The attention of authority is drawn through this study towards standardization of program of physiological exercises to achieve the goal of physical education i.e. development of healthy citizens who can serve the nation in sincerely and effectively.

INTRODUCTION:

Physical education aims at all round development of children various aspects of personality of a child is not possible without proper planning of program of physical education in the institution. Physical education is an integral part of total education process, which aims the development of physical, mental, emotional and socially fit citizen through the medium of physical activity. Hence, an endeavor is made to take up the problem of comparative study on program of physiological exercises in the institutions of Warangal District. The study is focused mainly on the program of physiological exercises.

OBJECTIVES OF THE STUDY

1. To trace out the conduct of program of physiological exercises in the institutions of rural and urban areas of Warangal District.
2. To suggest the measures to be taken up by the Government to achieve the goal of physical education.

METHODOLOGY:

The technique of survey by questionnaire was adopted to gather relevant data. Stratified random sampling was considered to cover the Government institution, provide aided institutions and private institutions.

ANALYSIS OF DATA AND INTER PRETATION:

The data collected pertaining to the various physiological exercises organized under physical education program is presented in the Table shown. The data given against in item No.1 of this table is callisthenic exercises, which helps in improving the beauty or grace and strength of body. This does not require any expenditure and plays a key roll in physical, mental, emotional, neuromuscular coordination and strength development of student. The survey shows that around 58.5% schools of urban area are conducting callisthenic twice in a week and about 26.5% once in a week and about 15% schools are not conducting. Whereas in the rural area only 28% of the schools are organizing twice in a week and 5% schools are taking up once in a week. Rural areas are found to be very poor in the conduct these exercises compare to urban area.

TABLE NO. 3 PHYSIOLOGICAL EXERCISES

Details pertaining to the various Physiological Exercises

Item No	Subject	Discription	HIGH SCHOOL				JUNIOR COLLEGE			
			URBAN		RURAL		URBAN		RURAL	
			Yes	No	Yes	No	Yes	No	Yes	No
1	2	3	4	5	6	7	8	9	10	11
1	Callisthenic drill program	Once a week	14	8	4	49	0	26	0	20
			26%	15%	5%	57%		100%		100%
		Twice a week	31		33		0		0	0
			58.50%		38%					
2	Rythemic exercises a) dumbbell exercise		39	14	41	45	0	26	0	20
			74%	26%	48%	52%	0%	100%		100%
	b)Lezium exercises		16	37	8	78	0	26	0	20
			30%	70%	9%	91%		100%		100%
	c)Dance exercises		11	42		86	0	26		20
			20%	80%		100%		100%		100%
	d)The vand drill exercises		0	53	0	86	0	26		20
				100%		100%		100%		100%
3	Gymnastics		0	53	0	86	0	26	0	20
				100%		100%		100%		100%
4	Yoga-asanas		0	53	0	86	0	26	0	20
				100%		100%		100%		100%
5	Aerobic exercises		0	53	0	86	0	26	0	20
				100%		100%		100%		100%
6	Picnic		0	53	0	86	0	26	0	20
				100%		100%		100%		100%
7	Camping		0	53	0	86	0	26	0	20
				100%		100%		100%		100%
8	Swimming		0	53	0	86	0	26	0	20
				100%		100%		100%		100%

RYTHEMICAL EXERCISES:

Item No.2(a) of the table shows the detach of dumbbell exercises done by the students in the institutions. About 70% schools of urban area and only 40% schools of rural area are conducting this exercise.

The details of the conduct of lezium exercise are given against item no.2(b). The data shows that about 70% schools in urban area around 91% schools in rural area have no program of lezium exercises.It is clear from item no.2(c) that only 20% schools in urban area and conducting this program and these is no dance program in rural area schools.

CONCLUSION:

The analysis of the above data is a clear evidence that institution are very poor in the organization of various programs of physiological exercises which play significant role in the sound development of child.

SUGGESTIONS & RECOMMENDATION:

- 1.The physiological exercises must be made compulsory as a curriculum of physical education.
- 2.The said exercises should be conducted daily for all the students of the evening after the school hours.

A Study on the Age and Sex Differences in Motor Performance of 3 through 6 Year Old Children

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ABSTRACT

Children in the age group from 3 to 6 are in the stage of growing. The study examined the relationship of age and sex to the performance of the above age group on seven motor performance test items. There were significant age and sex differences on most of the motor tests, but it appears that age generally was related more to performance than was gender. Overall, change with age was fairly linear except for balancing and a general tapering in improvement in the 5 to 6 year old category. On the tests of throwing and balancing, gender was as important as age, or more so, in its relationship to performance. Boys were superior to girls at all ages on the throwing tests; girls were superior to boys at age 6 on the balance test. In the speed run test and Standing long jump tests the performance of the boys was superior to the girls. Thus, it appears that gender differences in motor performance occur as early as the preschool years. Interestingly, except for the balance test, on all the tests, the 3 and 4 year old boys performed similarly and 5 to 6 years performed similarly. For girls there were more significant differences from year to year in performance, with the data generally indicating at least three distinct skill groups for girls from age 3 to 6.

Key Words: Preschool children, age and sex differences, motor performance tests, linear.

Introduction

There appears a substantial accumulation of research evidence over a number of years indicating that the trend in motor performance of school age children is toward improvement with age for both boys and girls with the average performance of boys usually exceeding the average performance of girls at each age level (Espenschade & Eckert, 2008; Wickstrom, 2007, Singer, 1997). Most of the data gathered is on boys and girls of elementary school age (Glassow, Halverson, & Rarick, 2005). There are a few studies which have been conducted on children as young as age 3 and 4. But still the differences in motor performances in these ages occur as early as preschool years have not been resolved. Fine motor control has been the focus of some test batteries intended for preschool age children (Swanson, 1998), while other test batteries have included some superficial screening and subjective assessment of gross motor abilities, e.g. a child's ability to long jump over a specified distance. Some of the studies have tested the motor ability of young children focused on only one or two skills (DeOreo & Wade, 2001; Wellman, 2007). While Wickstrom (2007) studied the relationship of five motor tasks in children in the ages of 3, 5 & 6, but they did not compare the performance of children of both sexes. Hence, the main purpose of the present study was to objectively evaluate the performance of young children (ages 3 through 6) on a variety of motor skills to determine the extent to which motor performance was related to age and sex.

Method

Subjects: The subjects selected for the study were boys and girls picked up from different preschools of Hyderabad city aged 3, 4, 5 and 6 years old. Age was defined by the subject's last birthday. The mean age in months for the 3, 4, 5 and 6 year olds was 42, 53, 67 and 78 respectively. The number of children in each of the eight age/sex groups varied from 22 to 45.

Motor Performance Test Items: Pilot testing and technician training sessions were conducted to refine test administration procedures and to objectify verbal directions. Test procedures were further refined to provide for such concerns as fatigue, level of motivation and sufficient number of demonstration, practice and test trails. Based upon this testing it appeared that each of the seven motor performance items was appropriate for children across all four age levels. Seven test items selected constituted balance, Scramble, Catching, Speed Run, Standing Long Jump, Tennis Ball Throw for Distance and Softball Throw for Distance (Morris, Atwater, Williams and Wilmore, 1981). Test-retest reliability was obtained on the test items. Mean, Standard Deviation, 't' Test, ANNOVA and Scheffe Post Hoc Analysis were the statistical tools used for the study.

RESULTS: There were some important and significant results in most of the test items. Table -1 reveals the summary of the Motor Performance Test Items.

Table – 1

Summary of ANOVA and Multiple Classification Analysis on the Motor Performance Test Items

Test	Sources of Variation			Beta Values	
	Main Effects		Interaction	Variables	
	Age	Sex	Age & Sex	Age	sex
Catching	62.29**	3.90	.97	.64	.09
Scramble	42.95**	3.46	1.39	.57	.09
Speed Run	72.17**	12.19**	1.90	.66	.16
Standing long Jump	123.62**	15.19**	1.76	.75	.15
Softball Throw for Distance	10.13*	54.94**	.63	.25	.57
Tennis Ball Throw for Distance	68.10**	133.38**	4.55*	—	—
Balance	31.12**	7.32**	7.33**	—	—

*p <

** p < .001

The Analysis of variance (ANOVA) tests in table -1 reveals significant age and sex main effects on five of the seven tests(Speed Run, Standing Long Jump, Tennis Ball Throw for Distance , Softball Throw for Distance and Balance) and a significant age effect on the remaining two tests (Catching and Scramble). A significant age/sex interaction occurred on the Balance test and Tennis Ball Throw for Distance test.

The relative importance of the significant main effects was examined through a multiple classification analysis which generated the beta values presented in Table -1. In the tests of Catching, Scramble, Speed Run and Standing Long Jump, age was substantially more important factor than was sex in explaining the observed group differences in motor performance. By contrast, sex was more important than age in the Softball Throw for Distance test. The multiple classification analysis was meaningless for the Tennis Ball Throw for Distance and the Balance tests in the presence of the significant age/sex interactions.

The Scheffe post hoc analysis procedure was used to test differences between all possible pairsof means where significant ANOVA 'F' ratio were obtained. Table -2 presents the homogeneous subsets generated by the Scheffe post hoc analysis.

Table-2

Scheffe Post Hoc Analysis of Age/Sex Groups Means for Motor Performance Test Items

Test	Subsets			
	1	2	3	4
Catching	3G, 3B	3B, 4G, 4B	5G, 5B, 6G, 6B	—
Scramble	3G, 3B	3B, 4G, 4B	5G, 5B, 6G, 6B	—
Speed Run	3G, 3 B	3B, 4G, 4B	4B, 5G	5B, 6G, 6B
Standing Long Jump	3G, 3B	3B, 4G, 4B	5G, 5B, 6G	5B, 6G, 6B
Softball Throw for Distance	5G, 6G	5B	6B	—
Tennis Ball Throw for Distance	3G, 4G	3B, 4G, 5G	3B, 4B, 5G, 6G	5B, 6B
Balance	3G, 3B,4G, 4B 5G, 5B, 6B	6G	—	—

3G = 3yr old girls 3B = 3 yr old boys, etc.

In the two tests for which age was the only significant main effect (Catching and Scramble) , the 5 and 6 year old boys and girls performed similarly and were significantly better than the 3 and 4 year boys and girls. Four year old girls performed significantly better than 3 year old girls, but means of 3 and 4 old boys did not differ significantly on both of these test items. In the tests of Speed Run and Standing Long Jump, older girls performed significantly better than younger girls, except for the 5 and 6 year old girls who performed similarly on the jump test. The age pattern for the boys on these tests was identical to the Catching and Scramble results. Although the main effect of sex also was significant for these two tests items, the only specific age group in which sex differences clearly occurred was for 5 year olds on the Speed Run where boys ran significantly faster than girls, however, 3 and 5 year old boys on the jump test and 3 and 4 year old boys on the run test also were classified into the next higher age level while 6 year old girls on the jump test were classified into a lower age level. The presence of a significant age/sex interaction on the Balance and Tennis Ball Throw for Distance tests indicated that the relationship of sex to performance was not uniform across all ages. The Scheffe analysis on the Tennis Ball Throw test reveals that boys were superior to girls at all four age levels, although somewhat more variable, with the differences being twice as great at youngest boys (3 and 4 year olds) did not differ significantly from that of the oldest girls (5 and 6 year olds). Analysis of test scores on the Softball Throw for Distance for 5 and 6 year old boys and girls indicated that the older boys performed significantly better than the younger boys, and both groups of boys threw significantly farther than girls of the same age. On the Balance test, no significant differences occurred among the mean performance of any of the age/sex groups with the exception of the 6 year old girls, who were more proficient and also more variable than all other groups.

DISCUSSION Although significant age and sex differences were found on most of the motor tests, it appears that age generally was related more to performance than was gender. Overall, change with age was fairly linear except for balancing. The only significant age change in the Balance Test was for the 6 year old girls, but the difficulty of the Balance test may have caused a floor effect in the earlier years. Although there may be improvements in balancing skill as early as ages 3 and 4, this test was not sensitive enough to detect them. The results still confirmed the ANOVA findings that 6 year old girls were significantly superior in balancing compared to 6 year old boys. These gender differences were not particularly surprising since sex differences in static balancing have been reported as early as age five (Cratty and Martin, 1998). The only other deviation from linear change with age was the general tendency for a more modest improvement in the 5 to 6 year old category compared to the improvement across the younger ages. The apparent tapering in improvement from age 5 to 6, however, may be an artifact of sampling variation due to the cross-sectional nature of the present study. Data from the study showed mean gains in excess of five inches from 3 to 4 years of age and from 4 to 5 years of age with more modest improvements of approximately four inches from 5 to 6 years of age in standing long jump. The results on the Speed Run and Scramble tests suggest improvements from age 3 on, but with more dramatic improvements from ages 3 to 4 and 4 to 5 than between the ages of 5 and 6. Significant differences in mean performances occurred far more frequently between the age groups within each sex than between the boys and girls of a given age. This was true for the tests of Catching, Scramble, Speed Run and Standing Long Jump. The only exceptions were the throwing and balancing tests. The beta values on the Softball Throw for Distance test indicate that gender was twice as important as age in its relationship to performance. Further it was found that despite the variability, the boys were significantly better than girls at each age in the throwing tests and girls were significantly better than the boys at age 6 in Balancing test.

CONCLUSIONS The findings of the study suggest that if the need arose to group preschool and early elementary children for play activities so that similarity of motor performance was maximized, there is some justification for:

1. Grouping of all 5 and 6 year old girls and boys together (except for balancing and throwing skills).
2. Grouping 3 and 4 year old boys or 3 and 4 year old girls together.
3. Keeping 3 year old girls separate or grouping them with 3 year old boys..

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Handling pressure by sports persons

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INTRODUCTION:

Handling Pressure is advanced skill of the mentally fit sportsmen or women. Where's the pressure in your activity? Is it in your training? Your races? Your first century? The sprint for the City Limits sign? Your teammates' expectations of you? Your conversations with your spouse before you walk out to begin your activity? Or perhaps it's in your thoughts. The way you talk to yourself, the way you talk about yourself – is it there? When you think about your goals, your performance, your skills, your challenges – is it there?

You feel it from others, and you feel it from within. Either way, pressure can help you to reach your potential, or it can suck the life out of your sports activity. Drawing on the five core mental skills, the mentally fit sports person manages pressure effectively and uses it as fuel for optimal performance.

It's certainly not unusual to feel pressure in any aspect of life, and sports is no exception. Performing, having fun, and succeeding under pressure comes easy to some, but for most of us, pressure can sometimes detract from our performance. Learning to handle pressure – and even to *use* it – can make the difference between achieving your goals and falling short. And learning to handle pressure starts with learning how it works on you – and in you.

Sources of Pressure

Let's look first at some of the sources of pressure in your sport. How about the people in your life with whom you have important relationships? Your spouse, significant other, kids, parents, friends, coach, boss, teammates, competitors, sponsors – you might feel pressure from any or all of them. Pressure to....what? Win, improve, cooperate, give up, give in, rest, spend time with them, reduce/increase/justify your commitment to sport?

Before one can have a first meeting with an athlete, ask the athlete to complete a brief self-evaluation. One of the questions asks the athlete to identify and assess people from whom the athlete feels pressure, you can guess which person is consistently at the top of the list. That's right: **Self**. Many athletes, say that being too hard on themselves detracts from their performance.

The relationship we have with ourselves often mirrors, for better and for worse, the way important adults related to us when we were younger. Your self-talk is a prominent sign of the kind of relationship you have with yourself. When you think about your sport or activity, are you overly critical, judgmental, pushy, or negative at times? If so, do you "sound" like anyone you have known? Who? Strong, influential voices tend to stay with us.

The legacy of our contact with toxic people is not the only source of the pressure we put on ourselves. Let's not forget our old nemesis anxiety, and of course its Siblings: stress, tension, nervousness, worry, and fear. It's kind of like the Stress. We have a natural, instinctive, and sometimes impulsive reaction to anxiety: control. If we're able to see – or at least assume – what's triggering our anxiety, we frequently try to exert some control over the trigger, in the hope of feeling less anxious.

If we don't (or can't) see what's triggering our anxiety, we sometimes aim our control at something else. For better and for worse, this often provides some relief. Pressuring yourself is exerting a certain kind of force, a certain kind of power, a certain kind of control. If you're doing too much of it, your self-pressuring may be fueled by anxiety. In that case, you'd be better off finding a different way to get some relief from your anxiety,

whether the anxiety comes from sport or elsewhere. That would likely take the “edge” off of not only your pressure, but your *pressuring* as well.

Let us take things a bit further: When pressure has an extra “edge” to it that is fueled by anxiety, where does the anxiety come from? What might be triggering your anxiety? How you might feel when/if you don’t reach your goal? Having too much riding on the future when you don’t have full control over it? How you might feel if the person who’s pressuring you doesn’t get what they want? The power these things have over you may have something to do with how you feel about yourself.

Perfectionism is a common consequence of not feeling OK as we are. When applied to ourselves, perfectionism is pressuring ourselves to do more, to be more; having too much of our hoped-for well-being attached to the “carrot” we are chasing. Perfectionism has a bad reputation, and for good reason: although it can be a great asset when properly managed, it can drive us (and others) into the ground. It may be fruitful for you to evaluate how much of the pressure you feel, and particularly the pressure you feel from yourself, comes from trying to fill or transform something within yourself. There’s certainly nothing wrong in trying to grow, evolve, and change. The questions are: how much urgency is there to that journey for you, and is there too much? And are you aiming your energy in the right direction?

CONCLUSIONS:

1. Increase your self-awareness, if necessary. Particularly if you’re a person for whom pressure has been a long-term way of life, you may not always be aware that it’s operating in you. How do you know when you’re feeling it? Where do you feel it in your body? How does it affect your mood? Your behavior? Your relationships? How, both positively and negatively, does it affect your sport? your self-talk, how hard you train, your focus? Do you seem to react more to pressure from others, from reality, from yourself, or all of the above? If you have a tendency to be too hard on yourself, ask yourself how that is serving you and how it’s not; ask yourself what’s *driving* it. You may have the opportunity to replace the tendency with another, calmer way of relating to yourself, without sacrificing any of the satisfaction, fulfillment, and results you’d like to achieve.

2. Reassess your goals. Are your objectives specific, measurable, achievable, relevant, and time bound (SMART)? If not, they may be activating unnecessary pressure. And if not, why not? are you trying to get your activity to deliver too much of your identity, self-worth, and fulfillment?

3. Communicate. When you’re feeling pressure, talking about it can be useful, at least as a way to make *yourself* more aware of what’s actually happening, if not also to get some valuable understanding and input from a trusted person: a family member, a friend, a coach, a teammate, a training partner.

4. Improve your ability to maintain, regain, and shift focus. Particularly with pressure that’s “just reality,” concentration skills can be key to performing under pressure.

5. Notice, stop, and correct any negative self-talk. When you’re under pressure, coach yourself as you would like to see *any* athlete be coached when he is under pressure. Be forthright yet supportive, encouraging, and positive. There’s no (good) reason for you to treat yourself more harshly.

3. Manage your emotions effectively, particularly your anxiety. Pressure creates anxiety, and anxiety creates pressure. Investigate whether anxiety – and sometimes, the resulting perfectionism and pressure – is a sign of avoiding something deeper in you that, if you were to confront it, might bring you some relief.

Professional approach to Sports Management

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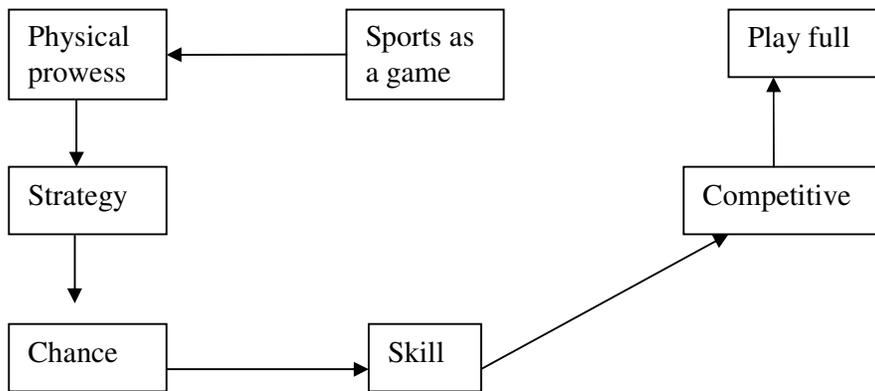
Introduction:

Participation in games and sports is a social phenomenon, the social changes, concepts, ideals, interests, and priorities play a dominant role in the sporting interest of the society. Social status, values, respectability, rewards, honors and finally the opportunities determine the propagation and practice of sports and games in a social situation.

Sports: It comes from the word disport- meaning 'carrying away from work'. When we think about sports. We think of pleasure only. Now a days sports is a wide term which includes - games athletics, gymnastics and swimming

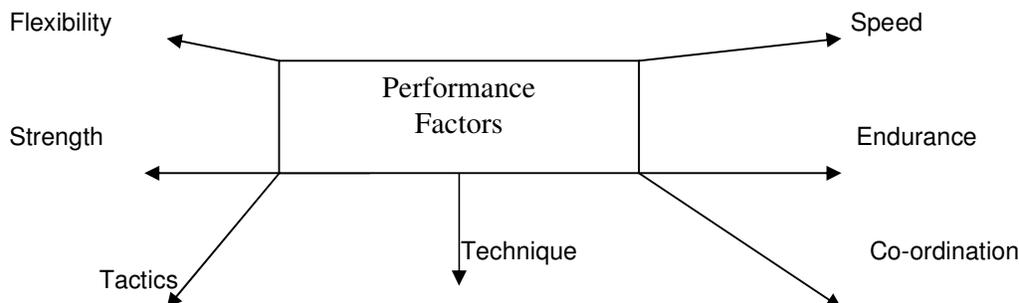
Games: Where the movement of the body change from one action to another action, as in case of games like Kho-Kho, Football, Kabaddi, Hockey, Basketball, etc. In these games all of a sudden certain movements are done to outwit the opponent. They are quick, more elaborate organization and strategies based on intense competition.

SPORTS IN A CIVIC SOCIETY HAS A DEFINITE ROLE TO PLAY



The present scenario depicts some important things which need immediate attention. The students studying in pre-university colleges are deprived from organized sport competitions. After being in the school for a couple of years, practicing and playing in school games and sports competition. Entry into the Pre-university colleges takes away their aspirations and enthusiasm.

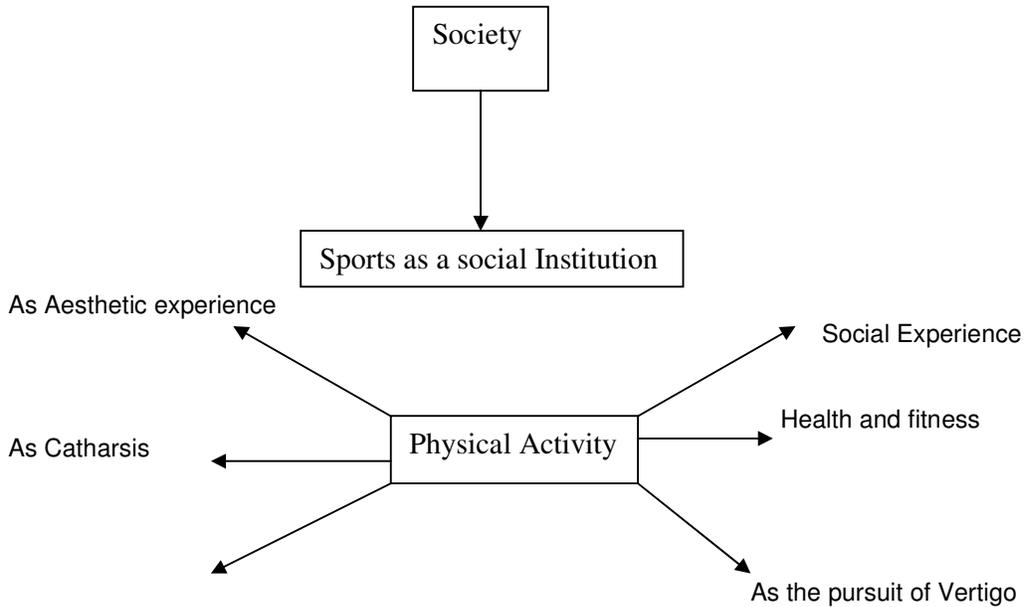
Performance depends upon the optimum development of all these factors mentions below:



Need for the sports management:

Management is the co-ordination of the efforts of different people toward a common end. Robins defines it as “The Universal process of efficiently getting activities completed with and through other people”.

The professional Sports management should aim at:



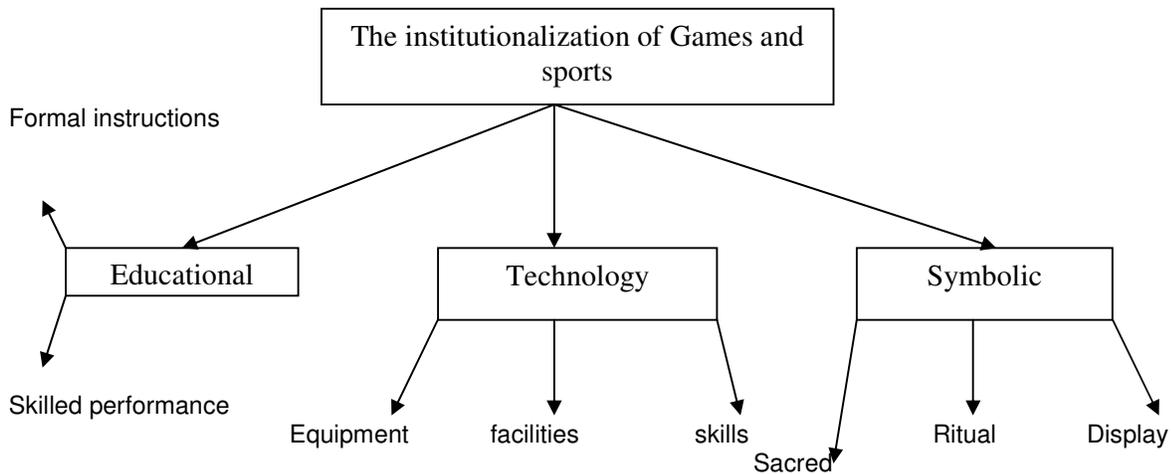
Philosophy of sports management:

Sports managers need a philosophy; a foundation to base their thinking a sound philosophy provides a better understanding and gives a direction for the manager as he or she in the world of sports management. Managers must be professional ethical and moral, with fundamental beliefs and values to sport management.

1) Aims and objective::The Organization must have an “Aim” an Aim is a broad, general, remote and desired result for which the professionalist than to strive. For ex: increasing the mass participation in games and sports to achieve this the steps that are followed are called objectives, to achieve the above aim the objectives are enhancement of playing fields, equipment, personals.

2) Policies and procedures: A policy is a statement of prudent course of action adopted and pursued by an organization procedures carry out the policies, policies are the course of action or the guide lines which procedures are methods of implementation.

The status of sports and games in sports management



Function of sports Management:

There are four fundamental function of sports management.

- 1) Planning
- 2) Organizing
- 3) Actualizing
- 4) Controlling

Planning:-

Planning is essential in life. It is necessary for individuals, institutions and for organization. It establishes a frame work depending on -what to do? When to do? And how to do? (When sudden, accidental changes occur) It also gives direction to individuals and reduces un-productive work to a minimum.

Organizing:

- a) Who is to do what?
- b) With how much Authority?
- c) Under what planning environment?

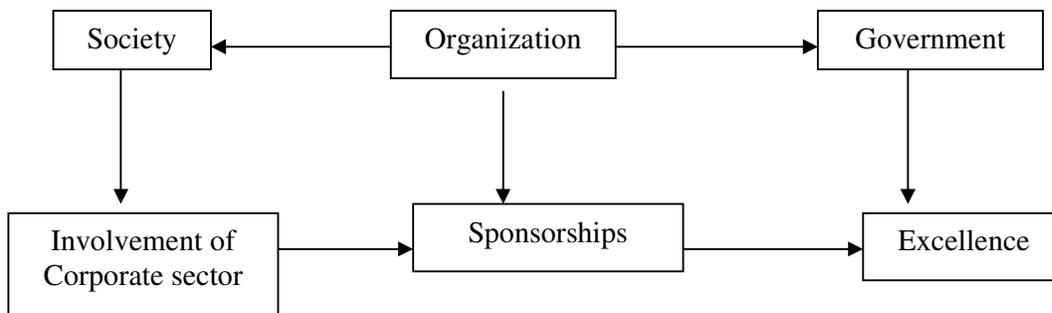
Actualizing

- a) Involving the personals to do their Pre-prescribed work.
- b) Willingly
- c) Interestingly
- d) Full Co-operation.

Controlling:

- a) Follow-up to see whether the work is being properly carried out.
- b) If not apply the proper remedial measures
- c) Alternate personals.

The excellence of sports management depends on facilities and modern technologies.



Further to use sports and physical activity to offer positive alternatives to anti-social behaviors such as drug use and crime and the problems that form a lack of self-esteem boredom, idleness, alienation and Poverty.

- Increased and enhanced participation give raise to ethical democratic practices and removal of caste prejudices, better family interactions and peer influence. Behavioral standards and goals that contribute to positive social relations and the motivation to succeed better use of free time.

The Problems and solutions with regard to competitions at various stages

There is a lot of problems which the organizers are facing for sports competitions are listed below: Play ground ,Officials,Equipment, Accomodation,Transport, Eligibility, Finance, Rules, Incentives Provisions for spectators,fixtures, Allotment and reallocation of tournaments, coaching camps etc.

Conclusion: Every professional should have a philosophical attitude towards his/her profession. The job or the assignment should not be accepted for just completing it. There should be effective and personal involvement with total commitment, dedication and sincerity will bear the fruit. For ex: conduct of intramural or intercollegiate game should be organized to involve mass participation with a wider variety of sports, in order to involve all students of their choice

A Study Agreeableness, Conscientiousness and Openness among Interuniversity and Intercollegiate Football players”

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Introduction:

The Big five factors are openness, conscientiousness, Extraversion, Agreeableness, and neuroticism. The neuroticism factor is sometimes referred to by its low pole – "emotional stability". Some disagreement remains about how to interpret the openness factor, which is sometimes called "intellect" rather than openness to experience. Beneath each factor, a cluster of correlated specific traits are found; For example, extraversion includes such related qualities as gregariousness, assertiveness, excitement seeking, warmth, activity and positive emotions.

Openness is a general appreciation for art, emotion, adventure, unusual ideas, imagination, curiosity, and variety of experience. The trait distinguishes imaginative people from down-to-earth, conventional people. People who are open to experience are intellectually curious, appreciative of art, and sensitive to beauty. They tend to be, compared to closed people, more creative and more aware of their feelings. They are more likely to hold unconventional beliefs. People with low scores on openness tend to have more conventional, traditional interests. They prefer the plain, straightforward, and obvious over the complex, ambiguous, and subtle. They may regard the arts and sciences with suspicion or even view these endeavors as uninteresting.

Conscientiousness is a tendency to show self-discipline, act dutifully, and aim for achievement against measures or outside expectations. The trait shows a preference for planned rather than spontaneous behavior. It influences the way in which we control, regulate, and direct our impulses.

Extraversion is characterized by positive emotions, surgency, and the tendency to seek out stimulation and the company of others. The trait is marked by pronounced engagement with the external world. Extraverts enjoy being with people, and are often perceived as full of energy. They tend to be enthusiastic, action-oriented individuals who are likely to say "Yes!" or "Let's go!" to opportunities for excitement. In groups they like to talk, assert themselves, and draw attention to themselves. Introverts lack the social exuberance and activity levels of extraverts. They tend to seem quiet, low-key, deliberate, and less involved in the social world. Their lack of social involvement should not be interpreted as shyness or depression. Introverts simply need less stimulation than extraverts and more time alone. They may be very active and energetic, simply not socially.

Agreeableness is a tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others. The trait reflects individual differences in general concern for social harmony. Agreeable individuals value getting along with others. They are generally considerate, friendly, generous, helpful, and willing to compromise their interests with others. Agreeable people also have an optimistic view of human nature. They believe people are basically honest, decent, and trustworthy.

Disagreeable individuals place self-interest above getting along with others. They are generally unconcerned with others' well-being, and are less likely to extend themselves for other people. Sometimes their skepticism about others' motives causes them to be suspicious, unfriendly, and uncooperative.

Neuroticism is the tendency to experience negative emotions, such as anger, anxiety, or depression. It is sometimes called emotional instability. Those who score high in neuroticism are emotionally reactive and vulnerable to stress. They are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult. Their negative emotional reactions tend to persist for unusually long periods of time, which means they are often in a bad mood. These

problems in emotional regulation can diminish the ability of a person scoring high on neuroticism to think clearly, make decisions, and cope effectively with stress.

Methodology:

Aim and Objective of the study:

1. To Examine the Agreeableness among Interuniversity and Intercollegiate Football Players.
2. To Examine the Conscientiousness among Interuniversity and Intercollegiate Football Players.
3. To Examine the Openness among Interuniversity and Intercollegiate Football Players.

Hypothesis:

1. Interuniversity football players Agreeableness have significantly high Agreeableness than the intercollegiate football players.
2. Interuniversity football players Conscientiousness have significantly high Agreeableness than the intercollegiate football players.
3. Interuniversity football players Openness have significantly high Openness than the intercollegiate football players.

Methodology:

Sample

For the present study 180 Sample were selected from Aurangabad region, Maharashtra State. The effective sample consisted of 180 subjects, out of which 100 subjects were Interuniversity football players and 100 subjects were intercollegiate football players. The age range of subjects where 18 to 25 years.

Tools

NEO Personality scale. (Paul T. Costa & Robert R. McCrae)

This test is developed and standardized by Costa and McCrea the 60 items are rated on a five point scale. The NEO-FFI has a grade six reading level. The subjects were required to respond to each item in terms of “Strongly disagree” , “Disagree”, “Neutral”, “Agree”, “strongly agree”. Reliability and Validity Internal consistency coefficients range from .86 to .95 for domain scales, and from .56 to .90 for facet scales. Stability coefficients ranging from .51 to .83 have been found in three-year, six-year, and seven-year longitudinal studies of the original NEO-PI factors. The NEO PI-R has been validated against other personality inventories and projective techniques.

Procedures of data collection

One instrument could be administered individuals as well as a small group. While collecting the data for the study the later approaches was Adopted. The subjects were called in a small group of 20 to 25 subjects and there seating arrangements was made in a classroom. Prior to administration of test, through informal talk appropriate rapport form. Following the instructions and procedure suggested by the author of the test. The test were administered and a field copy of each test was collected. Following the same procedure, the whole data were collected.

Variable

Independent variable- Players a) Interuniversity b) Intercollegiate

Dependent Variable
 1. Agreeableness
 2. Conscientiousness
 3. Openness

Statistical Treatment of Data

Agreeableness of Interuniversity and intercollegiate football players Mean S.D. and “t” Value.

Football Players	Mean	S.D	N	df	“t”
Interuniversity	38.54	2.32	90	178	12.29**
Intercollegiate	34.12	2.50	90		

The results related to the hypothesis have been recorded. Mean of Agreeableness score of the Interuniversity football players Mean is 38.54 and that of the Intercollegiate football players Mean is 34.12 The difference between the two mean is highly significant ($t = 12.29$, $df = 178$, $P < 0.01$) It is clear that Interuniversity football players and Intercollegiate football players Subjects Differ Significantly From each other from the mean scores and graph it was found that the Interuniversity football players have Significantly High Agreeableness than the Intercollegiate football players. This Result Support the Hypothesis.

Conscientiousness of Interuniversity and intercollegiate football players Mean S.D. and “t” Value.

Football Players	Mean	S.D	N	df	“t”
Interuniversity	39.88	3.10	90	178	8.85**
Intercollegiate	36.02	2.74	90		

The results related to the hypothesis have been recorded. Mean of Conscientiousness score of the Interuniversity football players Mean is 39.88 and that of the Intercollegiate football players Mean is 36.02 The difference between the two mean is highly significant ($t = 8.85$, $df = 178$, $P < 0.01$) It is clear that Interuniversity football players and Intercollegiate football players Subjects Differ Significantly From each other from the mean scores and graph it was found that the Interuniversity football players have Significantly High Conscientiousness than the Intercollegiate football players. This Result Support the Hypothesis.

Openness of Interuniversity and intercollegiate football players Mean S.D. and “t” Value.

Football Players	Mean	S.D	N	df	“t”
Interuniversity	37.23	3.44	90	178	5.52**
Intercollegiate	34.53	3.11	90		

The results related to the hypothesis have been recorded. Mean of Openness score of the Interuniversity football players Mean is 37.23 and that of the Intercollegiate football players Mean is 34.53 The difference between the two mean is highly significant ($t = 5.52$, $df = 178$, $P < 0.01$) It is clear that Interuniversity football players and Intercollegiate football players Subjects Differ Significantly From each other from the mean scores and graph it was found that the Interuniversity football players have Significantly High Openness than the Intercollegiate football players. This Result Support the Hypothesis.

Results:

1. Interuniversity football players Agreeableness have significantly high Agreeableness than the intercollegiate football players.
2. Interuniversity football players Conscientiousness have significantly high Agreeableness than the intercollegiate football players.
3. Interuniversity football players Openness have significantly high Openness than the intercollegiate football players.

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Effect of Socio-Economic Status on Mental Health of School Going Players

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Introduction:

Increasing concern has been expressed about the mental health of students in higher education. Concerns have been articulated by students themselves and by the academic staff who teach them. Perhaps the most persuasive evidence of an apparent increase in mental health problems in students has been produced, however, by the counseling services and pastoral staff in colleges and universities who Endeavour to assist students in difficulty, and by the staff of student health services.

In the past few years, the mental ill health of students has attracted specific media attention. Some reporting has been sensationalized and irresponsible, for example when describing the suicide of students in highly emotive and critical terms. Most media reports have been sensitive and balanced, however, drawing attention constructively to the apparent growth of emotional and psychiatric problem in the student population. These might have made it easier for students themselves to acknowledge problems such as depression and eating disorders. A report by the Association for University and College Counseling (AUCC), parietic early influential in drawing attention to an apparent increase in levels of psychological disorder among higher education students. The report prompted the Royal College of Psychiatrists to convene a working group to consider the evidence for the implication of increasing morbidity for both higher education and mental health services. Naturally, the college also wished to review the specific responsibilities of psychiatrists for the mental health of students. The increasing number of students presenting with mental health problems reflects the rapidly increasing access of young people to higher education and the associated growth in student numbers. It also reflects the growing rates of mental health problems among young people generally. Given the trends in the

general population, it is hardly surprising that rates of psychological disturbance and psychiatric illness among students are rising. The effects are profound. They are felt by the students themselves, both subjectively and through the negative impact on their education, but also by those around them, including peers and family, and by the educational institutions that the students attend. Moving away from home, family and childhood friends to an unfamiliar place and culture constitutes an additional challenge at an age when most students are also negotiating significant developmental changes. The cultural and language differences may be felt most keenly by students from other countries. The number of mature students is growing to, and they may face particular challenges such as combining the demands of higher education with domestic responsibilities, and managing the changing patterns of established relationship that are provoked by exposure to new ideas and expectations. Increasing numbers of students from socio-economically disadvantaged populations, and from ethnic minority groups, are obtaining access to colleges and universities. They may have no familiarity with higher education institutions or the demands of advanced study, however, and may feel isolated from the majority of students and alienated from both the institution's culture, and the families and communities from which they come. These are potent ingredients for distress and psychiatric disturbance, but the relative lack of structure and supervision often results in these difficulties going unnoticed.

N. Balilashak, M. Safavi, M. Mahmoudi (2010) Comparative assessment of mental health of gifted and average students of junior high school. The aim of this study was to comparing the mental health of gifted and average high school students. Eighty three students of high school who were selected by randomized classification method, divided in two groups (43 gifted students, 40 average students). In the gifted students' category, 30.2% were considered suspicious and 18.6% were known to be vulnerable. As to average students group, 50% were healthy, 37.5% were considered suspicious and 12.5% were known to be vulnerable. Further study with more cases and psychological interview based on DSM-IV after screening is recommended.

Methodology:

Aim and Objective of the study:

- To find out the Effect of Soci-Economic Status on Mental Health of School going players.

Hypothesis:

- High Socio-Economics Status School going players were significantly good mental health than low Socio-Economics status School going players.

Sample:

For the present study 200 sample were selected from various school from, Jalna, Maharashtra State. The effective sample consisted of 200 subjects, out of which 100 subjects were high SES School going layers and 100 subjects were Low SES School going players. The age range of the subjects was 18 to 25 years.

Tools:

C.G. Deshpande Mental Health test:

C.G. Deshpande Mental Health test was used for measuring Mental Health. All the 50 items of the scale are presented in simple and brisk style. Each of the 40 item has two answer (multiple Choice) 'Yes' and 'No' This is well known test having high reliability and validity coefficients.

Procedure of data collection:

The study was conducted in two phases. In the first phase, frustration test were give on the 200 college going students. The data were obtained and median value on mental health test was calculated. Students at and above median value were treated as having High Socio-Economic Status School going players and below median value were treated as having low socio Economic Status School going Players. From among 200 students, 100 students having High Socio-Economic Status School going players were selected.

Variable

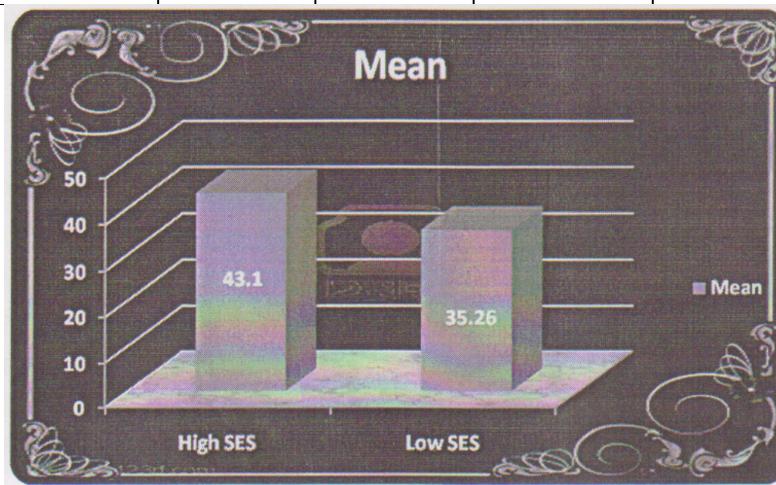
Independent variable- Socio-economic Status 1) High b) Low

Dependent Variable 1. Mental Health

Statistical Treatment of Data

Mental Health of High and Low Socio-economic Status school going players mean S.D. And "t" value

SES	Mean	S.D.	N	Df	"t"
High	43.10	6.76	100	198	9.17
Low	35.26	5.23	100		



The results related to the hypothesis have been recorded. Mean of Mental health score of the High Socio-Economic Status School going players Mean is 43.10 and that of the Low Socio-Economic Status School going Players Mean is 35.26. The difference between the two mean is highly significant ($t=11.69, df=118, p<0.01$) it is clear that High Socio-Economic Status School going players and Low Socio-Economic Status School going Players Subjects differ significantly from each other from the mean score and graph it was found that the high Socio-Economic Status School going players have significantly good Mental health than the Low Socio-Economic Status School going Players. This result Support the Hypothesis.

Results:

High Socio-Economic Status School going layers were significantly good mental health than Low Socio-Economic Status school going players.

Referance:

Clifford Beers Clinic. (2006, October 30). *About Clifford Beers Clinic*. Retrieved June 1, 2007.

A Study of Mental Health Among Sportsmen and Non-Sportsmen

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Introduction:

Mental health is term used to describe either a level of cognitive or emotional well-being or an absence of a mental disorder. From perspectives of the discipline of positive psychology or holism mental health may include an individual's ability to enjoy life and procure a balance between life activities and efforts to achieve psychological resilience. The World Health Organization defines mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community". It was previously stated that there was no one "Official" Definition of mental health. Cultural differences, subjective assessments, and competing professional theories all affect how "mental health" is defined.

In the mid-19th century, William Sweetzer was the first to clearly define the term "mental hygiene", which can be seen as the precursor to contemporary approaches to work on promoting positive mental health. Isaac Ray, one of thirteen founders of the American Psychiatric Association, further defined mental hygiene as an art to preserve the mind against incidents and influences which would inhibit or destroy its energy, quality or development. At the beginning of the 20th century, Clifford Beers founded the National Committee for Mental Hygiene and opened the first outpatient mental health clinic in the United State.

Mental wellbeing

Mental health can be seen as a continuum, where an individual's mental health may have many different possible values. Mental wellness is generally viewed as a positive attribute, such that a person can reach enhanced levels of mental health, even if they do not have any diagnosable mental health condition. This definition of mental health highlights emotional well-being, the capacity to live a full and creative life, and the flexibility to deal with life's inevitable challenges. Many therapeutic systems and self-help books offer methods and philosophies espousing strategies and techniques vaunted as effective for further improving the mental wellness of otherwise healthy people. Positive psychology is increasingly prominent in mental health. A holistic model of mental health generally includes concepts based upon anthropological, educational, psychological, religious and sociological perspectives, as well as theoretical perspectives from personality, social, clinical, health and developmental psychology.

Sepideh Ramzi, Mohammad Ali Besharat (2010) The impact of hardiness on sport achievement and mental health. To examine the impact of hardiness on sport achievement and mental health in sample of athletes, 74 students (44 males, 30 females) were included in this study. All participants completed Hardiness Scale (HS) and Mental Health Inventory (MHI). To measure sport achievement, athletes' coaches rated the Sport Achievement Scale (SAS). Hardiness was positively associated with sport achievement and psychological well-being. A simple negative correlation was found between hardiness and psychological distress, but the correlation was not statistically significant. Hardiness is supposed to increase levels of sport achievement and psychological well-being through feeling of commitment, control, challenge, and coping skills.

Pascal M. Gyax, Pascal Wagner-Egger, Ben Parris, Roland Seiler, Clude-Alain Hauert (June 2008) A psycholinguistic Investigation of Football Players' Mental Representation of Game Situation: Does Expertise Count?. In order to progress through a competitive sporting event, athletes need to form mental representations of the situations they encounter. In this paper, we present three experiments exploring the mental representations of football players when presented with written material describing football game situations. Experiment 1 assessed off-line processing by having players of different levels generate written football scripts. The results predominantly showed that players of lower expertise were less "other-oriented" and included more emotional elements in their mental representation. Experiments 2a and 2b further explored these differences. Using an on-line measure, a reading-time paradigm, we showed that first division players-mental representation more easily included "other" and less readily included emotions, as opposed to both national League and Fifth Division layers. Although Fifth Division and National League were similar, different cognitive processes may underlie the construction of the players-mental representation.

Methodology:

Aim and Objective of the study:

- To find out the Mental Health among Sportsmen and Non-Sportsmen

Hypothesis:

- Sportsmen have significantly Good Mental Health than the Non-Sportsmen.

Sample

For the present study 180 Sample were selected from Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, and Maharashtra State. The effective sample consisted of 180 subjects, out of which 90 subjects were male and 90 subjects were female. The age ranges of the subjects were 18 to 25 years.

Tools

C.G. Deshpande Mental Health Test:

C.G. Deshpande Mental Health Test was used for measuring Mental Health. All the 50 items of the scale are presented in simple and brisk style. Each of the 40 item has two answer (multiple choice) "YES" and "NO" This is well known test having high reliability and validity coefficients.

Procedures of data collection

Each of the one instrument could be administered individuals as well as a small group. While collecting the data for the study the later approaches was adopted. The subjects were called in a small group of 20 to 25 subjects and there seating arrangements was made in a classroom. Prior to administration of test, through informal talk appropriate rapport form. Following the instructions and procedure suggested by the author of the test. The test was administered and a field copy of test was collected. Following the same procedure, the whole data were collected.

Variable

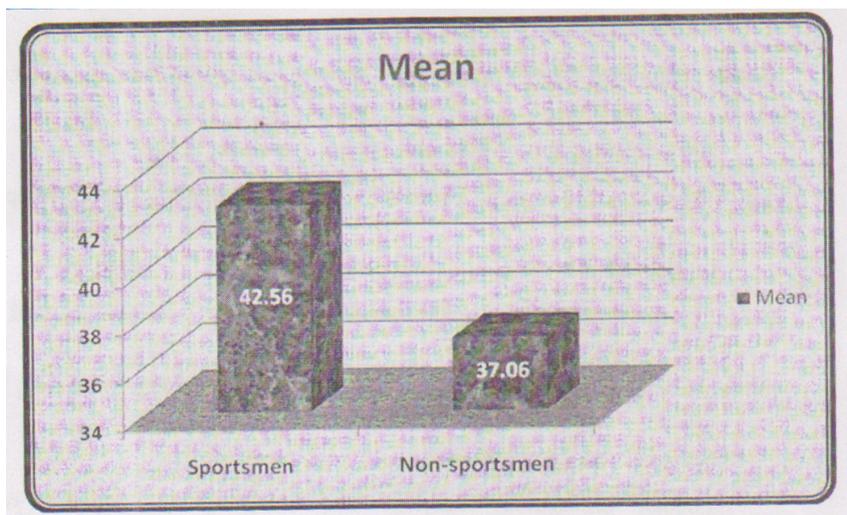
Independent Variable -Group a) Sportsmen b) Non-Sportsmen
Residence a) Rural b) Urban

Dependent Variable 1. Mental Health

Statistical Treatment of Data

Mental Health of Sportsmen and Non-Sportsmen Mean S.D. and "t" Value.

Group	Mean	S.D.	N	Df	"t"
Sportsmen	42.56	4.47	90	178	8.84**
Non-sportsmen	37.06	3.85	90		



The results related to the hypothesis have been recorded. Mean of mental health score of the sportsmen Mean is 42.56 and that of the non-sportsmen Mean is 37.06. the difference between the two mean is highly significant ('t' = 8.84, df = 178, p<0.01) it is clear that sportsmen and non-sportsmen subjects Differ Significantly From each other from the mean scores and graph it was found that the sportsmen have significantly high mental health than the non-sportsmen. This Result Support the Hypothesis.

Result:

- Sportsmen have significantly Good Mental Health than the Non-Sportsmen.

References

Clifford Beers Clinic. (2006, October 30). About Clifford Beers Clinic. Retrieved June 1, 2007.

Effect of isotonic and isometric training on body composition and strength parameters of male basket ball players

Shankar Sure and Dr. Sakpal Hoovanna

ABSTRACT

The purpose of the study is to find out the effect of six weeks isotonic and isometric training on body composition and strength parameters. To achieve this purpose 60 male basket ball players Gulbarga district selected from the total strength of 150 at random as subjects for this study. They are randomly divided into three groups and each group consisted of twenty subjects. Group I will undergo isotonic training, group II will undergo isometric training, group III is the Control group. Maximum strength (leg strength-Leg dynamometer), Explosive strength (vertical jump), Strength endurance (Bent knee sit-ups) were measure as pre-test results and after six weeks training same will be measured as post results. It is concluded that the isometric training produced significant increase in leg strength as compared to isotonic training. The isotonic training produced significant development in vertical jump as compared to isometric training. The isotonic training produced significant increase in sit-ups as compared to isometric training.

INTRODUCTION

Resistance training is a form of strength training in which each effort is performed against a specific opposing force generated by resistance (i.e. resistance to being pushed, squeezed, stretched or bent). Exercises are isotonic if a body part is moving against the force. Exercises are isometric if a body part is holding still against the force. Resistance exercise is used to develop the strength and size of skeletal muscles. Properly performed, resistance training can provide significant functional benefits and improvement in overall health and well-being.

STATEMENT OF PROBLEM

Determining the effect of different methods of strength training on different strength related variables are useful research objectives and that have drawn the attention of the investigator. The present scientific study is an effort to explore and suggest the best scientific method for the development of strength parameters.

The present investigation was conducted to explore the effect of isotonic and isometric training on body composition and strength parameters among male basket ball players.

MATERIALS AND METHODS

Selection of variables The researcher had gone through the available literature and had discussions with various experts before selecting variables. The availability of technique for the purpose of analysis, feasibility, reliability of the procedure and the outcome were extensively taken care before finalizing the variables. After analyzing the various factors associated with the present study, criterion variables leg strength, vertical jump and sit-ups were selected

Experimental Variables

The experimental variables used in the present study were isotonic strength training and isometric strength training. Though many methods prevail to develop strength, the role of progressive strength training is an undisputed one, lot of researchers had been carried out on the effects of progressive strength training, but still the bone of contention is about the different strength and duration to get the maximum benefit. Experts differ in their views based on their studies; most of the strength training studies have been carried out in foreign countries using the sophisticated equipments and devices available there. Hardly few explorations have been made in India, the area of effective strength training and its effects on strength and body composition variables. In this context, the investigator makes an attempt to analyze the effect of two different progressive strength training on two different groups.

Criterion Variables

Strength

- Maximum strength (leg strength)
- Explosive strength (vertical jump)
- Strength endurance (sit-ups)

Selection of Tests

The variables selected and the respective tests administered are represented in table.No.1.

Table.No.1

List of variables and their respective test

Sl. No.	Variables	Test
1.	Maximum strength	Leg dynamometer
2.	Explosive strength	Vertical jump
3.	Strength endurance	Bent knee sit-ups

Tools

- Leg dynamometer
- Vertical jump (Indiana Motor Fitness Test)
- Bent knee sit-ups (AAPHER Test)

Instrument Reliability

In the present study standard equipments such as leg dynamometer, stop watch, measuring tape and mat which are available at the DYSS stadium, Gulbarga were used.

Reliability of the Data

Test and retest method was followed in order to establish reliability of data by using 10 subjects at random. These six subjects were tested twice by the same person under similar conditions. Johnson and Nelson's (1982) intra-class co-efficient of correlation was used to find out the reliability of the data as suggested. The results are presented in table. No. 2.

Table.No.2

Intra-class co-efficient of correlation on selected dependent variables

Sl. No.	Variables	Test
1.	Maximum strength	94*
2.	Explosive strength	92*
3.	Strength endurance	95*

*Significant at 0.01 level of confidence.

Table value required for significant at 0.01 level of confidence is 0.77

Since the obtained r-values were greater than the required value, the data were accepted as reliable in the form of instrument, tester and subjects

Load Dynamics

The variations in six weeks training for isotonic and isometric groups are given below.

Table.No.3

Percentage of Insixsity

Weeks	Isotonic Transaction		Isometric transaction	
	Insixsity of Load	Number of Repetitions	Insixsity of Load	Number of Repetitions
1 – 2	70	5	70	7
3 – 4	80	6	80	8
5 - 6	90	7	90	9

The isotonic and isometric exercises were performed in alternate sessions.

Training programme

During the training period of two experimental groups namely isotonic and isometric groups were underwent their respective training programme, five days per week for six weeks in addition to their regular physical education activities, Group I underwent isotonic training and group II underwent isometric training in alternative sessions. Every day the workout lasted for about 45-60 minutes including warm-up and cool-down exercises, where as the Group III did not participate in any specific training.

The details of the exercise prescribed for isotonic training and isometric training are presented in Table .No.4.

Table.No.4
Exercises Prescribed during the Training Period

Sl. No.	Isometric Exercise	Isotonic Exercise
1	Dead lift	Bench press
2	Knee exsision	Leg press
3	Bench press (supine)	Arm curl
4	Back lift	Leg flexion
5	Heel raise	Half squat
6	Sit-ups (incline upright position)	Sit-ups (Bent-Knee)

Collection of Data

The data on maximum strength, explosive strength, strength endurance, were collected by administrating leg lift with dynamometer, vertical jump, and bent knee sit-ups respectively. Pre test data were collected two days before the training programme and post-test data were collected two days after the training programme.

Statistical Techniques

The analysis of covariance (ANCOVA) was used separately for each variable. If the "F" ratio was found to be significant for adjusted post-test means, Scheffe's test was applied as a post-hoc test to determine which of the paired mean difference was significant. In all cases to test the significance 0.05 level of confidence was utilized.

RESULTS AND DISCUSSION

Maximum Strength (Leg Strength)

The pre and post-test data on leg strength of the isotonic group, isometric group and control group have been analyzed statistically and the results are shown in table. No. 5. Table.No.5. Analysis of covariance for pre and post test data on leg strength of isotonic, isometric and control group

Test	Isotonic Group	Isometric Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained `F` Ratio
Pre Test								
Mean	55.37	55.24	54.66	Between group	16.17	2	8.08	0.73
S.D.	3.50	3.88	2.87	Within group	498.4	42	11.86	
Post Test								
Mean	58.36	62.72	54.53	Between group	342.04	2	171.022	10.74*
S.D.	4.13	4.18	2.92	Within group	604.4	42	14.39	
Adjusted Post Test								
Mean	57.46	65.38	57.42	Between set	449.80	2	224.90	76.1*
				Within set	104.66	41	2.55	

* Significant at .05 level of confidence

(The table values required for significance at .05 level of confidence for 2 and 42 and 2 and 41 is 3.22).

It is clear from the table. No. 5 that the pre test of leg strength for isotonic group is 55.37, isometric group is 55.24 and control group is 54.66. The obtained `F` ratio 0.73 is less than the table value of 3.22 required for significance at 0.05 levels for df 2 and 42. It is inferred statistically that there is no significant variation in leg strength among the three groups before the commencement of training. The post-test means of the leg strength for the isotonic group is 58.36 isometric groups is 64.29 and control group is 54.53. The obtained `F` ratio of 10.74 is more than the table value of 3.22 required for df 2 and 42 at 0.05 level of significance. It reveals that there was significant in leg strength among the three groups after the completion of training programme.

CONCLUSIONS

- The isometric training produced significant increase in leg strength as compared to isotonic training.
- The isotonic training produced significant development in vertical jump,,situps and body mass index as compared to isometric training.
- The isotonic training produced significant decrease in per cent body fat as compared to isometric training.

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Comparison of speed and aerobic fitness between high and low achievers of rdt hockey academy hockey players

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Abstract

The purpose of this study was to compare high and low achievers on speed and aerobic fitness of hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh. To achieve this purpose, a total of twenty nine boys from RDT Hockey Academy, were considered. These players were classified into two groups namely high achiever (17) and low achievers (12), on the basis of level of participation in tournaments. This data was collected during the academic year '08 and '09. The anthropometric measures height, weight, percent body fat was measured initially for all the subjects. The criterion variables chosen for this study were speed which was measured by 30 meters sprint test. Aerobic capacity (VO_2 max) was estimated from 2400 meters run. ANOVA of unequal sample was employed to know the difference between high and low achievers hockey players from RDT Hockey Academy. The level of confidence was fixed at 0.05 for significance. Since two groups are involved *Post-hoc* test was not applied. The high achievers hockey players exhibited higher performances in sprint test and aerobic fitness that seems to be the result of a combined effect of age and level of competition.

Keywords: Hockey, Speed, Aerobic fitness, VO_2 max, ANOVA;

Introduction

Match analyses make clear that field hockey is a high intensity non-continuous game in which the physiological demands are considerable (Ghosh, *et al.*, 1991; Reilly & Borrie, 1992; Aziz, Chia & Teh, 2000). Players carry out all sorts of explosive actions such as intermittent sprinting with many changes of direction, cruising, and dribbling the ball, placing it in the category of "heavy exercise" (Patel, Stier & Luckstead, 2002). To perform at the highest level, players need a well developed interval endurance capacity. This is the ability to perform high intensity activities such as running and sprinting, as well as the ability to recover well during low intensity activities such as walking and jogging (Lemmink & Visscher, 2003). In terms of energy requirements, the aerobic capacity is most important during matches at the elite level. Although great anaerobic capacity is needed during the many brief bursts of high energy release, it is the aerobic capacity that is needed for efficient recovery during the short rest periods (Bhanot & Sidhu, 1983). It is generally known that, with training, players can improve their performance by increasing aerobic and anaerobic energy output during a particular movement. This is also the case in youth players (Powers & Howley, 2001). However, it is not self evident that all players make use of their interval endurance capacity to the full during training or competition. A player has to be motivated to do so because intense activity can cause uncomfortable side effects such as fatigue and muscle soreness. Motivation affects the intensity and persistence of a player's behaviour, which in sport can obviously have a big impact on performance (Silva, 1984). The goal of this study was to compare high and low achievers on speed and aerobic fitness of hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh.

Methodology

Subjects : To achieve this purpose, a total of twenty nine boys from RDT Hockey Academy, Anantapur, Andhra Pradesh, were considered. These players were classified into two groups namely high achiever (17) and low achievers (12), on the basis of level of participation in tournaments. The players who played nationals were considered as high achievers and state level participants were considered as low achievers. The mean age of the selected subjects was 13.91 ± 1.78 . The training regimen lasted for one year. These subjects were from below poverty line families in rural and suburbs surroundings. In the RDT Hockey Academy, Anantapur, the students were provided with free boarding and lodging, so that they can meet out the energy requirements for their optimal growth and hockey playing ability.

Variables and tests: This data was collected during the academic year '08 and '09. The anthropometric measures height, weight, percent body fat was measured initially for all the subjects and later they were classified into two groups on basis of level of participation in competition. The criterion variables chosen for this study were speed which was measured by 30 meters sprint test. Aerobic capacity (VO_2 max) was estimated from 2400 meters run. The following equation can be used to estimate VO_2 max.

Training Protocol

The subjects of both the age categories confined to this study underwent training regimen consisting two sessions a day, seven days a week for forty-eight weeks. Pre-season training starts with conditioning and strength training, moving on to skill training as the season approaches. Match practice and fitness are improved moving into the season. There are usually 3-4 hockey skills training sessions per week with a game on the weekend. Training sessions are generally 1-2 hours in length with the intensity of sessions reducing towards the end of the week in preparation for competition. Cross training sessions such as resistance training, flexibility, speed and endurance may form parts of these sessions or extra training throughout the week. The usual competitive season involves one game per week on the weekend.

Statistical technique

ANOVA of unequal sample was employed to know the difference between high and low achievers hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh. The level of confidence was fixed at 0.05 for significance. Since two groups are involved *Post-hoc* test was not applied.

Results

The anthropometrical characteristics of the participants to this study are shown in table 1.

Table 1: Anthropometric characteristics of high and low achievers

Variables	Groups		
	All	High achievers	Low achievers
Age	13.91±1.78	13.43±1.76	14.59±1.65
Height	154.43±8.15	153.76±9.26	155.37±6.55
weight	39.09±6.33	38.45±6.14	40.00±6.76
% Fat	8.77±0.95	8.73±0.74	8.82±0.88

The table 2 reveals that there is a significant difference in speed between high and low achievers as the obtained F ratio of 5.17 is greater than the required table value of 4.20 at $\alpha = 0.05$ for the df of 1 and 27. Furthermore high achievers have greater aerobic fitness than low achievers (59.28 ± 3.38 and 56.66 ± 2.51 ml.kg.⁻¹min⁻¹ respectively). The difference of 3.92% was observed in speed between high and low achievers of hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh. The high achievers were significantly faster in 50m sprint than low achievers (4.89 ± 0.24 and 5.09 ± 0.21 seconds respectively).

Table 2: ANOVA for speed and aerobic fitness of high and low achievers

Variable	Groups	No of Subjects	Mean± SD	SOV	ss	df	MS	F
Speed	High Achievers	17	4.89 ± 0.24	B	.282	1	.282	5.17*
	Low Achievers	12	5.09 ± 0.21	W	1.468	27	.054	
Aerobic Fitness	High Achievers	17	59.28 ± 3.38	B	48.282	1	48.282	5.16*
	Low Achievers	12	56.66 ± 2.51	W	252.350	27	9.346	

*Significant at 0.05 level of confidence

From table 2 it is also understood that there is a significant difference in aerobic fitness too between high and low achievers as the obtained F ratio of 5.16 is greater than the required table value of 4.20 at $\alpha = 0.05$ for the df of 1 and 27. The difference of 4.42% was observed in aerobic fitness between high and low achievers of hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh. **Discussion:**The purpose of this study was to compare speed and aerobic fitness between high and low achievers hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh. The result showed high achievers found better than low achievers in both speed and aerobic capacity. The aerobic capacity of the high achievers (59.28 ± 3.38 ml kg⁻¹ min⁻¹) and low achievers (56.66 ± 2.51 ml kg⁻¹ min⁻¹) show difference this is possibly due to supervised fitness training performed throughout the year (Proctor & Joyner, 1997; Lawrenson, Hoff & Richardson, 2004) daily lifestyle (Aoyagi & Katsuta, 1990) and/or genetic factors (Taylor, Cable, Faulkner, *et al*, 2004). The possible explanation for the difference between the two groups of boys is the greater number of hours spent in training

Conclusion:The hockey players considered as high achievers in this study exhibited higher performances than their counterparts in sprint test and aerobic fitness that seems to be the result of a combined effect of age and level of competition.

References

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Influence of aqua-aerobic excercises & aerobic dances on physical fitness of Osmania university baseball players

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INTRODUCTION:

Physical fitness plays a vital role in the sports besides physical fitness techniques training also plays an important role in the total training of sports personalities it is fully recognized by many experts and most of the experts from fitness trainers and the science have been advance such a great height in developing the advance technology through the various globalization changes that take place says by many experts. Specially most sport scientist explained that the games and sports depends in exhibiting excellent skills depending upon in the individual that occur to show their abilities in master in the skills and talent, but most of the optimum level of development in the physical fitness of sports students depend basically on the reflection of their psychological factors that influence that various sports personalities to put up a good show and show their skill and power and ability to perform in the better manner by proving themselves through the latest technology that have come under way to solve all the Psychological problems in the sports mans.

The Researcher has collected the information of the ex-soft ball player who represented for a country in the Indo-China Tournament in Hyderabad. She says that the training in the fitness level will improve when comparatively the training is being given circuit training and endurance training mostly depend on the fitness, particularly she observes that basically training in aqua-aerobic is very useful in developing the overall personality of the sports women by doing aqua walk and aqua-aerobic excercises in water because of the buoyancies one never get hurt or injury while doing the fitness in water it built up total strength of the body and make movements very freely that's why aqua-aerobic are considered to be the best fitness in any form of sports. Another soft ball player Sharmila Reddy she too says aqua-aerobic and aerobic dances improve the performances in any form of sports. Sri. L. Rajender, Indian Base Ball Team Captain, he too says specially physical fitness doing in water built up the strength and make the player very strong. Exercises in all forms of life changes the atmosphere, attitude and bring the performances into excellent rhythm to enhance of better performances on and off the field. No doubt physical fitness specially aqua-aerobics and aerobic dances keep the better performances on the board. Base Ball Players have to have of good strength in their arms to pitch and throwing to the bases. A Batter needs lots of strength to hits the ball to the home run. The Batter needs to connect the pitcher pitching the ball to hit a home run. Basically one needs to have good reflexes, good vision of eye builds up good flexibility and reflection.

The selected subjects are the students of various colleges affiliated to Osmania University have been given then training for this topic and research work.

THE RESEARCHER HAS TAKEN THE SUBJECT FROM THE
OSMANIA UNIVERSITY FOR THE SEVEN DISCIPLINES FOR BOTH BOYS AND GIRLS

S. No.	Disciplines	Boys		Girls	
		Total	Selected	Total	Selected
1.	Base Ball	6	4	7	4
2.	Swimming	9	6	5	3
3.	Basket ball	13	8	11	6
4.	Water Polo	12	5	-	-
5.	Soft Ball	21	7	8	5
6.	Volley Ball	-	-	14	7
7.	Hand Ball	-	-	9	5
	7 Disciplines	61	30	54	30

PURPOSE OF THE STUDY:

Basically the research work carried out to observe the influence that impact of physical fitness exercises of aqua-aerobic and aerobic dance on the performance of selected physical fitness students of both Boys and Girls from Osmania University.

MATERIAL AND METHODS:

Sixty Baseball players who were undergoing training for the national level Tournament at Hyderabad both in Boys and Girls section and the students were selected Thirty Boys and Thirty Girls for this study. Basically 30 Baseball players in Boys section were selected out of 61 and out of 54 Girls 30 Girls were selected for the study. Their mean age was 17.5 years for Boys and 16 Years for Girls and mean height was 172.8 CM for Boys and 156.4 CM for Girls. Total subjects were from Seven Disciplines, which was already established in the Osmania University of all above mentioned disciplines.

TESTING PROCEDURE:

For observing the subjects selected from Aqua-aerobic dance and Baseball Players performing the physical fitness which influences on the optimum level of fitness of individual in various disciplines, basically six physical fitness items were selected for the test and was conducted on the subject. The selected physical fitness items are Squat Jump (Explosive Power) pushups and situps for (strength endurance) sit-reach (Flexibility), 50 Yards running (speed training) and 12 minute run walk (endurance fitness) all these tests were taken thrice on both Boys and Girls according to the standard procedure. (I) T_1 was taken before onset of class (i.e. first week of November 2009). (II) T_2 was taken after two months (i.e. first week of January 2010). (III) T_3 was taken after two months of classes from the second test (i.e. first week of March 2010). The test was conducted after proper equipments and facilities were ready with the help of students of St. Francis Badminton Players and Department of Physical Education Lecturers and various coaches of Athletics and GHMC Coaches both in the mornings and evenings on same days.

RESULTS AND DISCUSSIONS:

The data of the first test T_1 conducted classes of aqua-aerobics and aerobic dances. T_2 after two months of classes and T_3 after 2 months from the Second test for Boys and Girls was presented in the table 2 and 3 separately.

TABLE - 2

Mean, SD of Physical fitness parameters & variation among the means of three test states including intra-group difference of Boys group

PHYSICAL FITNESS PARAMETER	TEST STATE				MEAN DIFFERENCE		
	T_1	T_2	T_3	F	T_1-T_2	T_1-T_3	T_2-T_3
Vertical Jump (Cm)	$\frac{40.73}{\pm 4.55}$	$\frac{44.23}{\pm 3.92}$	$\frac{45.77}{\pm 4.00}$	5.37	3.50	5.04	1.54
Push-Ups (No)	$\frac{27.87}{\pm 3.21}$	$\frac{35.37}{\pm 4.20}$	$\frac{38.67}{\pm 4.49}$	26.77	7.50	10.80	3.30
Sit-Ups (No)	$\frac{42.40}{\pm 5.67}$	$\frac{49.93}{\pm 6.62}$	$\frac{53.47}{\pm 7.26}$	10.44	7.53	11.07	3.54
Sit-Reach (Cm)	$\frac{18.00}{\pm 2.35}$	$\frac{19.27}{\pm 2.48}$	$\frac{20.34}{\pm 2.33}$	3.36	1.27	2.34	1.07
50 Yard Dash (Sec)	$\frac{6.84}{\pm 0.30}$	$\frac{6.50}{\pm 0.10}$	$\frac{6.31}{\pm 0.17}$	22.91	0.34	0.53	0.19
1 2 mm Run & Walk	$\frac{2394.33}{\pm 9.98}$	$\frac{2440.00}{\pm 7.85}$	$\frac{2440.00}{\pm 9.13}$	92.25	16.00	45.67	29.67

TABLE - 3

Mean, SD of Physical fitness parameters & variation among the means of three test states including intra-group deference of Girls group

PHYSICAL FITNESS PARAMETER	TEST STATE				MEAN DIFFERENCE		
	T _i	T ₂	T ₃	F	T _i -T ₂	T _i -T ₃	T ₂ -T ₃
Vertical Jump (Cm)	<u>30.17</u> ± 6.13	<u>37.93</u> ± 6.34	<u>41.50</u> ± 6.54	11.71	7.76	11.33	3.57
Push-Ups (No)	<u>20.73</u> ± 3.84	<u>28.13</u> ± 4.88	<u>31.07</u> ± 4.73	19.55	7.40	10.34	2.94
Sit-Ups (No)	<u>30.10</u> ± 6.12	<u>37.90</u> ± 6.30	<u>41.50</u> ± 6.51	11.70	7.67	11.30	3.50
Sit-Reach (Cm)	<u>18.77 ±</u> 3.07	<u>19.83</u> ± 2.19	<u>20.67</u> ± 2.73	1.51	1.06	1.90	0.84
50 Yard Dash (Sec)	<u>6.76</u> ± 0.42	<u>6.46</u> ± 0.46	<u>6.28</u> ± 0.30	3.48	0.21	0.39	0.18
1 2 mm Run & Walk	<u>2395.67 ±</u> 11.53	<u>2410.65 ±</u> 8.92	<u>2416.65 ±</u> 7.41	21.42	15.00	23.00	5.89

It has been observed from Table - 2 and 3 that squat jump (explosive power) was improved significantly after 2 months of class but no further significance improvement occurred afterwards from both Boys and Girls. For Strength endurance pushups and situps almost similar results in both Boys and Girls i.e. improve significantly after the conclusion of 4 months class of training respectively. In case of flexibility test (sit and reach), flexibility fitness the improvement was tremendously improved and observed in both Boys and Girls but the significant improvement was mostly seen in Boys. Regarding speed of 50 yards - significant improvement in timing was clocked both Boys and Girls it has been observed that both Boys and Girls were quite excellently. However, the ultimate improvement was more significant among Boys.

CONCLUSION:

- I) Improvement of Physical Fitness which was basically focus on aqua-aerobics and aerobic dances assessed on three selected physical fitness test after 4 months of aqua-aerobic and aerobic dance which has justified the facts that both aqua-aerobics and aerobic dances have a tremendous impact on developing of physical fitness.
- II) With Aqua-aerobic and aerobic dance classes both were formed superior to Girls group on performance and enhancing the improvement which was seen and can be seen from some of the test like sit and reach flexibility in twelve minutes run walk (endurance fitness 50 yard speed) (agility).

RECOMMENDATION:

- I) The investigator recommend the University authorities to appoint and conduct programs on aqua-aerobics exercises when they have facilities in the campus and may introduce regular classes of aqua-aerobic and aerobic dances in water. This will be the part of exercises for improving the better facilities and better fitness which the university Baseball players will improve tremendously in their physical fitness
- II) It will be useful to give classes of Aqua-aerobic and aerobic dances on different age groups in both Boys and Girls and as well as both men and women in the different age level of Baseball and Softball players for improving their physical fitness and keeping themselves maintain their performances.

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A comparative study of fat assesment in prominent body builders

By

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Abstract

Introduction: Bodybuilding is the oldest sport existing in this universe. Fat is the principal component of body composition as it plays an important role in weight category, because two bodybuilders with same identical body weight but less amount of percentage of body fat may have advantage over the opponent with relatively same amount of muscles or less. Body weight is the measurement of the total body mass (Yobu 1983). Generalized equations for predicting body density of men. British Journal of Nutrition .

Method: 50 bodybuilders of Telangana region belonging to ten different weight categories i.e. (upto 55 kgs, 60 kgs, 65 kgs, 70 kgs, 75 kgs, 80 kgs, 85 kgs, 90 kgs, 100 kgs, and 100 kgs & above), five respondents randomly from each category were taken for this study. Electronic weighting machine was administered in testing body weight of the subjects and the skin fold measurements were taken by the help of skin fold caliper. For the analysis of data the statistical tools were used i.e. Mean and standard deviation

Results and Discussion: In different weight categories the anthropometric measurements of the bodybuilders has shown a gradient of increasing body measurements that is fly weight class being the lightest and shortest the heavy weight class being the heaviest and tallest and the middle weight class fall in between the both. Triceps, sub scapula, and abdomen sum of the three skin folds body fat % were taken among the subjects of the different weight categories. Up to 55 kgs category subjects body weight and fat percent mean and S.D were (50.4, 4.50), (3.88, 0.11) respectively. 60 kgs, mean and S.D (58.6, 1.67), (4.09, 0.51) respectively. 65 kgs, mean & S.D (63.0, 1.22), (4.10,0.51) respectively. 70 kgs, mean & S.D (68.4, 1.14), (4.24, 0.65) respectively. 75 kgs, mean and S.D (74.1, 74),(4.96,0.89) respectively. 80 kgs, mean & S.D (77.6,1.14), (6.20,1.42), respectively. 85 kgs, mean and S.D (82.96,1.58), (6.50,1.06) respectively. 90 kgs, mean & S.D were (87.96,1.61), (12.04,2.29) respectively. 100 kgs, mean and S.D were (96.20,3.27), (14.60,1.95) respectively. (100 kgs and above) participants body weight and fat percent, mean & S.D were (102.4, 1.82), (15.94,3.51) respectively.

Conclusions: It is concluded that the light weight category bodybuilders are having very low fat, middle weight category participants having average fat, and lastly the heavy weight category bodybuilders are having higher fat percentage comparable to the fly and middle weight categories.

Key words: Fat, Anthropometric, Categories, Bodybuilders,

Introduction: Bodybuilding is the oldest sport existing in this universe. The transmission of man dates back to the stone stage. It is learnt that even during that period the ancient man lifted stones to keep him self strong and fit. Hence stone lifting is considered as the beginning of the sport. Slowly this was transformed to weight lifting and ultimately led to the present day of bodybuilding. Body composition is a primary component of health related fitness. Fat is the principal component of body composition as it plays an important role in weight category, because two bodybuilders with same identical body weight but less amount of percentage of body fat may have advantage over the opponent with relatively same amount of muscles or less. A high percentage of body fat relative to bone and muscle has been shown repeatedly to be predictor of wide range of degenerative diseases. Suitable body composition is important for general health and appearance for maximizing bodybuilding performance. For these reasons accurate measurements of body components are needed to develop perfect physique, to improve quality of health and bodybuilding schedule. Evaluation of body composition permits quantification of major structural components of body – muscle, bone, and fat. The accurate calculation of percent body fat is the true definition of fitness and obesity. The accurate measurement of lean body mass is now the most rational basis for nutritional and exercise prescription It is proven that the bodybuilders with lean physique, with muscularity were greater performers than the bodybuilders with big muscles and high percent of fat. Hence it is essential to study the top level bodybuilders with respect to their body composition et.al.

The purpose of this study is to compare and to find out the status of fat assessment of the bodybuilders in the various bodybuilding categories.

Method: Data for the present study was collected from 50 bodybuilders of Telangana region belonging to ten different weight categories i.e. (upto 55 kgs, 60 kgs, 65 kgs, 70 kgs, 75 kgs, 80 kgs, 85 kgs, 90 kgs, 100 kgs, 100 kgs and above), five respondents randomly from each category were taken for this study. Electronic weighting machine was administered in testing body weight of the subjects and the skin fold measurements were taken by the help of skin fold caliper. The subjects were given instructions before administering the test; the body weight was taken only on bikini with out shoes and dress.

The skin fold measurements were taken for each of the subject with the help of Harpenden skin fold caliper by (Tanner and White house 1985). The percentage of body fat was obtained from the body density with the help of equation devised by Pollock, M.L. Generalized equations for predicting body density of men. British Journal of Nutrition. 40: 497&SHY; 504, 1978. .For the analysis of data mean and standard deviation were used for the calculations of fat percentages of the subjects.

Results: The tables show the weight class, body weight, and fat percentages of the bodybuilders. The results of the analysis of data in comparing with other various weight categories revealed significant differences between ten categories namely i.e. (Upto 55 kgs, 60 kgs, 65 kgs, 70 kgs, 75 kgs, 80 kgs, 85 kgs, 90 kgs, 100 kgs, 100 kgs and above).All the above various body weight categories had shows a significant difference among them. Mean fat percent scores were lower in the low weight categories. The mean fat percent scores reveals that the middle weight categories the fat percent are higher than light weight categories and lower than heavy weight categories. This is interesting to note that the heavy body weight bodybuilders had more fat percent comparable to all the groups. The mean fat percent scores in the heavy weight categories had shows higher fat percent.

Table -1

Table shows the weight categories , no of subjects and their body weight

Sl.no	Weight categories (kgs)	Subjects	Body Weight	
			Mean	S.D
1	Up to 55	5	50.4	4.50
2	60	5	58.6	1.67
3	65	5	63.0	1.22
4	70	5	68.4	1.14
5	75	5	74.1	0.74
6	80	5	77.6	1.14
7	85	5	82.96	1.58
8	90	5	87.96	1.61
9	100	5	96.20	3.27
10	100 + & above	5	102.4	1.82

Table-2

Table shows the weight categories, no of subjects and their body fat %

Sl.no	Weight categories (kgs)	Subjects	Sum of three skin folds (Body fat %)	
			Mean	S.D
1	Up to 55	5	3.88	0.11
2	60	5	4.09	0.51
3	65	5	4.10	0.51
4	70	5	4.24	0.65
5	75	5	4.96	0.89
6	80	5	6.20	1.42
7	85	5	6.50	1.06
8	90	5	12.04	2.29
9	100	5	14.60	1.95
10	100 + & above	5	15.94	3.51

Discussion: Body Composition may be influenced by a number of factors such as age, diet, and exercise. It was evident from the analysis that various weight categories considered for this study showed significant differences on fat percentages. The difference existed may be due to combination of various factors. Aging

is often associated with a gain in weight, an accumulation of body fat, a loss of lean tissue, demineralization of bone. In different weight categories the anthropometric measurements of the bodybuilders has shown a gradient of increasing body measurements that is fly weight class being the lightest and shortest the heavy weight class being the heaviest and tallest and the middle weight class fall in between the both. The fat ratio values were found to be of high significance in all the anthropometric variables such as triceps, sub scapula, abdomen sum of the three skin folds body fat % were taken among the subjects of the different weight categories.

Up to 55 kgs category subjects body weight and fat percent mean and S.D were (50.4, 4.50), (3.88, 0.11) respectively. 60 kgs, category subjects body weight and fat percent mean and S.D (58.6, 1.67), (4.09, 0.51) respectively. 65 kgs, category subjects body weight and fat percent mean & S.D (63.0,1.22), (4.10,0.51) respectively.70 kgs, category participants body weight and fat percent mean & S.D (68.4, 1.14), (4.24, 0.65) respectively. 75 kgs, category subject's body weight and fat percent mean and S.D were (74.1, 0.74), (4.96, 0.89) respectively. 80 kgs, category participants body weight and fat percent, mean & S.D were (77.6,1.14), (6.20,1.42), respectively.85 kgs, category subject's body weight and fat percent mean and S.D were (82.96,1.58), (6.50,1.06) respectively. 90 kgs, category participants body weight and fat percent, mean & S.D were (87.96,1.61), (12.04,2.29) respectively. 100 kgs, category subject's body weight and fat percent mean and S.D were (96.20,3.27), (14.60,1.95) respectively. (100 kgs and above category) participants body weight and fat percent, mean & S.D were (102.4, 1.82), (15.94, 3.51) respectively.

The various categories had shows a significant differences among them regard to the fat percentage among the bodybuilders. The light weight bodybuilders had shows less amount of fat percent, middle weight bodybuilders are having higher fat percent compare to low weight and less fat percent compare to the heavy weight categories bodybuilders. This study had done to lime light the status of body fat percent among the bodybuilders and also to compare the various weight categories. This is universal fact that light weight individuals will have low fat comparable to heavy weight bodies. The top bodybuilders Asian and world champions from the heavy weight categories will maintain very low fat percent and dominates the show. This apart the bodybuilders should learn the technique to reduce the fat percent in the onn-season training /pre –competition training. The bodybuilders with low fat will dominate on the stage, because they can display their sharpness of the muscles, separation in the muscles, shape, fiber, and veins which is the essence of the game.

Conclusion: It is concluded that the light weight category bodybuilders are having very low fat, middle weight category participants having average fat, and lastly the heavy weight category bodybuilders are having higher fat percentage comparable to the fly and middle weight categories. It is also concluded that the mass is vital for the bodybuilder's but it is the shape, quality of muscle, separation, less fat percentage that excels in the performance on the stage compare to the other athletes.

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Parental Involvement during the High School Years

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ABSTRACT

The objectives of the project were to evaluate the parental involvement during the high school years. High school is a time to make friends, get good grades, participate in activities and prepare for the future. Unfortunately, due to budget cuts, some schools have opted out of high school sports, believing that money would be better spent on academics. I understand that academics come first, but sacrificing high school sports lessens every child's high school experience, their ability to perform at optimum academic levels and develop into a well-rounded adult. During a child's elementary school years, children typically lose their recess privileges as a consequence to poor behavior. This consequence can have the opposite of the desired effect. Recess is the place where kids let out their **aggression** and release **frustration** and **anger**, allowing the children to better cope with the aspects of school they do not enjoy.

INTRODUCTION:

High school sports boosts, school morale when students meet to cheer for their team. While offering an enjoyable distraction from the stressors of school, teenager's negative perception of school as a place akin to a prison is replaced with increased school pride. This increased interest in school generally results in increased enjoyment in academics, resulting in better overall test scores and grades. When adults look back on their time in school many do not remember their teachers, classes or grades but they do remember the high school sports they participated in or observed. They often look back on these memories fondly and look forward to their children having similar experiences.

The role of parental involvement in youth sport participation and performance

Parents often assume the role of **motivator**, **facilitator**, even **coach** in the life of the young athlete. In these roles parents can provide financial, emotional, and physical support. They can also apply **pressure** to the young athlete in the interest of excellence and success. The present research examined parental support and parental pressure and their role in the sport experience of young tournament tennis players. **Tennis players** were chosen because their evaluation of outcomes is based on individual performance.

Parental support was defined as **behaviors by parents perceived by their children as facilitating athletic participation and performance (Leff & Hoyle, 1995)**. Two aspects of this definition merit elaboration. First, it is most likely that children's perception of their parents' support contributes to the emotional and athletic adjustment of the child. Avid parental support that is not apparent to the child is not likely to be as effective as minimal parental support that is acknowledged and appreciated by the child. Second, parental support affects children's participation and their performance in sport. In this context, **participation** means their continued **enjoyment** of and **loyalty** to the sport; performance means the level of accomplishment they are able to attain.

Many parents go to their children's games to watch them compete and cheer them on. Many go and simply love it, because they know that keeping their child busy is of paramount importance. They know that keeping them active is good for their physical as well as psychological health. And they are right.

PARENTAL INFLUENCE: A THEORETICAL PERSPECTIVE

A useful theoretical model to explain parental influence on physical activity is the **expectancy-value** model of **Eccles and Harold** (1991). This model was originally developed to explain parental socialization behaviors in other achievement-related areas, such as academic performance. However, it offers clear and practical applications to the study of sport and physical activity. In this model, socialization behaviors are thought to be influenced jointly by **parental expectation** for the child's success in a given area and the **value parents** place on this success. Parents who expect that their children can be successful in sports or physical activity and who value success in this area will be more likely to influence their children to pursue this behavior.

TYPES OF SOCIALIZATION INFLUENCE

There are various ways that parents can socialize their children to be physically active. Four different socialization variables especially influence physical activity behaviors in children:

1. Parental Encouragement

Parental encouragement refers to obvious **verbal** or **nonverbal** forms of encouragement for a child to be active. There could be **direct efforts** to get a child to **play outside or to reduce TV viewing**, or **indirect efforts** to promote **interest** and involvement. Numerous studies have confirmed that young children rely heavily on adults (especially parents) as sources of information regarding their physical abilities. A child's perception of physical competency has consistently been found to correlate with physical activity involvement. Adult encouragement indirectly influences a child's level of vigorous activity by enhancing his/her perception of competence. Thus, **parental efforts to build competence and a sense of mastery are likely to promote physical activity involvement.**

2. Parental Involvement

Parental involvement refers to **direct assistance** or **involvement in the child's activity**. This could include family walks, playing catch, or practicing physical skills. While the activity itself has important benefits for physical development, the involvement of the parents also demonstrates to their children that they feel physical activity is important.

3. Parental Facilitation

Parental facilitation refers to **efforts by parents** to make it easier for children to be physically active. Examples of ways that parents facilitate physical activity in children are by providing access to **facilities and programs** and by helping children obtain **equipment**. Providing access to physical activity is an increasingly important responsibility because many aspects of society make it harder for children to be physically active. Parental concerns (real or perceived) about the safety of parks and playgrounds and an increasing reliance on after-school programs are two factors that contribute to physical inactivity in children. Because these factors are out of a child's control, parents need to accept responsibility for finding opportunities for children to be physically active on a daily basis.

4. Parental Role Modeling

Role modeling refers to a **parent's efforts to model an active lifestyle for their child**. According to social cognition theory, modeling promotes self-efficacy and also informs the child of what is important or valued. While involvement in structured exercise or sport programs may spark a child's interest, it is equally important for parents to model **healthy activity patterns in their day to day life**. Examples would be **walking** to the store, doing **yard work**, or otherwise seeking opportunities to be physically active. In past generations, children typically walked to school and played outside after school. Today, majority of children are driven to school and are in extended day programs after school. Because of these changing trends, parents need to make a more concerted effort to help their child develop an active lifestyle. Parents may accept responsibility for socializing their child to have good manners and to be considerate of others but may not consider the physical domain as part of their responsibility. Many may assume that children receive their physical education through school. While physical education provides children with a variety of educational and behavioral experiences, the limited amount of time in the curriculum is not sufficient for promoting activity or fitness. **For children to develop active patterns of living, it is important for them to receive activity-promoting messages and experiences at home.** Parents can clearly have a major impact on the development of active lifestyles in their children. Because activity patterns have been found to track over the lifespan, efforts to **promote activity at a young age can have major public health benefits.** To make use of this potential intervention target, more work is needed to characterize and document the nature and extent of parental influence on physical activity behavior in children. Two things need to be done. Children must be taught:

- a) Not to tell a lie, whatever the consequences, to control violence, rage, a

Those things must be achieved to be able to be what may be called "Superman": not to tell lies and to control oneself.

CONCLUSIONS :

- If the children were given a few drops of truth when they are very young, they would blossom quite naturally as the being grows. It would be beautiful work.
- Parents should give equal importance and opportunity to participate in extracurricular activities as in academics.

Effect of Music during a Maximal Treadmill Test on College Students

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Abstract

Music has been widely recommended as a technique to enhance the psychophysical state of the participant in sports and exercise. The purpose of this study was to investigate the effect of listening to music on college students work output; rate of perceived exertion (RPE), maximum heart rate (MHR), time to exertion (TTE) during a maximal treadmill test was examined. Twenty male physical education students (age 21 ± 3 yrs, height 170 ± 5.1 cm, weight 68 ± 5.5 kg) were selected randomly for the study and divided randomly in two groups (group A & group B). Each group had ten participants and all participants ran to volitional exhaustion on two separate occasions. Participants of group A ran one trial (T1) while without listening to music and second trial (T2) ran listen to pre selected music. Though, group B participants ran without music on both the occasions. Dependent t-test was used to determine that there was significant difference found in all parameters at 0.05 level of significance in group A. As the calculated t-value of RPE=4.263, MHR=8.835 & TTE=6.851 in group A was found greater than tabulated t-value (1.833) at 0.05 level of significance. Whereas, calculated t value of RPE=1.398, MHR=0.681 & TTE=0.309 in group B was found lesser than tabulated t-value (1.833) to be insignificant at 0.05 level of significance. Evidence of this study suggests that music produce significant effect on RPE, MHR & TTE for male college physical education students.

Introduction:

The interplay of exercise & music has been long discussed, crossing the discipline of bio mechanics, neurology and exercise physiology and sports psychology. People “automatically feel the beats” of the music they listen to and instinctively adjust their walking pace and heart rate to the tempo of the music. Listening to the music while exercise has been found in multiple studies to create an increased sense of motivation, distracting the mind while increasing heart rate. (Reynolds & Gretchen, 2010). Motivational music is defined as that which a rouses strong feeling or encourage physical activity and factors such as music tempo, rhythm and intensity which mainly influence physical performance, exercise work output or effort (Anshel & Marisi, 1978; Priest et. al., 2004). In a well designed study, Ellis & Brihouse (1952) noted that respiration rate increase significantly with the one set of Jazz music and tends to return to pre music levels with the cessation of music. Heart rate was only moderately affected by introduction of music. The average heart rate is between 72 – 80 beats per minute while music tempos may range from 70 to 170 beats per minute. A review of studies indicate that heart rate tends to only moderately follow the music ; increasing in response to fast music and decreasing in response to slow music.

Methods:

Twenty university male physical education students from Physical Education, Gwalior, age 21 ± 3 yrs, height 170 ± 5.1 cm, weight 68 ± 5.5 kg) were selected randomly for the study and divided randomly in two groups (Group A & Group B). Each group had 10 participants. All participants ran to Volitional exhaustion on two separate occasions. Participants of Group A ran one trial (T₁) without listen to music & (T₂) ran while listening to preselected motivational music with medium intensity at 95db. Karageorhes et. al., (2006) define motivational music “at that which stimulate or inspire physical activity”. Though Group B participants ran without music on both the occasions. The 15-point rating of perceived exertion (RPE) Participants refrained from all food and beverage consumption 2 hours prior to each treadmill test and they were instructed not to use any stimulated substances prior to testing. The participants were instructed to sleep at least 6-8 hours the night before each test and did not participate in any strenuous activity 24 hours prior to each treadmill test.

Results: Dependent t-test was used to determine the significant difference in RPE, maximum heart rate and time to exhaustion at 0.05 level of significance. The Statistical analysis of data related to RPE, Maximum Heart Rate & Time to Exhaustion is given below.

Table: 1. Rating Perceived Exertion of Group A in T₁ & T₂

	Mean	S.D.	Calculated-t	Tabulated-t	Trials
T ₁	15.50	1.58	4.263	1.734	
T ₂	12.8	0.92			

d.f(18) at 0.05 level. , T₁ - first trial without music , T₂ - second trial with music

The above table-1 showed that there was significant difference between first trial without music & second trial with music in Rating Perceived Exertion of group A. As calculated t-value 4.263 was found higher than tabulated t-value 1.734 required to be significant at 0.05 level of significance.

Table: 2. Maximum Heart Rate of Group A in T₁ & T₂

Trials	Mean	S.D.	Calculated-t	Tabulated-t
T ₁	151.30	9.45	8.84	1.734
T ₂	166.40	6.93		

d.f(18) at 0.05 level. T₁ - first trial without music T₂ - second trial with music

The above table-2 showed that there was significant difference between first trial without music & second trial with music in Maximum Heart Rate of group A. As calculated t-value 8.84 was found higher than tabulated t-value 1.734 required to be significant at 0.05 level of significance.

Table: 3. Time to Exhaustion of Group A in T₁ & T₂

Trials	Mean	S.D.	Calculated-t	Tabulated-t
T ₁	25.20	5.30	6.85	1.73
T ₂	31.50	7.07		

d.f(18) at 0.05 level. T₁ - first trial without music , T₂ - second trial with music

The above table-3 showed that there was significant difference between first trial without music & second trial with music in Time to Exhaustion of group A. As calculated t-value 6.85 was found higher than tabulated t-value 1.734 required to be significant at 0.05 level of significance.

Table: 4. Rating Perceived Exertion of Group B in T₁ & T₂

Trials	Mean	S.D.	Calculated-t	Tabulated-t
T ₁	14.9	1.67	0.361	1.734
T ₂	14.8	1.39		

d.f(18) at 0.05 level. , T₁ - first trial without music , T₂ - second trial without music

The above table-4 showed that there was no significant difference between first trial & second trial without music in Rating Perceived Exertion of group B. As calculated t-value 0.361 was found lesser than tabulated t-value 1.734 required to be significant at 0.05 level of significance.

Table: 5. Maximum Heart Rate of Group B in T₁ & T₂

Trials	Mean	S.D.	Calculated-t	Tabulated-t
T ₁	149.30	9.73	0.681	1.734
T ₂	149.80	10.50		

d.f(18) at 0.05 level. T₁ - first trial without music , T₂ - second trial without music

The above table-5 showed that there was no significant difference between first trial & second trial without music in Maximum Heart Rate of group B. As calculated t-value 0.681 was found lesser than tabulated t-value 1.734 required to be significant at 0.05 level of significance.

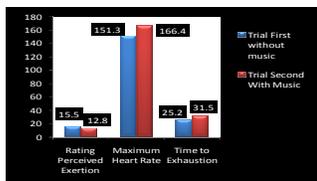
Table: 6. Time to Exhaustion of Group B without music

Trials	Mean	S.D.	Calculated-t	Tabulated-t
T ₁	25.90	5.13	0.31	1.734
T ₂	25.70	6.00		

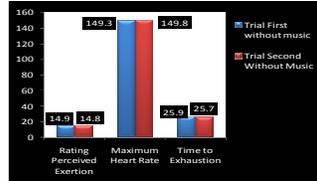
d.f (18) at 0.05 level., T₁ - first trial without music , T₂ - second trial without music

The above table-5 showed that there was no significant difference between first trial & second trial without music in Time to Exhaustion of group B. As calculated t-value 0.31 was found lesser than tabulated t-value 1.734 required to be significant at 0.05 level of significance.

Graphical Representation of Psychophysical Variables With and Without Music



Group A With Music



Group B Without Music

Discussion:

The purpose of this study was to determine the effect of music on University male Physical education Students work output - Rating Perceived Exertion, Maximum Heart Rate, Time to Exhaustion(TTE). The findings indicate that music had Psychophysical effect on the athletes, as measured by RPE, Maximum HR and TTE. Based upon previous research, it was hypothesized that RPE would be lower during sub maximal intensities while listening to music. The findings of this study are congruent with previous research which found RPE to be lower during sub maximal exercise when listening to music had effect on physiological responses to exercise in the present study, as measured by time to exhaustion and maximum heart rate (Boutcher&Trenske 1990; Copeland & Franks, 1991).The finding of this study also congruent with the study conducted (Szmedra&Bacharach,1998; Copeland & Franks, 1991),music positively affected physiological variables in trained & untrained individuals ,including HR,Blood Lactate, Systolic Blood Pressure and Time to Exhaustion. Evidence from this study suggests that music will affect running performance or perception of effort in physical education students. It is also important that further research be conducted to determine how different types & intensities of music affect work output &RPE in physical education students.

The result of this study suggests that physical education teachers & coaches may benefit their students by playing music which in many ways shall depicts the intensity of the upcoming workout as students enter the workout room. In this way, the increase in respiration & moderate increases in heart rate from the music will prepare the students for better the forthcoming workout.

Many health & fitness professionals are currently working with the obese, physically challenged, due to neuromuscular or orthopedic disorders and daily life style. The use of music can be advocated to enhance a persons gait, fitness level, gross motor skills, leading to increased stability &mobility of the clients.

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Effect of plyometric training on selected physical fitness variables of volleyball players

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ABSTRACT

The purpose of the study was to find out the effect of plyometric training on selected physical fitness variables of volleyball players. For the purpose of the study thirty volleyball players from Salem District were selected. The subjects were aged between eighteen to twenty four years. The subjects chosen for the study were divided into two equal groups called control and experimental group consisting of thirty students, each group consists of fifteen students. Plyometric training was given to the experimental group. The control group was not allowed to participate in any of the special training programme except their routine practices. Data for the selected variables were taken at the beginning (pre-test) and at the end of the experimental period (post-test). Speed, Strength and Explosive power were selected as variables and measured with the reliable test namely 50 meters run, Sit-ups and Vertical jump to assess changes due to the influence of plyometric training. Analysis of covariance (ANCOVA) was used for interpreting the results. On the basis of the results the effects of plyometric training have significantly contributed to improve the selected physical fitness variables namely speed, strength and explosive power. **Key Words:** Plyometric Training, Speed, Strength and Explosive Power.

INTRODUCTION: Plyometric training is specific work for the enhancement of explosive power. It improves the relationship between maximum strength and explosive the elastic energy and myotic reflex in the development of power. The muscle will resist overstretching and the kinetic energy developed in the amortization phase will be utilized in the cause a powerful contraction to prevent overstretching of the affected muscle. Thus the momentum generated by the athlete acts as the overload to eccentrically stretch the muscle before concentric contraction a greater amount of elastic energy is stored in the muscle.

METHODOLOGY: The purpose of the study was to find out the effect of plyometric training on selected physical fitness variables of volleyball players. For this purpose thirty volleyball players from Salem District were selected with their willingness. The subjects were aged between eighteen to twenty four years. The subjects chosen for the study were divided into two equal groups called control and experimental group consisting of thirty students, each group consists of fifteen students. Plyometric training was given to the experimental group. The control group was not allowed to participate in any of the special training programme except their routine practices. Data for the selected variables were taken at the beginning (pre-test) and at the end of the experimental period (post-test).

Statistical Analysis The data collected from two groups were statistically examined for significant differences. Analysis of covariance was used for interpreting the results. The level of confidence was fixed at 0.05 level of confidence.

RESULTS AND DISCUSSION Table – I: Analysis of Covariance for the Data on Speed for Control Group and Experimental Group

Mean	Control Group	Exp. Group	Sum of Squares	df	Ms	F ratio
PRE TEST	7.82	7.78	0.275	1	0.275	1.21
	± 0.32	± 0.31	6.356	28	0.227	
POST TEST	7.80	7.64	1.33	1	1.33	4.35*
	± 0.33	± 0.42	8.561	28	0.306	
ADJUSTED TEST	7.78	7.62	0.376	1	0.376	14.26*
			0.711	27	0.026	

* Significant at 0.05 level.

Table-I shows that the pre-test means in speed of control group was 7.82 ± 0.32 and experimental group was 7.78 ± 0.31 , resulted in an 'F' ratio of 1.21 which indicates statistically no significant difference between the pre-test means at 0.05 level of confidence. Table-I shows that the post-test means in speed of control group was 7.8 ± 0.33 and experimental group was 7.64 ± 0.42 resulted in an 'F' ratio of 4.35 which indicates statistically significant difference between the post-test means at 0.05 level of confidence. The adjusted post-test means of control group was 7.78 and experimental group was 7.62 resulted in an 'F' ratio of 14.26 which indicates statistically significant difference between the adjusted post-test means at 0.05 level of confidence. The results of the above statistical analysis reveal that there was a significant difference in speed between the two groups after the training period.

Details of the pre, post and adjusted posttest mean value of speed for control and experimental group have been presented in Fig - 1.

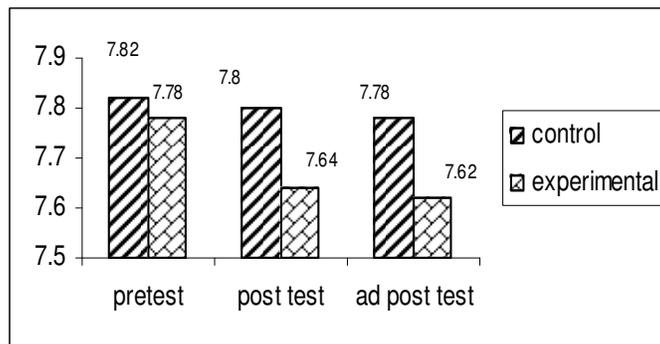


Fig - 1 : Pre, Post and Adjusted Post Test Mean Value of Speed for Control and Experimental Group

Table – II: Analysis of Covariance on Strength for Control Group and Experimental Group

Mean	Control Group	Exp. Group	Sum of Squares	df	ms	F ratio
PRE TEST	35.4	35.62	52.34	1	52.34	1.32
	± 3.12	± 3.28	1110.24	28	39.65	
POST TEST	35.63	40.65	85.29	1	85.29	4.56*
	± 3.21	± 3.56	523.71	28	18.70	
ADJUSTED TEST	35.62	40.32	5.68	1	5.68	28.15*
			5.44	27	0.20	

* Significant at 0.05 level.

Table-II shows that the pre-test means in strength of control group was 35.4 ± 3.12 and experimental group was 35.62 ± 3.28 , resulted in an 'F' ratio of 1.32 which indicates statistically no significant difference between the pre-test means at 0.05 level of confidence.

Table-II shows that the post-test means in strength of control group was 35.63 ± 3.21 and experimental group was 40.65 ± 3.56 resulted in an 'F' ratio of 4.56 which indicates statistically significant difference between the post-test means at 0.05 level of confidence.

The adjusted post-test means of control group was 35.62 and experimental group was 40.32 resulted in an 'F' ratio of 28.15 which indicates statistically significant difference between the adjusted post-test means at 0.05 level of confidence. The results of the above statistical analysis reveal that there was a significant difference in strength between the two groups after the training period.

Details of the pre, post and adjusted posttest mean value of strength for control and experimental group have been presented in Fig - 2.

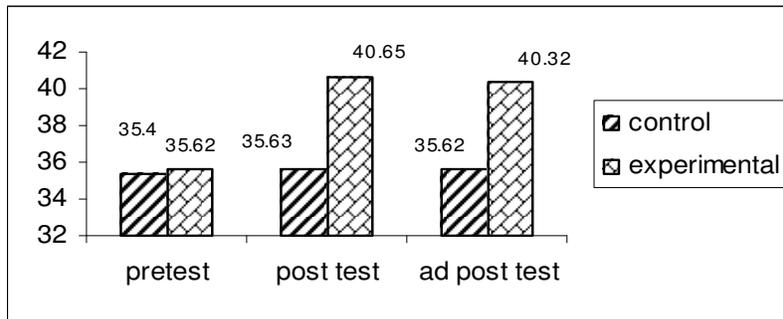


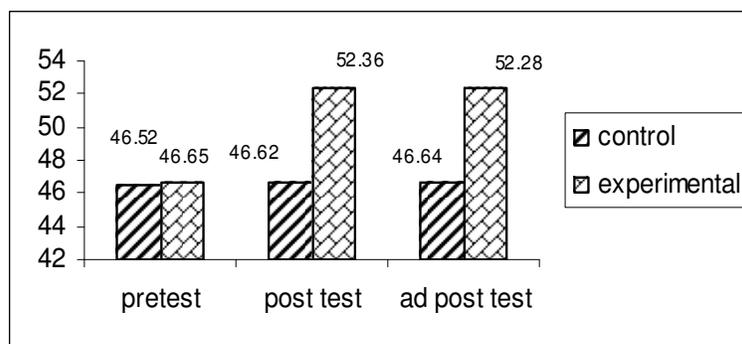
Fig - 2 : Pre, Post and Adjusted Post Test Mean Value of Strength For Control and Expt. Group

Table – III: Analysis of Covariance on Explosive Power for Control Group and Experimental Group

Mean	Control Group	Exp. Group	Sum of Squares	df	ms	F ratio
PRE TEST	46.52	46.65	152.23	1	152.23	1.85
	± 1.82	± 2.32	2304.02	28	82.29	
POST TEST	46.62	52.36	356.62	1	356.62	4.68*
	± 2.12	± 2.86	2133.62	28	76.20	
ADJUSTED TEST	46.64	52.28	54.78	1	54.78	9.68*
			152.8	27	5.65	

* Significant at 0.05 level.

Table-III shows that the pre-test means in explosive power of control group was 46.52 ± 1.82 and experimental group was 46.65 ± 2.32 , resulted in an 'F' ratio of 1.85 which indicates statistically no significant difference between the pre-test means at 0.05 level of confidence. Table-III shows that the post-test means in explosive power of control group was 46.62 ± 2.12 and experimental group was 52.36 ± 2.86 resulted in an 'F' ratio of 4.68 which indicates statistically significant difference between the post-test means at 0.05 level of confidence. The results of the above statistical analysis reveal that there was a significant difference in explosive power between the two groups after the training period. Details of the pre, post and adjusted posttest mean value of explosive power for control and experimental group have been presented in Fig – 3.



DISCUSSION ON FINDINGS The result of the study indicated that there was a significant improvement in the experimental group in speed, strength and explosive power as compared with the control group. **CONCLUSION** On the basis of the results obtained from the statistically analysed data on physical fitness variables, the effects of plyometric training have significantly contributed to improve selected physical fitness variables namely speed, strength and explosive power.

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Psycho-social constraints of indian women participation in games and sports

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INTRODUCTION:

'Women in Sport' has been a topic virtually ignored by most scholars and, thus female sport participation has been a relatively undeveloped area of research. Sex-role stereo-typing, male research bias, and the reward structure of society have contributed to this neglect. Currently, sport for women represents a fast growing changing element in Indian culture, and recent trends have sparked a need for knowledge about the female sport participation

STATEMENT OF THE PROBLEM:

The problem under investigation was a study on the psycho social constraints of women participation in sports in India.

HYPOTHESIS

- It was hypothesized that:
- Parents have negative attitude towards their daughters' participation in sports and games.
- Community does not provide needed support for women's participation in games and sports.
- Customs and conventions never encourage women to take part in sports and games.
- The college does not provide a conducive sporting climate for women.
- Women have low self-concept in sports and games.
- Biographical variables, such as, the type of the college, locality of the college, religion, community, socio-economic status and the geographical location of students influence women's non-participation in games and sports.
- Women's participation in games and sports is affected by certain psycho-socio constraints.

SIGNIFICANCE OF THE STUDY:

This study has brought to light some new facts regarding women's non-participation in games and sports. There are many prejudices in our tradition-bound society regarding women players and sports-women. The results may go a long way in removing some of these prejudices, thus, some hidden talents of women will be helpful to improve the level of participation and achievement at the national and international level.

METHODS OF DATA COLLECTION

The subjects for this study were randomly selected women students from Women's colleges, Arts or Science colleges and Training Colleges of selected States in India, who were studying in the pre-degree (Intermediate), Degree and Postgraduate classes'. The subjects selected for the study were those who have not participated in sports. The purpose of the study was to find out the constraints which are obstructing women from participating in games and sports in India, so that a standard programme for women participation in sports can be planned for futrre. To achieve this goal, all the selected colleges having women students in India were considered properly for this study and evaluation. To facilitate the study, the investigator confined himself to the survey method based on women sports problem inventory (WOSPI) as an important tool for the collection of data.

SAMPLE:

- Thousand women of 25 colleges were selected from 12 States in India on a random sampling basis. They were the subjects for the present study and they were selected from selected States in India proportionately to the total number of private and government colleges.
- Subjects were selected from Junior Colleges, Women Colleges, CO-educational Colleges, Professional Colleges from rural and urban areas in the selected states in India, who were studying in the pre-degree, and post-graduate classes.

RESEARCH TOOL:

- ▶ The tool used for collection of data was Women Sports Problem Inventory (WOSPI) with regard to personal information which contained name, type of the college, parental income, religion, community, parental occupation, nativity, games and sports in which she is participating and statements of psycho-social constraints of women participation in sports was developed by the researcher. A WOSPI consisting of 50 statements dealt with five dimensions, namely, parental, community, traditions and customs, college environment and personal factors. Each dimension has equal statements of ten each.

DATA COLLECTION:

One thousand inventory forms were sent to 25 various types of colleges by mail along with covering, letters stating the purpose of the study and requesting their wholehearted cooperation for the same. Fifteen Colleges returned the inventory forms and for the rest, the investigator went in person and collected the inventory forms duly filled in by the non-participating college women in sports and games. A total number of 600 college women participated in this phase of investigation.

STATISTICAL TECHNIQUES ADOPTED IN THE STUDY

- Product Moment Co-efficient Correlation, Spearman Brown Prophecy formul
- Chi-square Test, T-ratio, One –way Analysis of Variance

'F ratio was calculated for total scores obtained in each dimension of the inventory, such as, parental factors, community factors, tradition and customary factors, college environmental factors and personal factors. The calculated T ratio value, which indicate whether or not any significant difference exists between the dimensional wise constraints. This helps the researcher to find out, which dimension is more obstructing women's participation in sports and games

Significance of Differences between Dimensional constraints

Computation of Analysis of Variance

Source of variance	Sum of squares	Degree of freedom	Mean square	Obtained 'F' value	Required table value at 0.01 level
Within dimensions	91956.80	595	154.55	11.12	3.34
Between differences	6875.20	4	1718.80		

ORDERED means and difference between means of dimensional constraints in one way analysis of variance

Community Religion	Difference between Mean 0.32	Traditional 17.09 – 16.67 = 0.42	College 16.67 – 15.91 = 0.76	Parents 15.91 – 13.20 = 2.71*
17.41 – 16.67	0.74	17.09 – 15.91 = 1.18	16.67 – 13.20 = 3.47*	
17.41 – 15.91	1.50	17.09 – 13.20 = 3.89*		
17.41 – 13.20	4.21*			

Difference between means are significant at 0.01.

CONCLUSIONS

On the basis of results obtained, the following conclusions were drawn within the limitations of this study.

- There had been a lack of encouragement from the parents and family members. They possessed very poor consciousness of games and sports. This lack of awareness obstructed women participation in games and sports.
- There was lack of sports orientation of the people living in the society. Taking part in games and sports for women has not become a common phenomenon.
- The traditional way of living was a big hurdle for women taking part in games and sports.
- There had not been a good leadership among physical educational personnel and a proper motivating system for imparting participation and training to women in the colleges.
- The Socio-Cultural prejudices, superstitions and beliefs regarding social conventions and taboos were important factors that limited women's participation in games and sports.

Comparative study of will to win and locus of control between high and low achievers of rowing

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ABSTRACT

Purpose: The purpose of the study was to determine the comparison of high and low achiever rowers on 'will to win' and 'locus of control' variables of personality. It was also aimed to find out relationship between will to win and locus of control. Sixty male rowers were the subjects of this study who had participated in All India Inter University Rowing Championship held at Sukhna Lake, Chandigarh. Subjects were categorized into two groups; thirty were high achiever rowers who secured 1st, 2nd, 3rd and 4th positions and thirty were low achiever rowers who failed to secure any position. Their age ranged between seventeen to twenty five years.

The subjects were administered Kumar & Shukla (1988) for assess the will to win & Sanjay Vohra (1992) scale for measuring the locus of control. **Statistics:** - For analysis, 't' test was applied to test the hypothesis. To find out the relationship between will to win and locus of control product movement co-relation method was used. The level of Significance was set at 0.05 level ($p < 0.05$). **Result:** - The result of the present study on 'will to win' indicates that there were significant differences on will to win between high achievers and low achievers of rowing ($t_{cal}=9.34 > t_{tab} (2.00)$). The high achiever rowers scored high in will to win and low achievers scored low in will to win. The hypothesis of this study was that there would be significant differences on will to win between high & low achiever rowers were accepted. For second variable Analysis of data revealed that there was significant difference between high & low achiever rowers on 'locus of control'. The scores were on individual control ($t_{cal}=9.71$), (LOC) powerful others ($t_{cal}=5.33$) and chance control ($t_{cal}=4.49$). The high achiever rowers possess internal locus of control where as low achiever rowers possess external locus of control. The hypothesis of this study, that there would be significant difference between high & low achievers rowers on locus of control was accepted. The result of present study indicates that there was significant relationship between will to win and locus of control of high & low achiever rowers. It may be concluded that high & low achiever rowers significantly correlated to each other on will to win & 'individual control' variable of locus of control, whereas on will to win & 'powerful others' & 'chance control' variables of locus of control correlates significantly but negatively.

Key Words: Will to win, Locus of control, rowing.

INTRODUCTION

Rowing is one of the oldest sports in the world. The sports has two forms , rowing & sculling , thought for convenience both come under the generic title of rowing . The main distinction is that the rower has one oar whereas sculler has two sculls. Rowing depends not only on the physical fitness, but also on psychological adjustment & social maturity. Psychological factors help physical trainers and coaches to understand the reality of fitness & low behavior of rowers before and during competition. Personality which influences the performance is also affected by many factors like, will to win, locus of control, aggression, fear and attitude etc. Hence there is a need to study effect of 'will to win' and 'locus of control' on high and low achiever rowers.

Will to win is defined as the intensity of the desire to defeat an opponent to exceed some performance standard in a given sports. Locus of control related to an individual perceives himself or herself in relation to his or her actions, interactions, experiences and outcomes. The persons who attribute the responsibility of anything happening to them on themselves reinforcement that occur relative their reward or punishment are determined by their own actions. Such persons are internally oriented. The persons who fix the responsibility at events happening to them in life on other forces like fate, luck, chance etc and feel that the force that yields the reward or punishment is beyond their control. Such persons are externally oriented.

METHODS

Subjects

Sixty male rowers were the subjects of this study who had participated in All India Inter University Rowing Championship held at Sukhna Lake, Chandigarh. Subjects were categorized into two groups; thirty were high achiever rowers who secured 1st, 2nd, 3rd and 4th positions and thirty were low achiever rowers who failed to secure any position.

Tools Employed: - The subjects were administered a questionnaire of Kumar & Shukla (1988) for assess the will to win & Sanjay Vohra (1992) scale for measuring the locus of control.

Test administration: -

Will to win:

Will to win' questionnaire consists of fourteen items, in which seven items were keyed true and rest of the seven false. For each item one score was given. The maximum score was fourteen on this questionnaire and minimum being zero. Scoring of scale was done according to the instruction for the scoring as mentioned in the test manual.

Locus of control: This scale is Likert Type Scale, with multiple choice responses. Responses range from Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. It is an Indian adoption of locus of control inventory standardized by Sanjay Vohra (1992). The scale consist of twenty four statements 8 each for P- powerful others, C- chance control and I-individual control.

P = Belief about control by powerful others. High scores indicates that other people control your outcomes.

C = Belief about chance control. High scores indicate that unordered chance, or random events control your outcomes.

I = Belief about individual control. High scores indicate you believe that your outcomes are controlled by you- that your current situations and your rewards are direct outcomes of things you control.

Scoring:

Each answer scores 1, 2, 3, 4 and 5points. A transparent stencil scoring key was placed on the test booklet and answers appeared as pencil or pen marks in boxes on given test booklet. These scores were separately added for all three factors (P, C and I), and the total was written in space provided at the back page of test booklet.

STATISTICAL ANALYSES

A comparative analysis of selected variables –will to win and locus of control, mean, standard deviation, and 't' test was applied to test the hypothesis. To find out the relationship between will to win and locus of control product movement co-relation method was used. The level of Significance was set at 0.05 level ($p < 0.05$)

RESULTS AND DISCUSSION:

TABLE-I
SIGNIFICANCE OF MEAN DIFFERENCES IN SCORES OF 'WILL TO WIN' BETWEEN HIGH ACHIEVER AND LOW ACHIEVER, ROWERS.

Group	N	Mean	SD	MD	SE	df	"t" Ratio
High Achievers	30	10.28	1.49	4.31	0.36	58	9.34**
Low Achievers	30	5.97	1.82				

** Significant at 0.05 level

Tabulated value at 0.05 (2.00)

Table I revealed that high and low achiever rowers significantly differed as their 't' value of 9.34 was greater than the table value of 2.00 required to be significant at 0.05 level of confidence, which further indicates that high achiever rowers have higher level of 'will to win' as compared to their low achievers counter parts.

TABLE-II
SIGNIFICANCE OF MEAN DIFFERENCES IN SCORES OF 'INDIVIDUAL CONTROL' (LOC) BETWEEN HIGH ACHIEVER, AND LOW ACHIEVER, ROWERS

Group	N	Mean	SD	MD	SE	df	"t" Ratio
High Achievers	30	29.23	3.31	8.91	0.78	58	9.71**
Low Achievers	30	20.32	3.47				

** Significant at 0.05 level

Tabulated value at 0.05 (2.00)

Table II reveals that high and low achiever rowers significantly differed as the 't' value of 9.71 was greater than the table value of 2.00 required to be significant at 0.05 level of confidence. It shows that high achiever rowers were more under 'individual control' as compared to their low achievers counter parts

TABLE-III
SIGNIFICANCE OF MEAN DIFFERENCES IN SCORES OF 'POWERFUL OTHERS' (LOC) BETWEEN HIGH ACHIEVER AND LOW ACHIEVER, ROWERS

Group	N	Mean	SD	MD	SE	df	"t" Ratio
High Achievers	30	21.09	4.91	6.45	1.10	58	5.3**
Low Achievers	30	27.54	4.32				

** Significant at 0.05 level Tabulated value at 0.05 (2.00)

Table III reveals that high achiever rowers were significantly differ with the low achiever rowers as their 't' value of 5.3 was greater than the table value of 2.00 required to be significant of 0.05 level of confidence , which further indicated that low achiever rowers were more under 'powerful others' as compared to their high achievers counter parts, which further indicated that low achiever rowers were under more powerful others, they posses quality of external locus of control.

TABLE-IV
SIGNIFICANCE OF MEAN DIFFERENCES IN SORES OF 'CHANCE CONTROL' (LOC) BETWEEN HIGH ACHIEVER AND LOW ACHIEVER, ROWERS.

Group	N	Mean	SD	MD	SE	Df	"t" Ratio
High Achievers	30	23.57	3.98	4.99	0.98	58	4.49**
Low Achievers	30	28.56	4.21				

** Significant at 0.05 level (p < 0.05) Tabulated value at 0.04 (2.00)

Table IV reveals that high and low achiever rowers were significantly differed as their 't' value of 4.49 was greater than the table value of 2.00 required to be significant at 0.05 level of confident, which further indicates that low achiever rowers were more belief in chance control as compared to their high achievers counter parts. It is clear that low achievers have a higher score on 'chance control' than high achiever rowers.

TABLE-V
RELATIONSHIP OF WILL TO WIN AND LOCUS OF CONTROL BETWEEN HIGH AND LOW ACHIEVER ROWERS

S.No	Variables Correlated	Coefficient of Correlation (r)
1	Will to win and individual control (LOC)	0.60*
2	Will to win and powerful others (LOC)	-0.36
3	Will to win and chance control (LOC)	-0.31

Df= 58

r .05 (58)=0.250

It was quite apparent from table V that there were significant relationship between will to win and locus of control in high and low achiever rowers. The individual control (LOC) positively correlates with will to win (r=.60), where as powerful others and chance control (LOC) correlates negatively with will to win (r=-.36, r=-.31 respectively).Therefore, from the zero order correlation it may be clearly resolved that high and low achiever rowers significantly correlated to each other on will to win and individual control variable of locus of control, whereas on will to win and powerful others and chance control variables of locus of control correlates significantly but negatively.Thus it is concluded from whole result that high achievers have higher level of will to win than low achievers. High achievers also possess internal locus of control where as low achievers were externally oriented.

CONCLUSIONS:Thus it is concluded from whole result that high achievers have higher level of will to win than low achievers. High achievers also possess internal locus of control. They believe more on self, is able to regulate and control their actions and take responsibility for achievement. On other side low achievers were externally oriented. They feel that they are controlled by others & they believe in chance. There was significant relationship between will to win & locus of control of high & low achiever rowers. Will to win was positively correlated with 'individual control' variable of locus of control, whereas, will to win & 'powerful others' & 'chance control' variables of locus of control correlates significantly but negatively.

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Psychological well-being as an outcome of exercise

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INTRODUCTION

Psychological benefits of exercise and relaxation training has been a topic of recent interest amongst researchers. Anger, hatred and frustration often excluded by the society from open expression can have a damaging consequence on to the organism who is oppressed. Such damaging consequences may be ameliorated through running, swimming and other forms of physical activities and these result in a healthier and happier adjustment (Eide, 1982; Segrave, 1983). On the contrary, Metro et al (1987) and step to et al (1992) failed to establish any relation between exercise, athletic training and mood change. Contemporary investigators also put considerable importance on relaxation training and its impact on psychological well-being. Relaxation training has already been considered to be a useful form of exercise and its effectiveness as therapeutic modality is being studied (Anshel, 1995). See et al (1990) and Scogin et al (1992) reported that practicing progressive muscle relaxation training does not have any significant impact on anxiety and self esteem.

METHODS:

SUBJECTS

Twenty school going boys in the age range of 9-11 years with a mean of 10.46 years and SD of 1.72 years were selected. The subjects had a unsatisfactory adjustmental problems in four areas, viz., home, health, social and emotional adjustmental area.

MATERIALS

Bengali version of the Bell Adjustment Inventory, (Mallik, 1982); Spielberger's State – Trait Anxiety Inventory (Chattopadhyay, Mallik and Spielberger, 1986) and Physiological recorder (GSR) to record skin conductance (SC) (Electrolab, Calcutta 1991).

PROCEDURE

Initially all the subjects were administered with the tests at the Department of Psychology, Osmania University, following standard procedures adopted by the respective test devisers. This was done to obtain baseline information (here after called 1st phase) for subsequent comparison with the data to be obtained at the post exercise phase (called 2nd phase). In between two test administrations each subject was provided with sufficient rest pause. Care was taken to rule out sequential effect, if any, while administering the tests. Subsequently 50% of the subjects, were assigned (following odd-even serial presentation) to training i.e., swimming (called Gr.A) and rest others received progressive muscle relaxation (PMR) (called Gr.B).

The subjects of Gr. A were exposed to free-style swimming under a qualified trainer on every afternoon from 4.30 to 5.15 p.m. (excepting Sunday) continuously for a period of 6 months in a recognized swimming pool located in the Osmania University Camous whereas the boys of Gr.B were subjected to the training of PMR under the guidance of qualified physical education expert on every afternoon during the same time (excepting Sunday) continuously for a period of 6 months in a recognized physical training institute of Osmania University. Both the intervention procedure followed were regularly (thrice in a week) supervised by the experimenters. After 6 months training period all the subjects of Gr.A and Gr.B were reassessed following identical procedures. During the intermittent period between the two phases the subjects of both the groups were advised to maintain their regular routine life.

RESULTS AND DISCUSSIONS

The obtained data for the two groups in each of the two phases were analyzed statistically. The means and standard deviations for each of the measures were computed separately for the SM and PMR groups, each on two phases. Then, the Mann – Whitney U – Test was used to examine the significance of difference between the means of the two groups on each of the phases separately. The data were then analysed using Wilcoxon Signed Ranks Test for testing the significance of difference between the means of two phases for each group. Then, the Fisher Exact Probability Test was used to study the outcomes of exercise programmes with respect to changes observed in phase II on the measures of anxiety and adjustment areas. For the present analysis, 2x2 tables were formed based on two levels of outcomes viz., 'No improvement' and 'Improvement' and two groups of children – SM and PMR.

The obtained U-values show that there is no significant difference between the two groups in any of the measures in phase I. The results, thus, indicate the two groups are closely similar on all the measures, prior to their exposure to any exercise programme.

The results of Wilcoxon Test show significant differences between phase I and II for SM group in measures of anxiety as measured by STAI and SC. Significant difference are also obtained between the phases in each of the four areas of adjustment. The PMR group has also shown significant differences between the two phases in each of the variables. These results indicate that both the exercise modalities are effective in reducing anxiety and bringing about positive changes in the adjustment pattern of the children. The SM and PMR groups, however, have shown significant differences in Phase II in anxiety as measured by STAI and also in home, health and emotional adjustment areas. In these areas, swimming is found to be more effective modality of exercise than progressive muscle relaxation. These findings have further been supported by the results of Fisher Exact Probability Test. This test is used in each of the four adjustment areas separately between SM and PMR with the outcome criterion of 'improvement' to be interpreted in the light of psychological well-being. The results show that swimming exercise excels over progressive muscle relaxation in the areas of home, health and emotional adjustment. In the area of social adjustment, however, the two exercise modalities, though effective, do not show any significant difference in their respective outcome.

The present findings of overall improvement in adjustment pattern for the boys of Gr.A are supported by Price et al (1976); Howley et al (1991) and contradicted by Step et al (1992) and Mondal et al (1994). In this study Gr.B children also show an overall improvement which goes on line with see et al (1990) and also contradicted by Schrieber et al (1995). All these contradictions may be attributed to the methodology employed in different studies. Thus standardization of methodology employed in different laboratories is very much essential prior to generalization of these findings. From the present study it is also clear that swimming is more effective than progressive muscle relaxation training on different adjustment areas.

CONCLUSION

On the basis of the findings obtained from the present study it may be stated that both free-style swimming and progressive muscle relaxation training are effective in reducing anxiety and bringing about psychological well – being with regard to overall adjustment pattern for male children in the age range from 9 to 11 years. It may further be stated that swimming as a therapeutic modality is more effective than relaxation for the children with problems in home, health and emotional adjustment areas.

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A study on the physical fitness among table tennis and shuttle badminton players of Osmania university

BY

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Abstract

The aim of the present study was to study the difference in Physical Fitness among Table Tennis and Shuttle Badminton Players of Osmania University. 20 Male Table Tennis Players and 20 Badminton Players between the age group of 16 Years to 20 Years were taken for the Study. The AAPHER Youth Fitness Test consisting of 6 Items were used for the Study. It was found that Badminton Players have good Physical Fitness compare to the Table Tennis Players. This study shows that the Badminton Players are good because they do good Physical Training compare to Table Tennis Players. The Badminton Players are having very good speed, strength and endurance.

Key words:Physical fitness, speed, strength, endurance.

INTRODUCTION:

Through out the history of man kind Physical fitness has often been an important or essential objective of various groups and governments. Early Greek and Chinese Civilizations were concerned with the Physical development of the Individual. Each changes in civilization through the ages brought a change in the need of Physical fitness. Fit persons are the natures pride and they are an asset to the country in all respects of progress and development. In fact countries like USA,Germany,Russia, China,France etc. have insisted on military training for the people of the respective countries who can work hard for trade and business who also well extend a helping hand in protecting the country at the time of invasion by the enemies.All Living Individual have some degree of physical fitness and this degree may be interpreted in terms of their capacity for performance and their endurance in Physical activities.

Physical fitness is general state of good physical health. Physical fitness is the ability to endure, beat with stand stress and carry on in circumstances where an unfit person could not continue. In order for one to be considered Physically fit, heart, Lungs and muscles have to perform at a normal level for the Individual to continue feeling capable of performing an activity. Physical fitness is often divided into the following categories in order for people to be able examine its components or parts. Particularly,

Fitness is the ability of an individual to life full and a balanced life. The total Fit person has a healthy and happy out look on life. All living individuals Have some degree of physical fitness. The degree may be interpreted in Terms of their capacity for performance and their endurance in physical Activity. Physical fitness of a player in any game can possess his ability to Execute efficiency skill, at any time under any situation for a larger duration The aim of sports and physical fitness is to develop muscular coordination By the worthy use of leisure time through physical activity. Physical fitness Provides capacity to perform activity. Modern competitive performance Demands intensive training every day through out the year, to maintain Fitness for performance of peak level. The techniques and skills in sports And games have advanced that the competitive sports participants required To possess a high degree of physical fitness.

METHODOLOGY:

Aim: To find out the Physical Fitness among the Badminton and Table Tennis Players of Osmania University.

Sample:20 Badminton and 20 Table Tennis Players of Osmania University who has taken part in the O.U.Inter College Tournaments for the year 2010-11 was taken for the Study.

Test Administration:

To find out the Physical Fitness the AAPHER Youth Fitness Test consisting of the following Items are used in the study.

- 1.Pull Ups
- 2.Sit Ups
- 3.Shuttle Run
- 4.Standing Broad Jump
- 5.50 Yard Dash
- 6.600 Yard Run

The above Tests are conducted among Badminton and Table Tennis Players

RESULTS AND DISCUSSION:

Table 1 showing the performance of Physical Fitness among Badminton and Table Tennis Players. It is found Badminton Players are having good performance then Table Tennis Players in 50 Yard Dash,600 Yard Run,Standing Broad Jump,Pull ups and Situps and Table Tennis Players are found good in Shuttle Run.

Table: 1

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 Y	Badminton Players	20	6.65	0.40	0.10	-3.38	28.00	0.00
	Table Tennis Players	20	7.20	0.45	0.12			
600 Yard	Badminton Players	20	1.71	0.20	0.05	-2.07	28.00	0.05
	Table Tennis Players	20	1.84	0.25	0.06			
SBJ	Badminton Players	20	2.35	0.11	0.03	4.23	28.00	0.00
	Table Tennis Players	20	2.17	0.06	0.02			
Pull Ups	Badminton Players	20	14.01	1.11	0.29	6.22	28.00	0.00
	Table Tennis Players	20	10.87	1.06	0.27			
Shuttle Run	Badminton Players	20	15.09	0.90	0.23	3.80	28.00	0.00
	Table Tennis Players	20	14.15	0.30	0.08			
Sit Ups	Badminton Players	20	28.10	1.40	0.57	5.57	28.00	0.00
	Table Tennis Players	20	25.47	1.51	0.39			

RECOMENDATIONS:

It is recommended that Badminton Players requires Physical Fitness Training for enhancing the performance. It is advised to Coaches include the Physical Fitness programs in their Schedules.

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A Study of Introvert-Extrovert, and Self-Concept of Athletes of Hyderabad District in A.P.

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Abstract:The aim of the present study of Introvert-Extrovert and self concept of athletes of Hyderabad District in A.P. Two Hundred Athletes i.e. one hundred male and one hundred female athletes are taken for the study between the age group of 18 – 22 Years.Neman Kuder Personality Test were used for the study.It is concluded that Highly self concept athletes have significantly high extravert than the low self concept. The Male high self concept athletes have high extravert than female high self concept athletes

Key Words: Extravert, Introvert, Athletes,Self concept. Etc.

Introduction:Athletics, also called track and field sports or track and field, a variety of competitions in running, walking, jumping and throwing events.Although these contests are called track and field in the United States. Track and field athletics are the oldest forms of organized sport, having developed out of the most basic human activities – running, walking, jumping and throwing.From the earliest times running has been a natural part of Mans existence, Whether he was catching animals for food or escaping from predators. However, he also began to run for pleasure and then competitively, leading to a desire to improve on his speed or ability to run farther. In time, running came to be used as a means of communication and the fastest runners became messengers between villages or countries, carrying news of important events or war. Later there were long distance messengers who ran for a whole day bearing tidings affecting the lives of their compatriots, such as the legendary Pheidippides who is supposed to have run from Athens to Sparta to request help against an invading Persian force.Track and field is one of the oldest of sports. Athletic contests were often held in conjunction with religious festivals, as with the Olympic Games of ancient Greece. Track and Field as a modern sport started in England during the 19th century. English public school and University Students gave the sport impetus through their inter class meets, or meetings.In 1896 the first Modern Olympic Games were staged

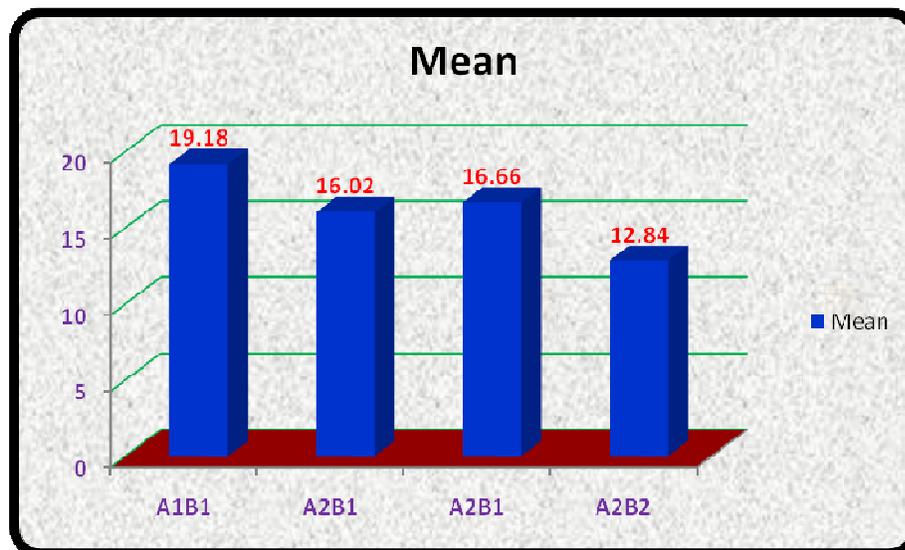
Extraversion

Extraversion is "the act, state, or habit of being predominantly concerned with and obtaining gratification from what is outside the self".Extraverts tend to enjoy human interactions and to be [enthusiastic](#), [talkative](#),[assertive](#), and [gregarious](#). They take pleasure in activities that involve large social gatherings, such as parties, community activities, public demonstrations, and business or political groups. Politics, teaching, sales, managing and brokering are fields that favor extraversion. An extraverted person is likely to enjoy time spent with people and find less reward in time spent alone. They tend to be energized when around other people, and they are more prone to boredom when they are by themselves.

Introversion:

Introversion is "the state of or tendency toward being wholly or predominantly concerned with and interested in one's own mental life". Introverts are people whose [energy](#) tends to expand through reflection and dwindle during interaction. Introverts tend to be more reserved and less outspoken in large groups. They often take pleasure in solitary activities such as reading, writing, music, drawing, tinkering, playing video games, watching movies and plays, and using computers, along with some more reserved outdoor activities such as [fishing](#). In fact, social networking sites have been a thriving home for introverts in the 21st century, where introverts are free from the formalities of social conduct and may become more comfortable [blogging](#) about personal feelings they would not otherwise disclose.

Self-concept is a multi-dimensional construct that refers to an individual's perception of "self" in relation to any number of characteristics, such as academics (and nonacademics), gender roles and sexuality, racial identity, and many others. While closely related with [self-concept clarity](#) (which "refers to the extent to which [self-knowledge](#) is clearly and confidently defined, internally consistent, and temporally stable"), it presupposes but is distinguishable from [self-awareness](#), which is simply an individual's awareness of their self.



Summary of Two Way ANOVA

Source	Ss	df	MS	F	P
A : Self-concept	609.01	1	609.01	633.91	< 0.01
B : Gender	406.13	1	406.13	422.74	< 0.01
A x B	5.13	1	5.13	5.66	< 0.05
Within	188.3	196	0.96		
Total	1208.88	199			

From the Summary and graph it is seen that main effect A is highly significant main effect A refer to the factor Dimension. It was varied at two levels i.e. High Self-concept and Low Self-concept it was assumed High Self-concept and Low Self-concept differ significantly with regards to Extrovert-Introvert. Since the main effect A is highly Significant ($F = 633.91$, $df = 1$ and 196 , $P < 0.01$) It is Clear that High Self-concept and Low Self-concept Subjects Differ Significantly From each other from the mean scores and graph it was found that the High Self-concept had significantly High Extrovert than the Low Self-concept this Result Support the Hypothesis. The Second Independent Variable the Factor of Gender It was also varied at two levels. The effective sample was divided in to two groups, Male and Female. Main effect has yielded highly significantly result and $F = 422.74$ for 1 and $df 196$ is significant beyond 0.01 level ($P < 0.01$).

Results:

1. High Self-concept Athletes have significantly high Extrovert than the Low Self-concept Athletes.
2. Male High Self-concept Athletes have significantly high Extrovert than the High Self-concept Female Athletes..

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A study of sports – culture of the tribal students of tapi and surat districts of south Gujarat

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ABSTRACT

Tribal Sport and Culture are dynamic, creative and continuous process handed over through generations. The tribes with their taboos and beliefs have their own games and sports which have been generated from past time to the present society. These sports and games are shared activities which give meaning to life and embody the values, beliefs and ethics of the participants. Tribal folk games are often integral part of their holidays, rituals, celebrations and culture. This study investigated the existence of sports culture among different tribes of our country and also to prepare a pilot for the development of tribal sports and culture. This study was conducted among twelve major tribes of Gujarat state spread over Two districts. Observation and personal interview techniques were adopted for collection of data. As it is a Survey type of study percentile score has been utilized for the analysis of statistical data obtained through Personal interview and observation. The subjects comprise of 800 females selected randomly four hundred from each district. the age of the subjects ranged between 14 to 18 years. The average age was 16 years. The result reveals that, the tribal people are much conscious about their folk games and also interested towards preservation of their sports culture for future generation.

Introduction :

Games and sports have been prominent in Man's heritage, traced back to his earliest consciousness, they are included in his cultural perspective and have complemented the search for understanding and meaning in life. The tribal people have been spontaneously engaged in many non-purposive play activities, but the ceremonial games and dances associated with religious rites were governed by a mash of rules and taboos that were carried out in a precisely prescribed manner.

This present study was conducted in states of Gujarat where the tribes constitute 14.76% of the State's Population. There are as many as 28 tribes belonging to three ethnic groups have influenced the history and culture of the state to a great extent. in their social life tribal pass their time mostly with cultivations, religious, functions and festivals. the green fields valleys, ravines, river beds, mango grooves and forests are the real fields, the which develops folk tribal games

Method :

The subjects 800 females were randomly selected from two districts of Gujarat state. The age of the subjects ranged between 14 to 18 years. The average age was 16 years. Observation and personal interview techniques were adopted to collect data more accurately for this study. The interview schedule were prepared as per the requirement of this study through open ended questions and discussions, The Searcher had tried to obtain the attitudes of the respondents as it permitted them for free response against the questions. Mostly the open ended discussion and the alternation choice questions had been designed and included in the interview schedule. The observation techniques had also used to collect the first hand information as observation in one of the most reliable important technique of obtaining the objective data particularly at the time of their occurrence. In 12 Weeks near about 800 subjects were interviewed for this study. The data that were collected and interpreted are Presented below.

FINDINGS

Table – 1
TOTAL NUMBER OF TRIBAL GAMES PLAYED IN GUJARAT

SI No.	Category	Non -equipmental games	Equipmental games	Total number of games played	Percentage
1	out door games	21	27	48	82.76 %
2	Indoor games	8	2	10	17.24 %
	total	29	29	58	100%

Tribal games played in Gujarat:

The total number of games played by the tribal people of Gujarat was presented in table – 1 and it was observed that, total 58 numbers of tribal games are played at various places of the state. Out of 58 games

the maximum 48 (82.76%) out door games / sports are played by the tribal people of Gujarat. This is because out door games provide them maximum pleasure and recreation than of any other activity.

TABLE -2 TYPE OF LEISURE ACTIVITY IN WHICH THE TRIBAL PEOPLE ARE INTERESTED

Different type of activities	No. of Participants / Frequency	Percentage
Local Folk games	306	38.25 %
Other major games	188	23.50 %
Cultural activities	102	12.75 %
Social activities	98	12.25 %
Hunting	106	13.25 %

The Interest of the tribal people in different type of activities:

The interest of tribal people in different type of activities are presented in table No.2 It can be well understood that, local folk games are more interesting activities than any other leisure activities and the participation percentage is 38.25 This may be because the natural facilities and no cost equipments are available to inspire public to play their own game

TABLE – 3 UTILISATION OF LEISURE TIME FOR PARTICIPATION IN TRIBAL GAMES

Type of response	No. of Participants	Percentage
yes	492	51.50 %
No	308	38.50 %

It is evident from table – 3 that 51.50 % of tribal people utilize their leisure time in playing different folk games of their locality and 38.50 % of people never get time to participate in these games. This negative response towards participation in games and sports may be due to their engagement in various domestic works.

TABLE -4 BELIEF OF PEOPLE ON TRIBAL GAMES AS THEIR PART OF CULTURE

Type of response	No. of Participants	Percentage
yes	596	74.50 %
No	204	25.50 %

The data shown in table – 4 expresses, the belief of the tribal People regarding their own games and sports as part of their local culture. Out of 800 participants 596 (74.50%) people believed that their own tribal games as the part of their local culture. The rest of 204 (25.50 %) people were neither interested in their local games and sports nor in the culture.

TABLE -5 BELIEF IN PRESERVATION OF TRIBAL GAMES FOR PRESERVATION OF CULTURE

Statement reaction	No. of Participants	Percentage
Completely agree	414	51.75 %
Partly agree	108	13.50 %
Uncertain	176	22.00%
Completely disagree	70	8.75 %
Partly disagree	32	4.00 %
Total	800	100 %

Belief preservation of tribal games for preservation of culture:

An attempt has been made to understand whether the tribal people believe in preservation of their local games for the preservation of the culture. Table – 5 throws light on the reactions and the information collected with regard to the above mentioned statements. The data makes it clear that maximum 414 (51.75%) and 108 (13.50 %) respondents have expressed complete agreement and partly agreement respectively with the statements in the preservation of folk games for preservation of culture. At the same time maximum 176 (22.00 %) were uncertain 70 (8.75 %) were completely and 32 (4.00%) were partly expressed disagreements towards preservation of their local games as the preservation of their local culture. This negative response from the respondents may be due to their non – attachment with their own games and cultural activities. However, maximum 51.75 % of respondents were in favor of preservation of their own games and sports as the elements of their culture.

Conclusion :

From the result of the study it is revealed that, people in tribal areas believed the participation in games and sports of their own locality provided them more pleasure and recreation than any other activities. It was also marked from the study that, there was a common interest among the tribal people towards their own games and sports of their locality.

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A Study of Anxiety and Self-Concept among Junior and Senior Ball Badminton Players”

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Introduction

Ball badminton is a sport native to India. It is a racket game, played with a yellow ball made of wool. on a court of fixed dimensions (12 by 24 metres) divided by a net. The game was played as early as 1856 by the royal family in Tanjore, The capital of Thanjavur district in Tamil Nadu. India. It enjoys the greatest popularity in India. Ball badminton is a fast-paced game; it demands skill, quick reflexes, good judgment, agility, and the ability to control the ball with one's wrist. Games are usually played outdoors during the day. As a result weather conditions wield a considerable influence, and ball badminton's rules allow the effects of weather conditions to be distributed more-or-less evenly between both teams. More recently, indoor versions of the game have been played under artificial lighting. All-India tournaments are conducted regularly using floodlights in Tamil Nadu, Pondicherry, Andhra, and Karnataka.

Anxiety invokes a feeling of fear or a perception of threat and which may be specific to a particular situation. Possible symptoms are nausea, loss of composure, reduced motor coordination and aggression. Potential stressors are the climate temperature / humidity, circadian body rhythms - maximum efforts is harder in the morning, jet-lag, playing environment - stadium, spectators, surface, game officials and finally stress created by opponents or between players and the coach. The intensity of these influences on stress depends on the individual perception or inner experience of player.

Focusing on Physical Self-concept

To develop a measurement tool, the physical self-perception profile (PSPP), for assessing the physical self. It includes the following subscales:

- **Sport competence (sports):** perceptions of sports and athletic ability, ability to learn sport skills, and confidence in the sport environment
- **Physical condition (Condition):** Perceptions of physical condition, stamina, and fitness; ability to maintain exercise; and confidence in the exercise and fitness setting.
- **Body Attractiveness (Body):** perceived attractiveness of figure or physique, ability to maintain an attractive body, and confidence in appearance.
- **Physical strength (strength)** Perceived strength, muscle development, and confidence in situations requiring strength.
- **Physical self-worth (PSW) :** General feeling of happiness, satisfaction, pride, respect, and confidence in the physical self.

The inclusion of physical self-worth underscores that the physical subdomains cannot be summed to obtain the physical self-worth score. Fava and Corbin (1989) provided for the sensitivity, reliability, of the subscales; confirmed the subscale factor structure; and reported associations of the subscales with physical activity involvement to provide initial validity support, Sonstroem, Speliotis, and Fava (1992) subsequently found that the PSPP showed strong internal consistency,

Methodology:

Aim of the study:

1. To Examine the Anxiety and self concept of Junior and Senior Badminton players.

Objective of The study:

1) To find out the Anxiety of Junior and Senior ball badminton players. 2) To find out the Self-concept of Junior and Senior ballbadminton players.

Hypothesis:

- 1) Junior badminton players have significantly high anxiety than the senior ball badminton players
- 2) Senior badminton players. Have significantly high self-concept than the junior ball badminton player

Sample:

For [he present study 100 Sample was selected from Aurangabad, The effective sample consisted of 100 subjects, out of whom 50 subjects were senior ball badminton players and 50 subjects were junior ball badminton players.

Tools:**Sinha's Comprehensive Anxiety Test :**

Contains 90 items of manifest anxiety. It is highly reliable and valid. Time 15 to 20 minutes. Scoring is simple. Percentile norms are available on college students. Level Of anxiety may be classified in five categories, highly reliable and valid in this lest.

Self concept Questionnaire :

R.K. Saraswat This 48 items measures self-concept in six areas -physical, social. Temperamental . educational, moral and intellectual. Highly reliable and valid in this test.

Procedures of Data Collection:

Each of the two instruments were administered individuals as well as a small group. While collecting the data for the study the later approaches were adopted. The subjects were called in a small group of 20 to 25 subjects arid there seating arrangements were made in a classroom. Prior to administration of test, through informal talk appropriate rapport form. Following the instructions and procedures suggested by the author of the tests. I he tests were administered and a field copy of each lest were collected. Following the same procedure, the whole data were collected. **Variable**

Independent variable - Ball Badminton Players

- a) Senior (Above 19y) b)Junior (under 19y)

Dependent variable

1. Anxiety 2. Self concept

Statistical treatment :Anxiety of Senior and Junior ball badminton players of Mean, S.D. and 't' Values

Players	Mean	S.D.	SE	N	df	"t"
Senior	38.65	3.95	0.56	50	98	6.02**
Junior	43.79	4.56	0.64	50		

The results related to the hypothesis have been recorded. Mean of anxiety score nf die senior ball badminton players is 38,6:i arid junior ball badminton players is 43.79 die difference between the two mean is highly significant 't'= 6.02. df =98. P < 0.01. Thus die hypothesis is confirmed ball badminton players have significantly high anxiety than the senior ball badminton players. And Support the Hypothesis.

Self-concept of senior and Junior ball badminton player of Mean, S.D. and 't' values

players	Mean	S.D	SE	N	df	"t"
Senior	62.32	4.30	0.61	50	98	8.96 **
Junior	54.73	4.17	0.59	50		

The results related to the hypothesis have been recorded. Mean of self concept score of the senior ball badminton players is 62,32 and junior ball badminton players h 54,73 the difference between the two mean is highly significant 't' = 8.96, df-98, P < 0.01. Thus the hypothesis is confirmed senior ball badminton players have significantly Self-concept than the junior ball badminton players. Support die Hypothesis.

Results:1. Junior ball badminton players have significantly high anxiety than the senior ball badminton players2. Senior badminton players have significantly high self-concept than the Junior ball badminton

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The unconscious fear of success

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Introduction :Research into the potential negative factors associated with high-level athletic performance is now being conducted in many parts of the world. Most of the valuable psychological insights into the emotional constituents that influence athletic achievement are based upon depth studies of a select number of individuals who have sought counseling. This paper explores a number of the major psychological reactions to high-level athletic competition. The subjects who have contributed to our knowledge about the negative emotional reactions to athletic success represent members of the U.S. Olympic Team, professional athletes, and athletes from every major college sport.

The success-phobia syndrome has a number of common elements, each of which individually or all of which collectively could produce emotional reactions to inhibit or interfere with top physical efficiency. It is not implied that this psychological block can be reduced to only a few major aspects, but these aspects represent the range of typical reactions with which the authors have had clinical experience. It is not the intent of this paper to suggest that these emotional reactions are in any way mutually exclusive. It has been our finding that one of them will have the central role in determining the form that failure will take.

The typical human reactions of the athletically gifted male to the severe stress of physical excellence have been found to be related to the following causal factors. Each of these has been found to be a direct reflection of parental training and of other environmental influences. Success can breed the following syndromes:

- a. A growing sense of social and emotional isolation
- b. Guilt feelings about self-assertion or overt suggestion
- c. The habitual use of rationalization to protect the athlete from having to face the reality of his true physical potential
- d. unconscious feelings of resentment as a reaction to exaggerated external demands for excellence (usually by a parent)
- e. an unconscious fear of old traditions or old idols; an unconscious fear with regard to supporting the emotional weight of success or being the record-holder.

Each of the characteristic responses to athletic stress has its basis in specific forms of social learning. All are the products of parental attitudes and other environmental conditions which reinforce negative factors which in turn contribute to ways of feeling and behaving that inhibit true physical excellence. Rather than capitalizing upon the positive aspects of the developing motor skill, there is a continued focusing upon its imperfections or upon the length of time necessary to learn it. This type of training environment conditions the athlete to develop an exaggerated awareness of possible failure at the expense of wholesome concern with possible success. Guilt, rationalization, and resentment over parental demands for excellence best typify the athlete's response to the negative reinforcement. The burden of isolation, the fear of old traditions or idols, and the emotional weight of success are special forms of athletic stress that affect only those approaching greatness. These stresses will require that the individuals have adequate preparation in order that they not be immobilized by their effects.

Here is brief description of the unique psychological and sociological features of each of the foregoing stress syndromes. Syndrome A is the effect of the ever increasing stress of social and emotional isolation. The prospective great must adjust to a subtle form of increasing resentment by former friends and associates. The response of these persons to the athlete as he moves away from his social group is conditioned by the unconscious fear that he will outgrow his need for their friendship. They begin to imagine or project the feeling that the athlete has outgrown his need for whatever contribution his friends have made to his life. Rather than remain anxiously in doubt about how the athlete feels, they unconsciously create situations which they can use as confirmation of their feelings that eventually they will be rejected. In the life of the professional athlete we are constantly reminded of this by the material conflict that often accompanies sudden success. The wife is often one of the first to question her meaning and value in terms of the new life into which her mate is being catapulted. Often just when the athlete needs the most continuous form of emotional support, he finds that it is being withheld.

In the case of syndrome B, we find those athletes who develop unconscious guilt feelings in response to the necessary "wholesome aggression" which is essential for athletic success. These men tend to be reliving old childhood fears associated with childish forms of aggression. In a very real sense they have developed an over scrupulous conscience with regard to hostile or aggressive feelings. These feelings are often so deeply repressed in their personalities that defeating an opponent often results in feigns of depression rather than elation. Somehow they must punish themselves for allowing natural aggressive tendencies to be expressed in an overt form. In their social training their teachers or parents have conditioned them to equate anger, hostility aggression, and even dominance with being evil or bad. Almost every truly great athlete we have interviewed during the last four years, representing every major sport, has consistently emphasized that "in order to be a winner you must retain the killer instinct". Each of these men had to discover for himself that winning takes an aggressive, dominant spirit. Each found that he had to be emotionally free to become self-assertive and not be haunted by conscious or unconscious fears that such behavior may cause him to be socially rejected.

Syndrome C is a most subtle form of fear of success and has its roots deep in the early developmental history. The athlete who uses excessive rationalization is one who dares not place his ability on the line or even face the reality of his true potential. He is still bound by his parents' attitudes to define in specific ways the limits of his tolerance for the stress of competition. Basically has social conditioning over-emphasized the pain of failure at the expense of the pleasure of success. Rewards or recognition for partial success or moderate improvement are absent from his life experience. The only social reward or positive parental recognition has been for winning or for showing excellence. Any performance short of these standards has been treated as failure. Often the parent communicates this attitude by his failure to respond to any performance which has not reached the parent's arbitrary standard of achievement. The end effect of such social conditioning is a personality structure with an inordinate fear of failure. The athlete unconsciously internalizes an unrealistic standard for human performance, and he studiously avoids the conscious experience of failure. He, therefore, learns to over develop his powers of rationalization and unconscious denial. He becomes expert at avoiding the ultimate truth by developing self-deceptive ways of justifying the quality of his performance. This is frequently expressed by falsely denying the meaning of success or victory. Somehow, in some way, the 'moment of truth' is avoided in order not to have to face the reality of an absolute test of ability and then to be made to feel unworthy.

Syndrome D has a number of complex features, only a few of which can be discussed in a paper of this length. There are certain records and athletic standards that have become as awe-inspiring to competitors as religious symbols are to priests. There are individual athletic greats who inspire a type of admiration that borders upon worship. These two facts have considerable significance in the lives of a number of young athletes who have used each as a source of motivation in their own training. These standards and greats come to represent the ultimate goal which the athlete internalizes as his ideal of what he will become. The youthful competitor retains these motivational standards over such a span of years that considerable anxiety tends to develop when his ability reaches a point where the former standard or idol can be challenged. In order to set new standards it is necessary to develop a healthy arrogance towards the old ones. Athletes like Bannister, who was the first to defy all distance traditions, cannot be inhibited by an unconscious respect for the former standard, a respect that is based upon fear. They must feel a genuine sense of having every right to the prize which they have made such a great personal sacrifice to obtain.

Syndrome E is a reaction to the responsibility of being first or being the champion. Very few individuals see able to identify with the negative side of the ledger when we discuss the cost of high level athletic success. To be in possession of the record places one in the position of being for the rest of one's athletic life a potential failure. Every audience, every fan, every representative of the press expects each old record to be exceeded at each new performance. Now excellence becomes the universal standard. Any performance below a record is treated by most spectators with resentment. They often behave as if the athlete had somehow cheated them out of their just reward. This was best exemplified by the spectators during an Eastern swimming meet who actually booed the performance of a member of the swimming Hall of Fame.

SUMMARY

The authors review the five most frequent causes of success-phobia which they have observed in clinical practice during the past twelve years: fear of social and emotional isolation; guilt with respect to self-assertion or aggression; unconscious fear of expressing one's potential; fear of old idols or traditions; and disinclination for the burden of success. Each of these fears may operate independently or con-jointly with one or more of the others. Each is the result of social conditioning. The unconscious fear of isolation, guilt over aggression, and the threat of old standards are psychological blocks which respond well to counseling. The exaggerated use of rationalization is much more resistant.

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Effects of selected asana and suryanamaskar on selected physiological variables among diabetic patients

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Abstract

The purpose of the present investigation is to find out the Effect of Selected Asana and Suryanamaskar on Selected Physiological Variables among Diabetic Patients. To achieve these purpose 30 men diabetic patients were selected from Nagapattinam, Tamilnadu as subjects. Their age ranged from 30 to 40 years. They were divided into three equal groups of 10 subjects each and assigned to experimental group-I, experimental group-II and control group. In a week the experimental group I underwent Asana Practice, experimental group II underwent Suryanamaskar Practice and Control Group was not given any specific training. All the subjects underwent three areas of test namely Resting Pulse rate, and Respiratory Rate. They assessed before and after the training period of six weeks. The analysis of covariance was used to analyze the data. The study revealed that the above said criterion variables were significantly improved due to the influence of Asana and Suryanamaskar on Selected Physiological Variables among Diabetic Patients.

Key words: Asana, Suryanamaskar, Resting Pulse rate, Respiratory Rate, ANCOVA.

Introduction

Asana means holding the body in a particular posture to bring stability to the body and poise to the mind. The practices of asana bring purity in tabular channels firmness to the body and vitality to the body and the mind. (Sharma, 1984).Surya Namaskar provides all of the key health benefits of yoga in a very succinct package. It is a holistic exercise that provides physical health benefits, but also mental or emotional as well as spiritual benefits. The obvious advantage of Surya Namaskar is the workout it provides for the muscles, but it also benefits joints, ligaments and the skeletal system by improving posture, flexibility and balance.Diabetes mellitus often referred to simply as diabetes (Ancient Greek: "to pass through"), is a syndrome of disordered metabolism of carbohydrate, protein, fat usually due to a combination of hereditary and environmental causes, resulting in abnormally high blood sugar levels (hyperglycemia). Blood glucose levels are controlled by a complex interaction of multiple chemicals and hormones in the body, including the hormone insulin made in the beta cells of the pancreas. Diabetes mellitus refers to the group of diseases that lead to high blood glucose levels due to defects in either insulin secretion or insulin action. (Rother, 2007)

Methodology

To achieve the purpose of the study 30 men diabetic patients were selected from Nagapattinam, Tamilnadu as subjects. Their age ranged from 30 to 40 years. They were divided into three equal groups of 10 subjects each and assigned to experimental group-I, experimental group – II and control group. In a week the experimental group I underwent Asana Practice, experimental group II underwent Suryanamaskar Practice and Control Group was not given any specific training. All the subjects underwent three areas of test namely Resting Pulse rate, and Respiratory Rate. They assessed before and after the training period of six weeks. The analysis of covariance was used to analyze the data. The study revealed that the above said criterion variables were significantly improved due to the influence of Asana and Suryanamaskar on Selected Physiological Variables among Men Diabetic Patients.

Results and Discussions

Table – I
Computation of Analysis of Covariance of Resting Pulse Rate
(Scores in counts per minute)

Test	EXP.G P 1	EXP.G P 2	Control gr	Sum of variance	Sum of squares	Df	Mean square	F
Pre test	75.70	74.70	74.90	Between	5.6	2	2.80	0.19
				Within	395.1	27	14.63	
Post test	72.80	70.40	74.70	Between	92.87	2	46.43	3.73*
				Within	336.10	27	12.45	
Adjusted mean	72.28	70.75	74.87	Between	87.01	2	43.51	29.92*
				Within	37.809	26	1.45	

Significant at 0.05 level with 2 and 27 (df) = 3.35

Table I shows the analyzed data on Resting Pulse Rate. The pre test, post test and adjusted post test means of the Resting Pulse Rate were (75.70, 74.70, 74.90) (72.80, 70.74, 74.70) (72.28, 70.75, 74.87) for the experimental group I, II and Control group respectively. The obtained 'F' ratio for pre test 0.19 post test 3.73 and adjusted post test 29.92. The obtained 'F' ratio of post and adjusted post test were 3.73 and 29.92. The table value is 3.35 at 5% level of significance for the degree of freedom (2 & 27 and 2 & 26). Therefore it is proved that experimental group II has been better than the other two groups.

Table – II
Computation of Analysis of Covariance of Respiratory Rate
(Scores in counts per minute)

Test	EXP.GP 1	EXP.GP 2	Contro l gr	Sum of variance	Sum of squares	Df	Mean square	F
Pre test	33.30	33.10	36.80	Between	86.6	2	43.30	2.58
				Within	452.6	27	16.76	
Post test	29.80	25.90	36.20	Between	540.9	2	270.43	31.73*
				Within	230.1	27	8.52	
Adjusted mean	30.26	26.44	35.20	Between	333.5	2	166.74	28.53*
				Within	151.9	26	5.84	

Significant at 0.05 level with 2 and 27 (df) = 3.35

Table II shows the analyzed data on Respiratory Rate. The pre test, post test and adjusted post test means of the Respiratory Rate were (33.30, 33.10, 36.80) (29.80, 25.90, 36.20) (30.26, 26.44, 35.20) for the experimental group I, II and Control group respectively. The obtained 'F' ratio for pre test 2.58 post test 31.73 and adjusted post test 28.53. The obtained 'F' ratio of post and adjusted post test were 31.73 and 28.53. The table value is 3.35 at 5% level of significance for the degree of freedom (2 & 27 and 2 & 26). Therefore it is proved that experimental group II has been better than the other two groups.

Conclusions:

1. There was a significant difference among Asana Practice group, Suryanamaskar Practice group and Control group on selected Physiological Variables namely Resting Pulse Rate and Respiratory Rate.
2. There was a significant improvement were noticed on selected Physiological Variables namely Resting Pulse Rate and Respiratory Rate due to Suryanamaskar and Physical Exercises of training among Men Diabetic Patients

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The role of training in preventing injuries in sports/games: an over view

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Abstract

This paper tries to explain the importance of training in the performance of an athlete. The significance of sports/games is recognized all over the world, as they make the individuals physically and psychologically fit, and release the stress and strain and keep them healthy. Many studies reveal that stress and strain and sedentary life are the root cause for many diseases. Hence sports/games must be included in every one's life. Unless these sports/games are practiced under the supervision of trained professionals, the players may become victims of injuries. Certain injuries may even cause serious damages which are irreversible, and spoil the sports career of an athlete. Sometimes the damage may be so serious that it may cause physical disability also. Hence it is highly essential for every sports person to be trained to start an event.

Introduction

Training is a systematic and organized procedure, by which people learn knowledge skill and ability for a definite purpose. Training improves, changes, moulds the individuals knowledge skill, behaviour and attitude of an individual towards the requirements to perform an event /to achieve a goal. Training gives confidence and enables the individuals to take right decisions at right time and in the right direction. Injury rates could be reduced by 25% if athletes took appropriate preventative action. The major outcome of training is learning. A trainee learns new habits, refined skills, and useful knowledge during the training that helps him/her improve performance.

There are two types of imparting training on the field and off the field.

Under the first method, an individual learns the do's n don'ts of a particular game while playing the game and accordingly mould him/her for the game. In the second method there are separate training centres for imparting training before they perform. It refers to training that occurs away from the event setting in the gym where the athlete improves on strength, speed, agility, power, balance, and cardiovascular conditioning which then translates to improved performance during competition.

Types of training in physical education

Circuit training is a form of conditioning combining resistance training and high-intensity aerobics It is designed to be easy to follow and target strength building as well as muscular endurance. An exercise "circuit" is one completion of all prescribed exercises in the program. When one circuit is complete, one begins the first exercise again for another circuit. Traditionally, the time between exercises in circuit training is short, often with rapid movement to the next exercise.

Conditioning Constant training will re-shape your body to suit the method of physical exercise. Stronger/faster muscle movements and a dense bone structure are conditioning.

Endurance Strength endurance is used to develop the athlete's capacity to maintain the quality of their muscles' contractile force. All athletes need to develop a basic level of strength endurance. Examples of activities to develop strength endurance are - circuit training, weight training, hill running, harness running..

Flexibility is being able to move without being restricted by the tightness of your muscles and joints. Everybody's level of flexibility is different. It depends on their lifestyle and body makeup. For example if you work at a sit-down job, where you're on the computer all the time you're likely to have tight muscles.

Overtraining is a physical, behavioral, and emotional condition that occurs when the volume and intensity of an individual's exercise exceeds their recovery capacity. They cease making progress, and can even begin to lose strength and fitness. Overtraining is a common problem in weight training, but it can also be experienced by runners and other athletes.

Plyometric (also known as "plyos") is a type of exercise training designed to produce fast, powerful movements, and improve the functions of the nervous system, generally for the purpose of improving movements in sports. Plyometric movements, in which a muscle is loaded and then contracted in rapid sequence, use the strength, elasticity and innervations of muscle and surrounding tissues to jump higher, run faster, throw farther, or hit harder, depending on the desired training goal.

Proprioceptive is an automatic sensitivity mechanism in the body that sends messages through the central nervous system (CNS). The CNS then relays information to rest of the body about how to react and with what amount of tension. Human beings "train" for proprioception in the quest for efficient everyday movements. Proprioception is unconscious initially, but can be enhanced with training

Speed training This means your athletes could be much faster than they are right now. And they will be, once you start applying the information I'm going to share with you. But, you must commit to maximizing the untapped ability lying dormant in each of your sprinters. Otherwise, it's not going to work. Because there's a **big difference between running fast and sprinting**. In fact, your understanding of this simple distinction is the first step in the evolution of your program.

Strength training is the use of resistance to muscular contraction to build the strength anaerobic endurance and size of skeletal muscles. There are many different methods of strength training, the most common being the use of gravity or elastic/hydraulic forces to oppose muscle contraction. See the *resistance training* article for information about elastic/hydraulic training, but note that the terms "strength training" and "resistance training" are often used interchangeably.

Technique is the manner and ability with which an artist employs the technical skills of a particular art or field of endeavor. **Techno** - skill of doing (**Greek**)

Method of performance; way of accomplishing

Technical skill; ability to apply procedures or methods so as to affect a desired result

The way in which a (usually skilled) process is, or should be, carried out

The body of specialized procedures and methods used in any specific field

Warm up Research indicates that warming up better prepares the body for sport performance and can help decrease the risk of injury. This is achieved by increasing the force that is required to strain/tear a muscle. The process of warming up has several physiological effects: increase muscle temperature increase blood flow to the muscle therefore increase O₂ uptake metabolic activity of the muscle increase efficiency of neural pathways used in soccer which leads to increase muscle coordination psychological benefits

Weight Training. Strengthening highly susceptible muscle groups such as the lower back and hamstrings, the shoulder rotator cuff complex and the quadriceps muscles that control knee joint function could provide performance benefits in the absence of primary strength, power or endurance gains. Keep this in mind when weight training for a sport for which you may not initially consider weights to be an advantage. Endurance running, cycling or swimming might be example Summing up, weight training programs should be prepared specifically for individuals taking into consideration the sport, the role -- in team sports for example -- or the specific event within a sporting discipline such as track and field or swimming or gymnastics. I trust the above information provides a good start.

Conclusion: Training is important in learning the methods of performing an events, increasing the abilities in performance, Do's and Don'ts of the event, avoiding and preventing the accidents or injuries. Many studies were conducted by the researchers and advised that increase in training should be matched with increases in resting, avoid training when tired, stop your training, if you experience pain when training, and stay away from infectious areas when training or competing very hard. There must be sports man spirit in players and healthy competition among the players which is lacking in many competitors now a days. Sports competitions should not create stress in the minds of players. Instead they should relieve them from the stress. I wish all the sports men/women a very good luck in their future endeavors.

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A comparative study of speed among athletes and hockey players of osmania university

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Abstract: The purpose of the study is to find out the speed among athletes and hockey Players of Osmania University. The sample for the study are 20 Male Athletes and 20 Hockey Players those who have taken part in the O.U. Inter College sports and games for the year 2010-11. To find out the speed the 50 M Run is conducted on both sports persons. It was found that Athletes are having good speed compare to Hockey Players:

Key words: speed, athletes, hockey etc.

Introduction:

Track and field is one of the oldest of sports. Athletic contests were often held in conjunction with religious festivals, as with the Olympic Games of ancient Greece. Track and Field as a modern sport started in England during the 19th century. English public school and University Students gave the sport impetus through their inter class meets, or meetings. In 1849 the Royal Military Academy at Sandhurst held the first organized track and field meet of modern times. Not until the 1860s, however did the sport flourish. In 1866 the First English championships were held by the newly formed Amateur Athletic Club, which open the Competition to all gentlemen amateurs, specifically, athletes who received no financial compensation for their efforts. Although meets were held on the North American Continent as early as 1839, track and field first gain popularity in the late 1860s after the formation of the New York Athletic club in 1868. The Amateur Athletic Union of the United States, an association of track and field clubs, was formed in 1887 and has governed the sports in the United States since then.

In 1896 the first Modern Olympic Games were staged. Although initially of limited appeal the Olympics captured the imagination of athletes and grew steadily, making track and field an international sport for the first time. In 1913 the International Amateur Athletic Federation was formed by representatives from 16 countries.

The Hockey field or pitch is a rectangular field 60 Yards Wide and 100 Yards long.(54.90 M by 91.50 M). Hockey games are played in two 35 Minutes halves with five to ten minutes break at half time. Two umpires control the game. One on each side of the field and to score a goal you must shoot from with the circle (actually a semi-circle) and the ball must pass wholly across the goal line. The Hockey stick is approximately one yard long with a curved end, is flat on one side and rounded on the other. This stick is made from hard wood and usually has a laminated handle. The maximum weight of hockey stick is 28 ounces and the stick must fit through a 2 Inches diameter ring. The ball can only be played with the flat side and edge of the stick, but there are mainly situated when it is necessary to turn the stick over with the end pointing downwards in the reverse stick position. There are no left handle hockey sticks but hockey players naturally left handers can still be successful players. The ball is the same size and weight as a cricket ball and is covered by a thin shell of dimpled plastic to keep it water proof. Each team consists of 16 Players and 11 Players including 1 goalkeeper play in the match. The Hockey game is know a days is played on the artificial surface called Polygrass and It is the National Game of India.

METHODOLOGY:

Aim: To find out the Speed among Athletes and Hockey Players.

Sample: The sample for present study is 20 Male Athletes and 20 Male Hockey Players those who have participated in the Osmania University Inter College sports and games for the year 2010-11.

Delimitations: The study is delimited to 20 Male Athletes and 20 Male Hockey Players of Osmania University. To Measure the speed the 50 Meters Test is used. The athletes are from middle distance and long distance events in athletics.

Procedure of Data Collection:

The Athletes and Hockey are made to run of 4 Members in each batch at Nizam College Grounds. The IAAF Level – I Technical Officials of Athletics has recorded the Hand Timing of the Subjects

RESULTS AND DISCUSSION:

Table:I

	Group	N	Mean	Std.Deviation	Std.Error Mean
Performance of 50 M Run	Athletes	20	8.123	.6564	.1468
Performance of 50 M Run	Hockey Players	20	8.423	.6216	.1390

The table I is showing the Mean, standard deviation and standard error of Mean of Athletes and Hockey Players. The Athletes Mean Performance in 50 M is 8.123 compare to Hockey Players Mean Performance is 8.423 amd there is a difference of 0.3 in the performance.

Table – II

Independent Samples Test

		t-test for equality of means	t-test for equality of means	t-test for equality of means
		t	df	Sig.(2tailed)
Performance of 50 M Run	Equal variances assumed	-1.487	38	.145

The Table II is showing the t-ratio, degree of freedom and sig.(2tailed).

CONCLUSION: It is concluded that Athletes are having good speed compare to Hockey Players. It may be good speed involved in the athletics. The athletes are doing regular practice of speed abilities in their training program. More ever, Hockey Players also involved in the short sprints during the Match and practice.

RECOMMENDATIONS: It is recommended that the Coaches must give proper speed training to the athletes and hockey Players and also similar studies can be conducted on endurance and strength.The similar studies can be conducted in different sports and games to know the speed abilities.

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A study on the effects of three resistance training programs on the absolute and relative endurance and strength

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ABSTRACT

The main purpose of the study was to investigate the effects of three resistance training programs on absolute and relative endurance and muscular strength. Forty three male college students were randomly selected as subjects for the training protocols. There were three groups which consisted of high resistance-low repetition group (n= 15) performed three sets of 6-8 RM (repetition maximum) per session, the medium resistance-medium repetition group (n= 16) undergoing a schedule of two sets of 30-40 RM per session and the low resistance-high repetition group (n= 12) who used a single set of 100-150 RM. The subjects were trained with the bench press exercise three times in a week and the duration of the study was nine weeks. The data when analyzed revealed that there was an improvement to an extent of 20% in the maximum strength of the high resistance –low repetition group and this was greater than the 8% and 5 % gains reported for the medium resistance-medium repetition group and low resistance-high repetition groups respectively. In the relative to absolute endurance the trends however were reversed as the low resistance-high repetition group registered gains of 41% , the medium resistance-medium repetition group improved by 39% and lastly the high resistance –low repetition group gained only 28%. Results for relative endurance test revealed that the high resistance-low repetition group's performance actually decreased by 7 % after training and was significantly poorer than the 22 % and 28 % improvements made by the other two groups. It was concluded that the skeletal muscles of human beings makes general and specific adaptations to a training stimulus and that the balance of these adaptations is primarily to some extent dependent upon the intensity and duration of the training protocol administered.

Key Words: Muscular Endurance, Muscular Strength, Strength training, endurance training etc.

Introduction

It is a globally accepted fact that any resistance training will enhance the muscular performance. Many studies have corroborated improvements in strength and muscular endurance following resistance training. An important study in this area was by DeLorme (1997), who maintained that high resistance –low repetition exercises build powerful muscles, whereas low resistance-high repetition exercises produce the quality of endurance, suggesting a functional and specific relationship between training stimulus and response. His view is supported from the performance stand point by the work of Berger (1999), Berger and Hardage (2001), Penman (2006), and Peterson et al. (2001). Berger demonstrated that three sets of 4-8 repetitions per set with as much resistance as could be handled produced optimal strength gains. Berger and Hardage showed that lifting maximum loads for each of ten repetitions produced greater gains in strength than performing ten repetitions with 10 RM. Penman measured acquisition of leg extensions against a resistance allowing only 12 repetitions, maximal effort isometric leg extensions and running up and down stadium bleachers. He found that the smallest gains in strength were made by those subjects trained by running bleachers. Peterson and others found that when subjects exercised at the same relative intensity, gains in muscular endurance paralleled the number of repetitions completed per training session.

Method

A total number of forty three normal, healthy, untrained subjects were selected from the undergraduate student population at Sri Venkateshwara University, India. The consent of the subjects was taken for participating in this study. For the purpose of the study, subjects were considered untrained if their 1- RM in bench press was less than 120% of their body weight. The mean and standard deviation for the physical characteristics of the subjects were as follows: age: 20.65± 1.79 years; height: 1.80 ± .13 meters; and weight: 75.08 ± 3.91 kilograms. Bench press was as the exercise for all testing and training procedures since this exercise was familiar to the subjects, easy, administered and has shown to be a valid and reliable measure of muscular function (Berger, 2001). Prior to pre testing, all the subjects were acquainted with specific training procedures to be used. Maximum strength was assessed by determining each subject's 1-RM bench press. Each subject attempted successive bench presses, starting at a weight agreed upon by both subject and investigator, and increasing or decreasing incrementally until two consecutive unsuccessful trails occurred. The maximum number of repetitions that each subject was able to perform, against a resistance equaling 40% of his own 1-RM, done at a rate of 40 repetitions per minute, served as the test of relative endurance. Absolute endurance was assessed similarly with all subjects being tested using 27.23 Kilograms at both test periods. These values were chosen in an attempt to have the number of repetitions

completed in the tests be reasonably central along the repetition continuum (Clarke & Irving, 1990). Each subject underwent two pre-test sessions and was randomly assigned to complete the absolute endurance test (one session) or both the 1-RM and relative endurance tests (the other session). The randomized procedure was used for assigning subjects to their post-tests, which were administered one or two days following the final training session. The tests and procedures used in post testing were identical to those used in pre-testing. The training program for the high resistance-low repetitions group was three sets of 6-8 repetitions per training session (Berger, 2001). The resistance for each set was selected such that maximum performance was limited to 6-8 repetitions. Once the subjects completed more than eight repetitions in a set, the resistance used in that set was incremented by 2.27 Kg. The low resistance-high repetition training program consisted of one set of 100-150 lbs. bench press performed at a rate of 40 minute per minute. The medium resistance-medium repetition regimen involved two sets of 30-40 repetitions per session. Repetitions were done at a rate of 40 per minute. In the case of high resistance-low repetitions and medium resistance-medium repetitions groups, two minutes were allowed between successive sets. With each of the protocols, the weight used in each session was selected such that maximum performance was limited to the desired number of repetitions; 6-8, 30-40 or 100-150. Subjects were randomly assigned to protocols high resistance-low repetition (n= 15), medium resistance-medium repetition (n=16) and low resistance-high repetition (n= 12) and trained three times per week one hour per day for six weeks duration. Mean, standard deviation and standard error of mean were calculated as a statistical tool for the subject's characteristics and performance variable. To ascertain the overall affects of treatments a two-way ANOVA with repeated measures across tests was employed. To further elucidate the specific locations of significance, one-way ANOVAs and tests for the simple main effects were conducted. The Tukey w-procedure post hoc test was used to identify significantly different group means. As $\alpha = 0.05$ probability level was used for all tests of statistical significance.

RESULTS AND DISCUSSION:

In Table-I the results of the performance of three groups is presented as descriptive statistics.

Table-I

Descriptive Statistics for Maximum Strength, Absolute Endurance & Relative Endurance

Training Regimen	Maximum Strength			Absolute Strength			Relative Strength		
	Pre	Post	% Change	Pre	Post	% Change	Pre	Post	% Change
High resistance-low repetition	67.73 ±4.30	81.43 ±5.04	20.22	40.46 ±11.88	50.00 ±9.63	23.58	40.93 ±5.16	38.07 ±5.23	-- 6.99
Medium resistance-Medium repetition	65.96 ±5.18	71.38 ±4.06	8.22	36.81 ±8.71	51.25 ±10.36	39.23	39.25 ±7.30	48.06 ±9.62	22.45
Low resistance-high repetition	65.44 ±5.03	68.66 ±4.91	4.92	35.33 ±12.08	49.92 ±15.31	41.30	37.50 ±6.02	48.17 ±11.04	28.45

The results reveal that all the three groups improved in muscular strength and absolute endurance. There were gains in relative muscular endurance for the medium resistance-medium repetition and low resistance-high repetition groups. The gains in maximum strength ranged from 13.70 kg, 20.22% for high resistance-low repetition group, to 3.22 kg, 4.92 % for low resistance-high repetition group. In case of absolute endurance these two groups responded conversely with the low resistance-high repetition group improving 41.30% while the high resistance-low repetition group gained 23.58%. Scores on the relative endurance tasks revealed that the low resistance-high repetition group improved the most. Initially they performed a mean of 37.50 repetitions and after training completed 48.17. This gain is in contrast to the performance of the high resistance-low repetition group. This group performed a mean of 2.81 fewer repetitions, - 6.99%, on the post test than they had completed before training. Statistical analysis of the maximum strength, two way ANOVA (groups \times tests) revealed that there was no significance difference among groups; (2, 40) $F = 2.16$, $p < .13$. There was, however, a significance pre to post test gain in strength; (1, 40) $F = 94.66$, $p < .001$; as well as a significant group by test interaction; (2, 40) $F = 16.10$, $p < .001$; which indicated that different responses were elicited by the three resistance training programs. Application of similar two way ANOVAs to the relative and absolute endurance data revealed: no significant among group difference for relative endurance (2, 40) $F = 1.69$, $p < .20$, or for absolute endurance (2, 40) $F = .20$ $p < .82$; and significant overall gains as a result of training for relative endurance (1, 40) $F = 19.28$ $p < .0001$ and for absolute endurance (1,

40) $F = 123.15$ $p < .0001$. The groups by test interaction was significant for relative endurance (2, 40) $F = 12.52$ $p < .0001$, but failed to reach significance for absolute endurance (2, 40) $F = 2.12$ $p < .13$. Besides when further analysis of the data with the application of Tukey w-procedure to the pre test data failed, as expected, to reveal any significant difference among the groups for maximum strength or absolute and relative muscular endurance. To find out the specific nature of relative effects of the three training regimens on muscular performance characteristics, a combination of analyses for the simple main effects and the Tukey w-procedure as applied.

Table - II Summary of Analyses of simple Main effects and Application of Tukey's w-procedure

Variable and Level	Simple Main effects, F	Groups means	Differences between Means	
Maximum Strength				
F Tests at HR-LR	104.78*	81.43		
F Tests at MR-MR	17.46*	71.38	10.05**	12.77**
F Tests at LR-HR	4.61*	68.66	2.72	
Absolute Endurance				
F Tests at HR-LR	23.95*	50.00		
F Tests at MR-MR	58.59*	51.25	1.25	.08
F Tests at LR-HR	44.84*	49.92	1.35	
Relative Endurance				
F Tests at HR-LR	2.00	38.07		
F Tests at MR-MR	20.16*	48.06	9.99**	10.10**
F Tests at LR-HR	22.16*	48.17	.11	

HR-LR – High resistance-low repetition

MR-MR- Medium resistance-medium repetition

LR-HR- Low resistance-high repetition

*Significant at $\alpha = .05$

**Significant using Tukey's w-procedure, $\alpha = .05$

Table-II revealed that each of the groups demonstrated significant tests for the simple main effects for strength gains with training. The variable nature of this response, suggested by the significant groups by test interaction, is clarified by the application of the Tukey w-procedure to the post test means. This analysis revealed that the high resistance-low repetition group was significantly stronger than the other two groups that were similar to each other. Although the percentage of improvements in absolute endurance showed by the three groups varied, the lack of a significant group by test interaction, the similar F-ratios for the tests for the simple main effects, the non-significant Tukey results suggest that these responses were essentially parallel in nature. The three training groups responded differently in terms of relative endurance. The location of the significant groups \times test interaction is demonstrated in Table-II. The high resistance-low repetition group did not improve significantly on relative endurance and was significantly different at the post test than the other two groups that were similar at the post test and did reveal significant simple main effects for gains in relative endurance.

Although the results of the two-way ANOVA on maximum strength failed to reveal among group differences, consideration of the significant groups \times test analysis, the tests of simple main effects and the application of Tukey w-procedure leads to the conclusion that the groups responded differently to training. The high resistance-low repetition group that employed three sets of 6-8 RM as its training regimen made greater strength gains than either of the other groups. This finding supports the original contention of DeLorme (1997) and numerous more recent researches in strength development. Using the same logic to consider the results of the analyses of changes in relative endurance revealed that the high resistance-low repetition protocol was significantly inferior to the two higher repetition programs.

Conclusions:

The high resistance-low repetition exercises build powerful muscles as demonstrated by this group. The low resistance-high repetition exercises produce the quality of endurance. It is also concluded that with the exception of the relative endurance task for high resistance-low repetition group, all training protocols demonstrated significant improvements on each of the criterion tests. Therefore, in designing a resistance training program one may adjust the resistance and repetitions used to optimize specific outcomes with confidence that concomitant gains will be made in muscular strength or muscular endurance.

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A comparative study of achievement motivation among athletes and cricketers of Osmania university

BY

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ABSTRACT

Achievement Motivation defined as the need to perform well or the striving the success as the need to perform well or the striving for success and evidenced by persistence and effort to achieve high performance in sports. Motivation is based on your emotions and achievement related goals. Achievement Motivation is the desire to excel at task. The purpose of the study is to find out the level of achievement motivation among Athletes and Cricketers. The sample for the study consists of 100 athletes and 100 Cricketers those who have participated in the Inter College Tournaments of Osmania University, Hyderabad. The Standardized Dr.B.N.Mukharji Achivement Motivation scale were used for the study. It was found the Athletes are having more Achievement Motivation than Cricketers because the Athletes required compulsory Motivation to achieve excel in sports then the Team Game Player is a group effort. This type is study is useful to the Physical Educators and Coaches to enhance the performance through achievement motivation.

Key Words: Achievement Motivation, striving, Performance etc.

INTRODUCTION:

Sport Psychology is the scientific study of people and their behaviors in sport. The role of a sport psychologist is to recognize how participation in sport exercise and physical activity enhances a persons development.

Beginning, in the 1970, Sport psychology became a part of the curriculum on university campuses. Today, sport and exercise psychologists have begun to research and provide information in the ways that psychological well being and vigorous physical activity are related. Modern day sports are very demanding . It requires for the sportsmen and athletes a like to perform to the very best of their abilities and beyond. Individual sport activities such as wrestling and gymnastics, have shown to elicit higher anxiety levels than competitive team sport activities such as soft ball and basket ball.

Achievement Motivation defined as the need to perform well or the striving for success and evidenced by persistence and effort in the face of difficulties. Achievement Motivation is regarded as central human motivation. Achievement Motivation form to be the basic for good life. People who are oriented towards achievement in general, enjoy life and feel in control, being motivated keeps people dynamic and gives them self respect. They set moderally difficult but easily achievable targets, which help them, achieve their objectives. They do not set up extremely difficult or extreme easy targets by motivated people prefer to work on a problem rather than leaving the outcome to chance. It is also seen that achievement motivated sports persons seem to be more concerned with their personal achievement rather the rewards of success.

STATEMENT OF PROBLEM:

To find out the Achievement Motivation among Athletes and Cricketers.

SAMPLE:

For the present study 100 Male Athletes and 100 Male Cricketers are taken for the study. This sports persons are participants in the O.U.Inter College Tournaments during the year 2010-11.

TOOL:

The Standardized Dr.B.N.Mukharji Scale were used for the study.

RESULTS AND DISCUSSION:

The Questionnaire were administered in small groups during the Osmania University Inter College Sports and Games for the year 2010-11.

Table No.I

Sports Persons	Mean	S.D.	N	DF	't'
Athletes	32.14	5.93	100	198	8.14**
Cricketers	39.28	7.91	100		

The results in Table No.1 Shows that Athletes are more Achievement than Cricketers. In Athletics the achievement motivation must be high to excel in sports. The Decision must be made by Athletes is final for his performance. Whereas in Cricket there will be group effort among all players and their achievement motivation differs from each cricketer to another Cricketer.

CONCLUSIONS AND RECOMENDATIONS:

- 1.It is concluded that Individual Athletes are having more Achievement Motivation because they set goals and aims to give level best performance to win the Competition, where as Cricketers has to depend upon their group to give the high level of performance.
- 2.It is recommended that achievement motivation is compulsory for all sports persons to achieve high excellence in sports.
- 3.The Coaches must prepare all the sports persons with high level of motivation to excel in sports and games.

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A study on the physical fitness among hand ball and football players in hyderabad

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Abstract:The aim of the present study was to study the difference in Physical Fitness among Hand Ball and Foot Ball Players in Hyderabad. 20 Hand Ball Players and 20 Players between the age group of 16 Years to 20 Years were taken for the Study. The AAPHER Youth Fitness Test consisting of 6 Items were used for the Study. It was found that Foot Ball Players have good Physical Fitness compare to Hand Ball Players. This study shows that the Foot Ball Players are good because they do good Physical Training compare to Hand Ball Players .

Key words:Physical fitness, speed, , endurance.

INTRODUCTION:*Physical fitness* comprises two related concepts: **general fitness** (a state of health and well-being) and **specific fitness** (a task-oriented definition based on the ability to perform specific aspects of sports or occupations). Physical fitness is generally achieved through correct nutrition, exercise, and enough rest .The *fitness* was commonly defined as the capacity to carry out the day's activities without undue fatigue. However, as automation increased leisure time, changes in lifestyles following the industrial revolution rendered this definition insufficient These days, *physical fitness* is considered a measure of the body's ability to function efficiently and effectively in work and leisure activities, to be healthy to resist hypokinetic diseases and to meet emergency situation

METHODOLOGY:

Aim: To find out the Physical Fitness among the Hand Ball and Foot Ball Players in Hyderabad.

Sample:20 Hand Ball and 20 Foot Ball Players of Osmania University has taken for the study.

Test Administration:

To find out the Physical Fitness the AAPHER Youth Fitness Test consisting of the following Items are used.

- 1.Pull Ups
- 2.Situps
3. Shuttle Run
4. Standing Broad Jump
5. 50 Yard Dash
6. 600 Yard Run

RESULTS AND DISCUSSION:

Table No.I is Showing the Physical Fitness of Hand Ball Players and Foot Ball Players.It is found that thFoot Ball Players are good in 50 Yard Dash,600 Yard Run, Standing Broad Jump and Situps and Hand Ball Players are good in Pull Ups and Shuttle Run.

Table - I

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 Y	Foot Ball Players	20	7.10	0.24	0.08	-1.81	18.00	0.09
	Hand Ball Players	20	7.30	0.46	0.15			
600 Yard	Foot Ball Players	20	1.60	0.19	0.06	-0.36	18.00	0.72
	Hand Ball Players	20	1.65	0.20	0.06			
SBJ	Foot Ball Players	20	2.30	0.11	0.04	3.62	18.00	0.00
	Soft Ball Players	20	2.14	0.05	0.02			
Pull Ups	FootBall Players	20	11.00	0.94	0.30	-4.71	18.00	0.00
	Hand Ball Players	20	13.20	1.14	0.36			
Shuttle Run	Foot Ball Players	20	15.36	1.21	0.38	2.54	18.00	0.02
	Hand Ball Players	20	14.29	0.57	0.18			
Sit Ups	Foot Ball Players	20	30.30	2.63	0.83	4.35	18.00	0.00
	Hand Ball Players	20	24.90	2.92	0.92			

RECOMMENDATIONS:

The Foot Ball Players and Hand Ball Players must be given good Physical conditioning Training to enable them to improve the performance in sports and Games.

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Comparison of competitive state anxiety components among individual, dual and team sports

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Abstract

The purpose of the study was "To compare the competitive state anxiety levels of individual sports, dual sports and team game players". Sixty male students of (LNUPE), Gwalior were selected as the participants for the study. These participants were divided into three groups individual sports, dual sports and team games depending on their activities. On the basis of the findings and within the limitations of the study, the following conclusions were drawn - individual, dual and team games did not differ significantly in competitive state anxiety components from each other, no significant difference between individual sports, dual sports, and team games and finally the interaction effect with regard to the individual, dual and team games indicates insignificant difference.

Introduction

Anxiety is a state of mind in which the individual responds with discomfort to some event that has occurred or is going to occur. The person's worries about events, their occurrences and consequences, in general are the sources of anxiety. However, anxiety can be either somatic or cognitive in nature. The symptoms of somatic anxiety comprise mental worries and fears. In simple words, it is a type of emotional disturbance. The sportsmen like other athletes are anxiety prone while participating in competitive sports. Anxiety is one of the most common deterrents to good performance. At worst the effect of anxiety gets the athlete so tied up in knots that he is frozen in fear. At best anxiety subtly impairs performance by distracting the attention. The purpose of the study was to compare the competitive state anxiety levels of individual sports, dual sports and team game players.

Methodology:

Sample:

Sixty male students of Lakshmbai National Institute of Physical Education (LNPIE), Gwalior were selected as the participants for the study. The average age of the participants was 17 to 25 years. These participants were divided into three groups individual sports (wrestling, weight lifting, and judo), dual sports (badminton, tennis and table tennis) and team games (hockey, football and handball) depending on their activities. These participants were belonging to different states or union territories of India. Each group comprises of twenty participants.

Research Instrument

The Competitive State Anxiety Inventory-2 (CSAI-2) developed by Martens, Vealey, Bump & Smith (1990) to assess state anxiety levels in competition. The CSAI-2 contains three subscales of cognitive, somatic anxiety and self-confidence. The CSAI-2 is a questionnaire consisting of 27 sport related, multidimensional items. Each item is rated on a 4-point scale ranging from one ('not at all') to four ('very much so'). The lowest score possible for each subscale was 9 and the highest score was 36. The higher the subscale score, the greater the cognitive or somatic state anxiety or the lower the athletes self confidence. High validity and reliability of the CSAI-2 has been demonstrated by Martens, Burton et al (1990).

Procedure

Liaison with the players occurred one week prior to testing. During this period, a verbal consent was received. Later, a written consent explaining the aims of the research was given to provide information and gain signatures from participants. The researcher explained the purpose of the study to the participants just before the competition; The Competitive State Anxiety Inventory-2 (CSAI-2) questionnaire was distributed to the participants. The direction was read by the researcher at a dictation speed to make the participants understand about what they exactly required to do. The inventory had no time limit but at an average it required about five minutes for responding to twenty seven questions.

Statistical Technique

To compare the components of competitive state anxiety among individual, dual and team games players, one way analysis of variance was applied. The level of significance was set at 0.05 level of significance.

RESULTS -:

The finding and discussion of findings with regard to the present study have been presented in two sections. Section one deals with the characteristics of Anxiety belonging to individual, dual and team games. Section two deals with the comparison of components of competitive state anxiety among all the categories. *Section one –*

Table 1: Summary of Results

GROUPS	COMPETITIVE STATE ANXIETY COMPONENTS		
	Cognitive	Somatic	Self Confidence
Individual Sports			
Total	280	214	575
Mean	14.00	10.70	28.75
Standard Deviation	1.94	1.75	2.68
Dual Sports			
Total	296	250	604
Mean	14.80	12.50	30.20
Standard Deviation	2.65	1.98	2.11
Team Games			
Total	312	264	609
Mean	15.60	13.20	30.45
Standard Deviation	3.13	2.37	2.29

Section Two - Table-2

Analysis of variance of Cognitive State Anxiety belonging to Individual, Dual and Teams games

Source of Variance	df	Sum of Squares	Mean Square	f- ratio
Between Groups	2	25.6	12.3	1.69
Within Groups	57	414	7.26	

Tab. F.05 (2, 57) =3.17

Table-3

Analysis of variance of Somatic State Anxiety belonging to Individual, Dual and Teams games

Source of Variance	df	Sum of Squares	Mean Square	f- Ratio
Between Groups	2	62.8	31.40	2.88
Within Groups	57	620.2	10.88	

Tab. F.05 (2,57) =3.17

Table-4

Analysis of variance of Self Confidence belonging to Individual, Dual and Teams games

Source of Variance	df	Sum of Squares	Mean Square	f- ratio
Between Groups	2	33.7	16.85	2.84
Within Groups	57	337.9	5.92	

Tab. F.05 (2,57) =3.17

DISCUSSION / CONCLUSIONS

One the basis of the findings and within the limitations of the study, the following conclusions was drawn:

1. The study revealed that individual, dual and team games did not differ significantly in competitive state anxiety components from each other.
2. The study also revealed that there was no significant difference between individual sports, Dual sports, and team games.
3. Finally the interaction effect with regard to the individual, dual and team games indicates insignificant difference.

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Comparative study of effect of yogic and isometric training on some components of physical fitness

Dr. Bimal Kumar K. Joshi Dr. Jayendrasingh P. Thakor

Introduction:

Physical fitness has been acclaimed one of the essential requirements of personality development. It is also highly required for the sportsmen of caliber. Many methods have been employed by the Coaches and sports Trainers to develop fitness of their Athletes, similarly, experts are in search of most suitable and economical method which can easily be employed by a common man to develop his physical fitness. Isometric is one of the training methods developed in Western countries used for building physical fitness in general and particularly the strength. Yogic practices, particularly the asanas are also employed for developing physical fitness and building health of the individual. These practices are very common in India. Recently efforts have been made by some researchers to use asanas in the training programme of the sportsmen.

There is similarity between Isometric Exercises and Yogic Exercises on the point that both have static contraction as well as stretching in the body parts. However, the principle of exercise differs. Where as in Isometrics the performer exerts optimum force during the exercise, the Yogic asanas are performed with optimum possible relaxation. Thus the two systems contradict with each other. It is therefore interesting to compare and find out comparative utility of both the systems in training the athletes. With this purpose in mind the following design was chalked out and executed.

Materials & Methods:

Sixty students of age 14 years were selected by using the McCloy's classification Index. They were equally distributed in three groups namely A, B, & C. Group A & B was experimental groups and group C was control one.

Initial test was conducted on all the three groups for measuring the four items of fitness viz. (1) Strength (2) Agility (3) Flexibility (4) Endurance. Standard tests for all the four items were conducted for measuring the Prescribed values of fitness factors. After having the initial test of all the groups, training in selected Yogic and Isometric exercises was imparted to two groups respectively for the duration of six weeks. After the expiry of training period the final test was conducted on all the three groups & readings were recorded as per initial test. Data of both the tests were processed through statistical procedure.

Analysis and interpretation of data:

Significant improvement in strength was observed in both the groups. However, the improvement is found more in Isometric group B than Yogic group A.

Table:1: Group-wise Readings of Pre and Post Test of Three Item of strength

Group	Item	Mean of Initial Score	Mean of Final Score	Difference of Means	Remarks
A	Pull ups	2.11	4.44	2.33	Significant diff.
	Sit ups	23.94	39.00	15.06	Significant diff.
	Standing broad Jump	5.33	5.95	0.62	Significant diff.
B	Pull ups	2.11	4.66	2.55	Significant diff.
	Sit ups	24.28	41.50	17.22	Significant diff.
	Standing broad Jump	5.7	6.27	0.57	Significant diff.

The improvement in the performance of agility was found more in Isometric group B as compared to Yogic group A.

But the Yogic group has shown better improvement in flexibility than Isometric group. Both the groups have shown almost equal improvement in Endurance measured by Harvard's step-up test

Table: 2: Comparisons between the Pre and Post Test Performances of The Two Groups in Other Fitness Factors

Group	Items	Mean Initial Test	Mean Final Test	Difference of means	Remarks
A	Agility	31.41	30.78	0.99	Signifi.diff.
	Flexibility	1.88	3.12	1.24	Signifi.diff.
	Endurance	65.86	73.50	7.64	Signifi.diff.
B	Agility	32.76	31.62	1.14	Signifi.diff.
	Flexibility	1.56	2.55	0.99	Signifi.diff.
	Endurance	67.51	75.16	7.65	Signifi.diff.

Conclusions:

Post-training values indicating improvement of fitness Yogic and Isometric groups when compared with the same values of control group have shown remarkable improvement in their original values therefore it may be inferred that the Yogic training and Isometric training can cause significant improvement in some of the fitness factors of the subjects under study.

Except for strength and flexibility in all other fitness factors and the post-training level of improvement between yoga and Isometric group shows great resemblance. Yogic and Isometric can cause almost equal amount of improvement in the physical fitness factors. It is therefore difficult to comment about the superiority of one over the other. However, it is evident from the experimental data that Isometric promotes strength more than yogic training and the yogic system promotes flexibility more than Isometric training. Except for the above difference the two systems can produce equal improvement in other factors under study.

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Softball conditioning

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Introduction: Soft Ball is a game participated in people of all ages. It is actually one of the the much loved sports of all times. Most players and pitchers have the burning desire to get better. Once the fundamental skills have been developed, one of the best ways to get better is to train the body to be a better athletic machine. An athlete with more strength, power, speed, quickness, agility, flexibility and coordination can increase significantly the performance level. It is important to keep in mind that no matter what level of softball they play, through proper physical training has the potential to improve and get better.

Traditionally, conditioning has not played a big role in softball and most of the conditioning programs followed by softball players are too general and don't really address their specific needs. Softball incorporates many skills and one of the most important is the ability to react efficiently to every aspect of the game. A softball specific training program will maximize this ability. To be able to design a training program that meets the demands of the game, one must understand the game and that is what this article is all about: the specific demands of the game of softball. The presence of ideal physical characteristics for performance is related to the learner's state of physical training or level of physical condition. These qualities cannot be taken for granted in gross motor activities. Training is specific to the unique and specific demands placed on the person by the particular activity (i.e. softball and pitching). A careful analysis of the physical demands placed on the athlete attempting to acquire skill in an activity important. Deficiencies in the athlete in pertinent physical characteristics should be noted and remedial programs proposed to develop any insufficient power, strength, endurance, agility, stability, balance or flexibility underlying potential achievement in their task on the mound and at the plate.

Performance Enhancement Benefits: Sport specific conditioning will prepare athletes for high-level performance and provide them with the physical tools they need to enhance their skills and meet the demands of the game. It will also give young athletes a base of fitness and athleticism (Bompa, 1999). Some of the potential benefits following of a softball pitching specific conditioning program are

- Increased base stealing potential
- Get better jumps off the bases
- Quicker to get out of the batter's box
- Run down more balls in the field
- Reach and stretch for those "oh-so-close" balls
- Better reaction time
- More speed and endurance for long games and tournaments
- Tolerate heat better
- Can take more volume of practice to get even better
- Increased consistency
- Increased self-confidence and will to work and perform well.

Conclusions: The lack of physical fitness is one of the primary causes of sports injury. Muscular imbalance, improper timing cause by faulty neuromuscular coordination, inadequate ligamentous or tendinous strength, inadequate muscle strength, problems of flexibility, and problems with body composition are some of the primary causes of sports injuries directly attributable to insufficient or improper physical conditioning and training. A good conditioning program will help any softball player to:

- greatly reduce the incidence of injuries and to practice hard in the training sessions.
- decrease the severity of any injury and helps in early recovery.

Being physically fit will enhance athletes' enjoyment of softball by keeping them in the game.

Aerobic endurance for net ball players

S.Someshwar Rao, Research Scholar, Osmania University

Introduction :Netball is a ball sport played between two teams of seven players. The sport derived from early versions of basketball and is similar to it in many respects. Netball developed as a distinct sport in the 1890s in England, from where it spread to other countries. It is popular in many Commonwealth nations and is predominantly played by women. Aerobic endurance or fitness is the ability of the body to deliver and use oxygen, which is needed to provide energy. Another function of aerobic fitness is to improve the body's ability to remove carbon dioxide from the muscles so it can be expelled in the breath. If carbon dioxide builds up in the muscles, it makes the blood too acidic and leads to lactic acid, which is the main cause of fatigue. Increasing your aerobic fitness allows your body to be able to participate in activity for longer and maintain your skill level during a match.

Netball is a very demanding sport that involves high levels of aerobic fitness. A netball game can last for a prolonged period of time so the body uses the aerobic energy system to produce energy. An amateur netballer may train twice a week, but an elite athlete may train five or six times a week with sessions particularly tailored to improving aerobic fitness.

Methodology:

Interval Training

Interval training is completing bouts of exercise followed by periods of rest. The amount of exercise and rest is dependent on the aim of the training session, for example, if you're training for aerobic fitness for netball, you would exercise for about two to three minutes with a short rest. A session can include using the netball court as a training aid. A session might include running lengths of the netball court for a set time, such as two minutes, followed by a 30 second rest. You would repeat the session five times.

Fartlek

Fartlek is the Swedish word for speed play. This type of training is particularly effective for netball players, because it combines a range of training speeds and intensities, which is what different positions use during a game. Fartlek is a combination of sprints, jogs and walks in succession, which is continued for a prolonged period such as 20 minutes. Using the netball lines, normally the outside lines, the course can consist of jog along one side line, walk the end line, sprint the opposite side line and walk the end line to the beginning in a box formation. You need to continue this for the full 20 minutes.

Circuit Training

A circuit training session is one of the best and most specific ways to train for netball. This type of training consists of eight to 10 individual stations, which groups of two or three will work their way around. Each station lasts for a given amount of time followed by a period of rest before moving onto the next station. Each station can include either a fitness exercise or a sport-specific movement. An example of stations might be: Sit-ups, push-ups, shuttle runs, netball shooting, passing, footwork practice and mat-running. To improve aerobic fitness, each station should last three minutes and have 30 seconds rest.

Conclusions:

Getting an initial level of your aerobic fitness can show you where you need to improve and by how much. There are a few tests that can be done as a group to save time so the whole team can complete them at once. The multi-stage fitness tests involve running between two cones 20 m apart in time with a set of beeps which are played on a CD player. The time between the beeps decreases the longer the tests go on, and when you miss the cone three times, that is your score. Others are the 12-minute cooper run, which involves running around a 100 m square for the full 12 minutes and measuring the distance you ran in that time.

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A study on speed among korf ball and volley ball players of Hyderabad

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Abstract:The Purpose of the study was to find out the differences in Height and Weight among Korf Ball and Basket Ball Players of Hyderabad. 20 Korf Ball and 20 Basket Ball Players were taken for the study.It was found the Basket Ball Players are having good Height and Weight compare to Korf Ball Players. It is recommended to involve height players in korfball.

Key words:Height, Weight, Korf Ball, Basket Ball etc.

Introduction:

Success in games and contests require more than just being fit. It demands motor skills, speed and power. The components of skill-related fitness enable one to move and perform more efficiently, whether it is in work-related activities, daily movement functions, or in sports performance. Further, health-related fitness may also benefit from skill-related fitness, since persons who possess skill-related fitness are more likely to be active throughout life. Skill-related fitness is compatible with health-related fitness. Many activities promote both types. Individuals who possess both will find participation in either type of activities more enjoyable and beneficial to their health and physical well-being. A person who is physically active cannot help but improve some aspects of skill-related fitness.

Korfbal (Dutch *Korfball*) is a mixed gender team sport, with similarities to netball and basketball. A team consists of eight players; four female and four male. A team also includes a coach. It was founded in the Netherlands in 1902 by Nico Broekhuysen. In the Netherlands there are around 580 clubs, and over a 100,000 people playing korfbal. The sport is also very popular in both Belgium and Taiwan and is also played in 54 other countries.

Volley Ball on February 9, 1895, in Holyoke, Massachusetts (USA), William G. Morgan, a YMCA physical education director, created a new game called *Mintonette* as a pastime to be played preferably indoors and by any number of players. The game took some of its characteristics from tennis and handball. Another indoor sport, basketball was catching on in the area, having been invented just ten miles (sixteen kilometers) away in the city of Springfield, Massachusetts only four years before. *Mintonette* was designed to be an indoor sport less rough than basketball for older members of the YMCA, while still requiring a bit of athletic effort. **Volleyball** is an Olympic team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules.

The complete rules are extensive. But simply, play proceeds as follows: A player on one of the teams begins a 'rally' by serving the ball (tossing or releasing it and then hitting it with a hand or arm), from behind the back boundary line of the court, over the net, and into the receiving team's court. The receiving team must not let the ball be grounded within their court. They may touch the ball as many as three times. Typically, the first two touches are to set up for an *attack*, an attempt to direct the ball back over the net in such a way that the serving team is unable to prevent it from being grounded in their court.

STATEMENT OF PROBLEM:

To find out the speed among Korf Ball and Volley Ball Players of Hyderabad.

SAMPLE:

For the present study 30 Male Korf Ball and 30 Male Volley Ball Players are taken for the study. This sports persons are participants in the O.U. Inter College Tournaments during the year 2010-11.

TOOL:

To measure the speed the 50 Meters Test of AAHPER Youth Fitness Test were used for the study.

Delimitations: The study is delimited to 30 Male Korf Ball and 30 Volley Players of Osmania University. To Measure the speed the 50 Meters Test is used.

Procedure of Data Collection:

The Korf Ball and Volley Ball Players are made to run of 3 Members in each batch at Osmania University Grounds. The IAAF Level – I Technical Officials of Athletics has recorded the Hand Timing of the Subjects

Results and Discussion:

Table:I

	Group	N	Mean	Std.Deviation	Std.Error Mean
50 M Run	Volley Ball	30	7.123	.6564	.1468
50 M Run	Korf Ball	30	7.423	.6216	.1390

The table I is showing the Mean, standard deviation and standard error of Mean of Korf Ball and Volley Ball Players. The Volley Ball Players Mean Performance in 50 M is 7.123 compare to Korf Ball Players Mean Performance is 7.423 and there is a difference of 0.3 in the performance.

Table – II

Independent Samples Test

		t-test for equality of means	t-test for equality of means	t-test for equality of means
		t	df	Sig.(2tailed)
Performance of 50 M Run	Equal variances assumed	-1.487	38	.145

Conclusions:It is concluded that Volley Ball Players are having good speed compare to Korf Ball Players.

Recommendations:It is recommended that Volley Ball Players and Korf Ball must be given good training for speed for the development of speed for improvement of performance.

References:

Skill related fitness for sports Success. Dr.George R.
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Health and Wellness

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Introduction:

Health is the level of functional and (or) metabolic efficiency of a living being. In humans it is the general condition of a person in mind, body and spirit, usually meaning to being free from illness, injury or pain. The World Health Organization (WHO) defined health in its broader sense in 1946 as a state of complete physical, mental, and social well-being and not merely the absence of disease.

Personal health depends partially on the active, passive, and assisted cues people observe and adopt about their own health. These include personal actions for preventing or minimizing the effects of a disease, usually a chronic condition, through integrative care. They also include personal hygiene practices to prevent infection and illness, such as bathing and washing hands with soap; brushing and flossing teeth; storing, preparing and handling food safely and many others. The information gleaned from personal observations of daily living - such as about sleep patterns, exercise behavior, nutritional intake, and environmental features - may be used to inform personal decisions and actions. Personal health also depends partially on the social structure of a person's life. The maintenance of strong social relationships, volunteering and other social activities have been linked to positive mental health and even increased longevity.

Wellness is a term that has become extremely popular in recent years. So much so that the definition of wellness has also been rendered different meanings to different people. Some say it is a state of mind that is experienced as tranquility; others define wellness as a luxury lifestyle concept associated with fitness. All inclusive, the generally accepted **definition of wellness** is: To stay in good condition physically, mentally, and spiritually, especially through healthy choices in those areas. Having a balanced state of these parts of the psyche. And it defines wellness to include not just being healthy physically but embraces holistic concept of health that encompasses our whole being - body, mind and spirit.

In order to fully appreciate wellness as a life purpose, as a way of life, we must look at what affects our natural condition of well-being. These would involve looking at those factors that can disrupt our natural balance. To live up to the definition of wellness, we must attain physical, mental, emotional, spiritual, social, occupational and intellectual wellness. Stress is a dangerous, venomous enemy of wellness. It can lay its hands on us without us even knowing in some cases. Stress counteracts everything that wellness is. Basically, stress un-defines wellness. This is where **mental wellness** is very important. If we are mentally well, we can recognize the symptoms of stress so we are able to deal with it. Learn to **communicate wellness**. Communicate wellness to yourself, your family, friends and especially at the workplace - the source of most stress. Another way of saying this is: Be life giving. Communicate encouragement, cooperation and confidence to your fellow workers. Another significant aspect in our definition of wellness that ought to be given your undivided attention. You must have something to believe in, something to hold onto. This gives you a base to work from. Finally, if you have achieved a level of wellness as describe above, then it would not be long before you come to realize living and organizing your life around love simplifies and converges everything I have attempted to explain on the definition of wellness.

Conclusions :In a few words, wellness means the state of being fully human; yet fully alive to life. In a sense, this level of attainment epitomizes the definition of wellness Health and Wellness are very important to the human being to lead happy and joyful life.

References: World Health Organisation 1946, W.H.O definition of Health, Health and Wellness Wikipedia

A study on the physical fitness among table tennis and lawn tennis players in Hyderabad

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Abstract:

The aim of the present study was to study the difference in Physical Fitness among Table Tennis and Lawn Tennis Players in Hyderabad. 15 Male Table Tennis Players and 15 Lawn Tennis Players between the age group of 16 Years to 20 Years were taken for the Study. The AAPHER Youth Fitness Test consisting of 6 Items were used for the Study. It was found that Lawn Tennis Players have good Physical Fitness compare to the Table Tennis Players. This study shows that the Lawn Tennis Players are good because they do good Physical Training compare to Table Tennis Players. The Lawn Tennis Players are having very good speed, strength and endurance.

Key words: Physical fitness, speed, strength, endurance.

INTRODUCTION:

Physical fitness is general state of good physical health. Physical fitness is the ability to endure, beat with stand stress and carry on in circumstances where an unfit person could not continue. In order for one to be considered Physically fit, heart, Lungs and muscles have to perform at a normal level for the Individual to continue feeling capable of performing an activity. Physical fitness is often divided into the following categories in order for people to be able examine its components or parts. Particularly, Physical fitness is judged by:

1. Cardio vascular endurance: This is the ability of the body to deliver oxygen and nutrients to tissues and to remove wastes over sustained periods of time.
2. Muscular strength & endurance: Strength deals with the ability of the muscle to exert force for a brief time period, while endurance is the ability of a muscle, or group of muscles, to sustain repeated contractions or to continue to apply force against an inert object.
3. Flexibility: This denotes the ability to move joints and use muscles through their full range of motion.
4. Body composition: Considered as one of the components of fitness, composition refers to the body in terms of lean mass (muscle, bone, vital tissue, and organs) and fat mass. Actually, the optimal ratio of fat to lean mass is an indication of fitness. Performing the right set of exercise can help people get rid off body fat and increase or maintain muscle mass.

Physical fitness provides capacity for activity. Modern competitive performance demands severe training every day through out the year. To maintain fitness for performance at peak level. The Techniques and skills in sports and games have advanced dramatically which demands the competitive sports participant to possess a high degree of Physical fitness. Lawn Tennis and Table Tennis players are also require Physical fitness to perform well in the competition and also in training.

METHODOLOGY:

Aim: To find out the Physical Fitness among the Lawn Tennis and Table Tennis Players in Hyderabad.

Sample: 15 Lawn Tennis and 15 Table Tennis Players of Hyderabad has taken for the study.

Test Administration:

To find out the Physical Fitness the AAPHER Youth Fitness Test consisting of the following Items are used in the study.

1. Pull Ups
2. Sit Ups
3. Shuttle Run
4. Standing Broad Jump
5. 50 Yard Dash
6. 600 Yard Run

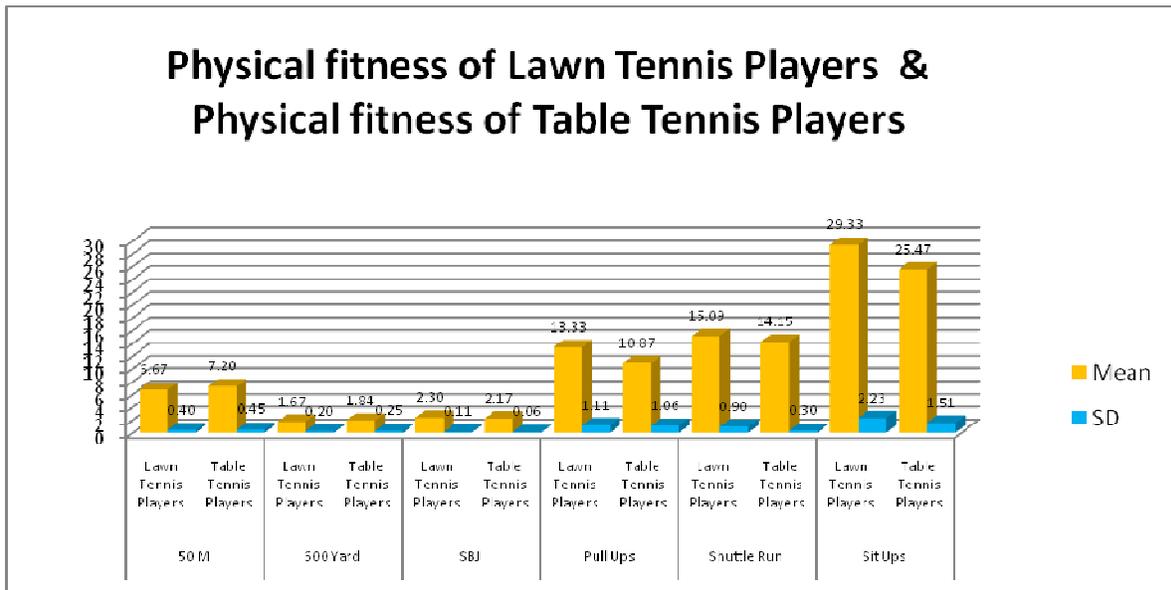
The above Tests are conducted among Lawn Tennis and Table Tennis Players

RESULTS AND DISCUSSION:

Table 1 and figure showing the performance of Physical Fitness among Lawn Tennis and Table Tennis Players. It is found Lawn Tennis Players are having good performance then Table Tennis Players in 50 Yard Dash,600 Yard Run,Standing Broad Jump,Pull ups and Situps and Table Tennis Players are found good in Shuttle Run.

Table: 1

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 Y	Lawn Tennis Players	15	6.68	0.40	0.10	-3.38	28.00	0.00
	Table Tennis Players	15	7.21	0.45	0.12			
600 Yard	Lawn Tennis Players	15	1.68	0.20	0.05	-2.07	28.00	0.05
	Table Tennis Players	15	1.85	0.25	0.06			
SBJ	Lawn Tennis Players	15	2.33	0.11	0.03	4.23	28.00	0.00
	Table Tennis Players	15	2.20	0.06	0.02			
Pull Ups	Lawn Tennis Players	15	13.35	1.11	0.29	6.22	28.00	0.00
	Table Tennis Players	15	10.89	1.06	0.27			
Shuttle Run	Lawn Tennis Players	15	15.09	0.90	0.23	3.80	28.00	0.00
	Table Tennis Players	15	14.15	0.30	0.08			
Sit Ups	Lawn Tennis Players	15	29.35	2.23	0.57	5.57	28.00	0.00
	Table Tennis Players	15	25.49	1.51	0.39			



RECOMENDATIONS:

It is recommended that Lawn Tennis Players requires Physical Fitness Training for enhancing the performance. It is advised to Coaches include the Physical Fitness programs in their Schedules.

References:

- 1.Science of Sports Training, Hardayal Singh.
- 2.Running for Fitness by Sebastian and Peter Coe.