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COMPARATIVE STUDY OF PSYCOMOTOR ABILITIES BETWEEN INTER UNVERSITY PLAYER AND NON INTER UNIVERSITY PLAYER IN CRICKET

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ABSTRACT
The aim of the study was to compare the selected psychological variables between university and non-university participants in cricket. For the purpose of the study, 20 participants (10 interuniversity and 10 non-universities) of age 18-24 years were selected from cricket match practice group of Lakshmibai National Institute of Physical Education, Gwalior (M.P). The purposive sampling technique was used to attain the objectives of the study. Parameters examined in vienna test system (VTS) a leading psychological assessment tool was used for measuring reaction time, sustained attention, determination test of cricket match practise groups of inter university players and non interuniversity players. Independent sample 'T' test was applied as statistical technique.

The alpha level was set as 0.05. The statistical analysis of the result and comparison of the two groups showed a statistically significant difference in mean reaction time (RT_MRT), sum correct (DAUF_SC) and determination test (DT_CR) as the t value found significant ($p<0.05$). There were insignificant difference between mean motor time (RT_MMT), mean time correct (DAUF_MTC) as the value found insignificant ($p>0.05$). The result showed that the differences between those variables either because of specific physical exercises, specific training of technical or tactical ability of the inter-university team who possess more desirable characteristics for selection in team plays a significant role in the preparation of interuniversity team of cricket.

Keywords: Reaction time, Sustained attention, Determination test.

INTRODUCTION
Cricket is a sport which is very popular in the world. It brings with it many psychological challenges and demands that players must deal with to be successful. On the other hand it is a team game played by eleven players in a team who combine to form an effective batting, bowling and fielding. Physical and psychological preparation are important for top class performances but it is often what happens inside a player's mind that is the difference between success and failure. There are mainly three department in cricket namely batting, bowling and fielding and all are of equal

significance and importance as a result various psychological components used in cricket like reaction time, sensomotor coordination, determination other psychological attributes.Therefore, the study was undertaken to compare the selected psychological variables between inter-university and non-university participants in the cricket.

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METHODOLOGY

Twenty male participants (10 university and 10 non-university) were purposively selected from Lakshmibai National Institute of Physical Education, Gwalior (M.P.), India. The age of the subjects was between 18 to 24 yrs. The subjects were approximately undergone through a similar kind of schedule off the ground in terms of diet, lifestyle, studies,daily activities like sleeping hours etc. All tests were administered on each player individually with the help of Vienna test system(VTS) a leading psychological assessment tool. All the subjects were tested for following psychological variables namely reaction time, sensomotor coordination and determination ability.

ADMINISTER OF TEST

Vienna Test System : The Vienna Test System is a leading computerized psychological assessment tool.VTS ensures the highest possible level of objectivity and precision, including aspects that cannot be measured by traditional paper-and-pencil tests.

The scoring of test results is fast and accurate.

REACTION TIME:

Purpose: To measure the reaction time.

Test Form:S5: Choice reaction yellow/tone, yellow/red.

Testing Duration: 6 Minutes

Administration: The Response Panel was used as the input device. An animated instruction phase and an error-sensitive practice phase lead on to the task itself. The test involves the presentation of coloured stimuli and/or acoustic signals. The respondent was instructed to press the reaction key only when yellow/red and yellow/tone blows simultaneously by pressing the key, to return his finger immediately to the rest key. The use of headphones ensured the exclusion of distracting noises.

SUSTAINED ATTENTION :

Purpose: To measure the sustained attention.

Test form : S2: This is the Clinical Form.

Testing duration : 20 minutes

Administration : Here again five triangles are presented in a row and the respondent must react when two (and only two) of the triangles point downwards. In this form the changes in row position – unlike Form S1 – are unpredictable (“irregular”).

DETERMINATION TEST :

Purpose: To measure the determination ability

Test Form: S2:-Long form with adaptive stimulus presentation (all stimulus types).

Testing Duration: 8 Minutes.

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Administration of the test: The respondent is presented with colour stimuli and acoustic signals. He/she reacts by pressing the appropriate buttons on the response panel. The stimuli are presented in three different ways: (1) In Adaptive Mode, in which the presentation speed adjusts to the respondent's performance level, (2) In Action Mode with no time limit and (3) In Reaction Mode with fixed time limit. The use of headphones ensures the exclusion of distracting noises

STATISTICAL TECHNIQUE : Independent sample 'T' test was applied as statistical technique. The alpha level was set as 0.05

RESULTS

The students 'T' test was employed by the researcher for the comparison of means of selected group's as depicted in Table 1.

	group	**N**	**Mean**	**Mean difference**	**df**	**Sig.**
RT_MRT	UP	10	490.6000	-56.70000	18	.003
	NUP	10	547.3000			
RT_MMT	UP	10	152.9000	-30.90000	18	.077
	NUP	10	183.8000			
DAUF_SC	UP	10	118.5000	-3.30000	18	.003
	NUP	10	115.2000			
DAUF_MTC	UP	10	.7616	.08840	18	.115
	NUP	10	.6732			
DT-CR	UP	10	529.3000	80.40000	18	.002
	NUP	10	448.9000			

***Significant at 0.05 level of significance; t.05 (18) = 2.101**

Above table reveals that there was a significant difference between university and non-university players in relation to reaction time, sustained attention and determination ability as calculated value was greater than tabulated value while insignificant in case of sub variable of reaction time and sustained attention as calculated value was lesser than that of tabulated value at .05level of significant with 18 degree of freedom. Graphical represent of about table is made in figure no.1.

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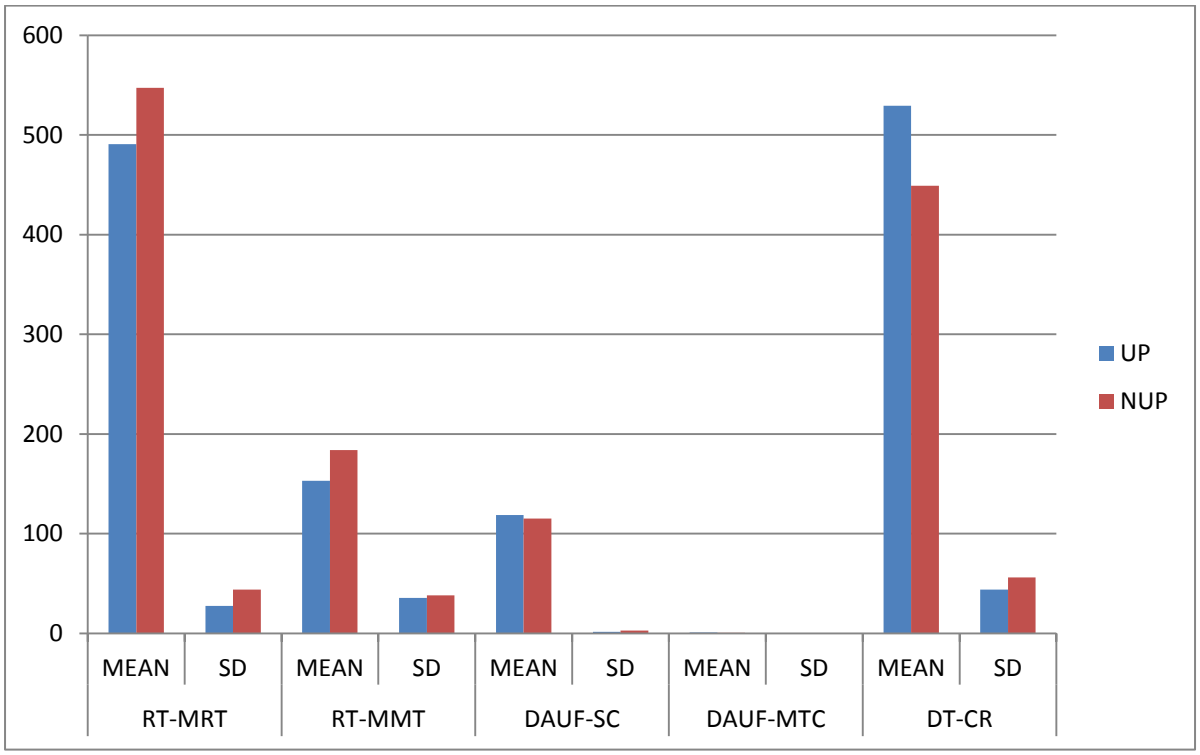

Fig. 1: Mean and Standard Deviation of various variables of University andNon University players in cricket.

DISCUSSION AND CONCLUSION:

There were significant difference between university and non university players in sub variables of reaction time RT_MRT, sub variable of sustained attention DAUF_SC and determination ability. This result might be because of regular training of university players to participate in the inter university tournament that's why their performance in reaction time, sustained attention and determination ability have been developed. Whereas there is no significant in Sub variable of reaction time RT_MMT and sustained attention DAUF_MTC is because of low sample size and the level of the game. From given information come nearer to the ball is a difficult problem for the batsman, because of his reaction time. It takes about 200 ms for even an expert batsman to adjust his shot on the basis of novel visual information[1]. sensomotor coordination assess two forms are anticipative coordinative ability (a movement or series of moves of an element to a pre-set goal) and the reactive coordinative ability(ability to react effectively and quickly to any signal or action)[2].the determination of university players are more than that of non university players this might be because of the fact that bowlers have limited balls to delivers, while the batsman can take their own time to settle down in the wicket. Non university players were regularly contribute there presence in different type of physical activity thats why their basic psychomotor ability is maintained.

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DEVELOPMENT OF NORMS OF RESTING HEART RATE AS AN INDICATOR OF FITNESS OF MALE YOUTH OF DELHI

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ABSTRACT
The aim of the study was to develop norms in regard to the resting heart rateof male youth of Delhi. The study was conducted on seventy five healthy male youth of Delhi(attitude:744 feet/127 meters). The age of the subjects ranged from 18 to 25years.A heart rate monitor with chest strap was fixed on the subject and the wrist watch was tied after calibration to check the heart rate of the subjects. The subjects were thenasked to lay down in savasana (corpse pose) for twentyminutes. The resting heart rate were noted at 20^{th} minute,22^{th} minute and at 24^{th} minute. The average was calculated to determine the resting heart rate of the subjects expressed as HRrest. The other selected supportive variables were age, body weight and height. The collected data was computed with mean, standard deviation,six sigma scale and chi square using SPSS.The study concluded that the developed scales are good normative in references to Delhi youth in regard to their resting heart rate which ultimately is a valued estimator of the cardiovascular fitness/health.

Keywords: -Resting Heart Rate, Norms, six sigma scale, Delhi

INTRODUCTION
Heart rate is the number of cardiac contractions in one minute. The number of contraction range from 60-80 bts/min. The rate and intensity of the cardiac contractions is affected by exercise, long term training, age, sex, disease, stress, environmental temperature, altitude etc. However 72 beats per minute (bts/min)in is generally considered as a normal heart rate, however a lower resting heart rate is recorded in trained individuals then that of untrained. Autonomic Nervous System controls the working of heart during exercise. Although one of the hallmark of the endurance athlete is a slower heart rate at rest (Bradycardia).Resting bradycardia is a well-known phenomenon in endurance trained athletes or sportspersons, however the mechanism responsible for this phenomenon have not been conclusively elucidated (Machiel 1985).In humans an increase in cardiac parasympathetic activity is a major contributor for training induced bradycardia (Coote, 2015).Other investigators suggested that an increased parasympathetic influence in the trained individuals is accounted for the resting bradycardia (Tipton,1977).

If one had a normal core temperature, a normal cardiac conduction system and electrolyte homeostasis, it is reasonable to assume that resting HR would be a function of intrinsic HR and the net influence of the parasympathetic and sympathetic NS. Therefore the changes in the intrinsic heart rate, resting parasympathetic and sympathetic activity or the balance of parasympathetic and sympathetic activity would affect the resting heart rate (Donald, 1973).

Heart rate is arguably a very easy cardiovascular measurement, especially in comparison to the invasive or noninvasive procedures used to estimate stroke volume and cardiac output. Consequently, measurement of heart rate is routinely used to assess the response of the heart at

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rest, to exercise, or the recovery from exercise, as well as to prescribe exercise intensities (Froeliche, 2000). The regular exercise leads to adoptive changes in cardiac and physical performance and oxygen uptake capacity and ultimately the onset of slower resting heart rate medically called as Bradycardia.(Robert 2008).

There are numerous studies which documents the norms of Resting Heart Rate (HR rest), which is missing in India particularly for high altitude Kashmiri youth. The findings of one of the study have been illustrated vide Figure-1 below:

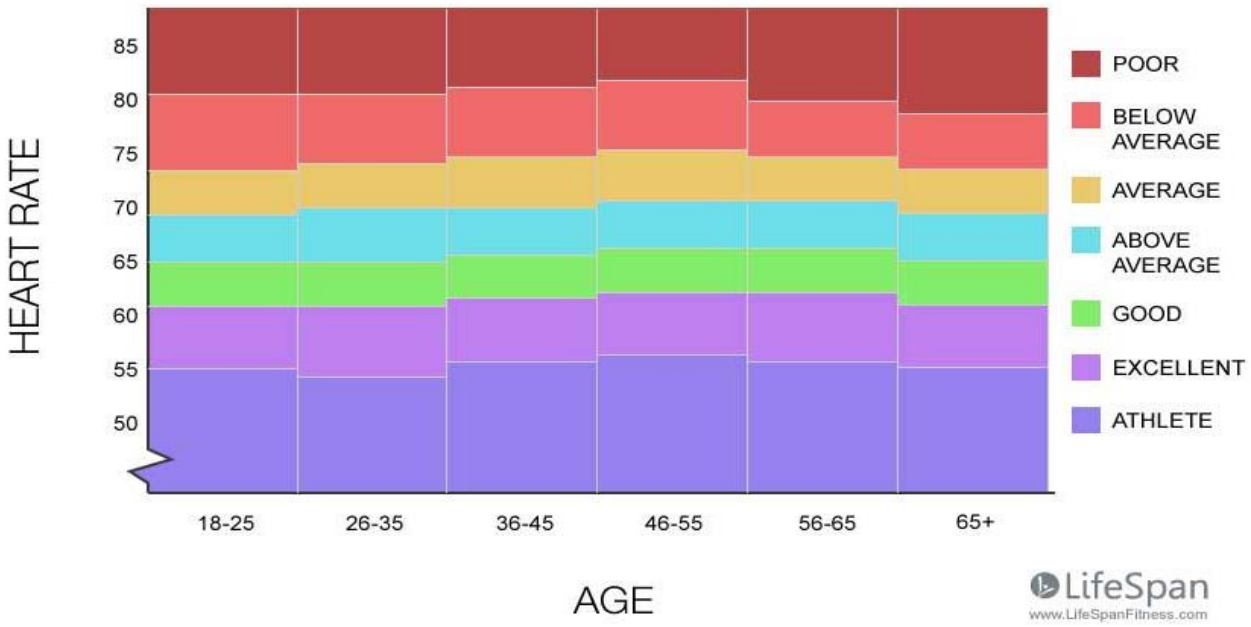

Figure 1: The Resting Heart Rate Chart (Pulse Rate Chart) Shows the Normal Range According to Age

The Purpose of the study was to developnorms in regard to resting heart rate (HRrest) of Delhi male youth, which will be useful for evaluation, grading, grouping and monitoring the aerobic fitness.

METHODOLOGY

The study was conducted on seventy fivehealthy male subjects of Delhi (altitude:744 feet/127meters). The age of the subjects ranged from 17 to 25 years. A heart rate monitor with chest strap was fixed on the subject and the wrist watch was tied after calibration to check the heart rate of the subjects. The subjects were then asked to lay down in savasana (corpse pose) for twenty minutes. The resting heart rate were noted at 20^{th} minute,22^{th} minute and at 24^{th} minute. The average was calculated to determine the resting heart rate (HRrest) of the subjects.

The statistical analysis was descriptive statistics (Mean and standard deviation), 6 sigma scale, chi-squareand standard scores using SPSS.

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Findings and Results

Table-3
Descriptive Statistics of Physical Data of the Subjects of Delhi Male Youth

Age (Yrs)*	Weight(Kg)*	Height(cm)*
19.97±2.04	64.04±10.31	171.66±8.19

N=75 *the numbers are expressed as Mean±SD

Table-4
Descriptive Statistics of Resting Heart Rate of Delhi Male Youth

Variables	Gender	Mean	SD
Resting Heart Rate	Male	62.42	7.94

N=75, *RHrest is expressed in bts/min.

Table-5
Six Sigma Scale of Resting Heart Rate (RHrest) of Delhi Male Youth

Six Sigma Scale	RHrest	Six Sigma Scale	RHrest	Six Sigma Scale	RHrest	Six Sigma Scale	RHrest
100	85.92	75	74.17	50	62.42	25	50.67
99	85.45	74	73.7	49	61.95	24	50.2
98	84.98	73	73.23	48	61.48	23	49.73
97	84.51	72	72.76	47	61.01	22	49.26
96	84.04	71	72.29	46	60.54	21	48.79
95	83.57	70	71.82	45	60.07	20	48.32
94	83.1	69	71.35	44	59.6	19	47.85
93	82.63	68	70.88	43	59.13	18	47.38
92	82.16	67	70.41	42	58.66	17	46.91

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91	81.69	66	69.94	41	58.19	16	46.44
90	81.22	65	69.47	40	57.72	15	45.97
89	80.75	64	69	39	57.25	14	45.5
88	80.28	63	68.53	38	56.78	13	45.03
87	79.81	62	68.06	37	56.31	12	44.56
86	79.34	61	67.59	36	55.84	11	44.09
85	78.87	60	67.12	35	55.37	10	43.62
84	78.4	59	66.65	34	54.9	9	43.15
83	77.93	58	66.18	33	54.43	8	42.68
82	77.46	57	65.71	32	53.96	7	42.21
81	76.99	56	65.24	31	53.49	6	41.74
80	76.52	55	64.77	30	53.02	5	41.27
79	76.05	54	64.3	29	52.55	4	40.8
78	75.58	53	63.83	28	52.08	3	40.33
77	75.11	52	63.36	27	51.61	2	39.86
76	74.64	51	62.89	26	51.14	1	39.39

According to table-5,the 100 point of six sigma scale documented 85.92bts/min, the 90 point documented 81.22bts/min,the 80 point documented 76.52bts/min,the 70 point documented 71.82bts/min,the 60 point documented 67.12bts/min,the 50 point documented 62.42bts/min,the 40 point documented 57.72bts/min,the 30 point documented 53.02bts/min,the 20 point documented 48.32bts/min,the 10 point documented 43.62bts/min and at 01 point documented 39.39bts/min.

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Table-6
Grading of Resting Heart Rate (RHrest) in Six Sigma of Delhi Male Youth

Grade	Minimum Value	Maximum Value	Frequency Distribution	Chi-square
Excellent	39	48	3	9.60*
Good	49	58	25	6.66*
Average	59	68	26	8.06*
Bad	69	78	20	1.66*
Poor	79	88	1	13.06*

According to table-6,a subject score RHrest between 39 bts/min and 48bts/min will be considered as Excellent, a subjectscore between 49 bts/min and 58bts/min will be considered as good, a subjectscore between 59 and 68 will be considered as Average, a subjectscore between 69 bts/min and 78bts/min will be considered as Bad and a subject score between 79 bts/min and 88bts/min will be considered as poor. The chi-square (X^2) demonstrated asymmetric distribution among the grades. Highest frequency was observed at average grade followed by good, bad, excellent and poor thus supporting normal distribution (Figure-2).

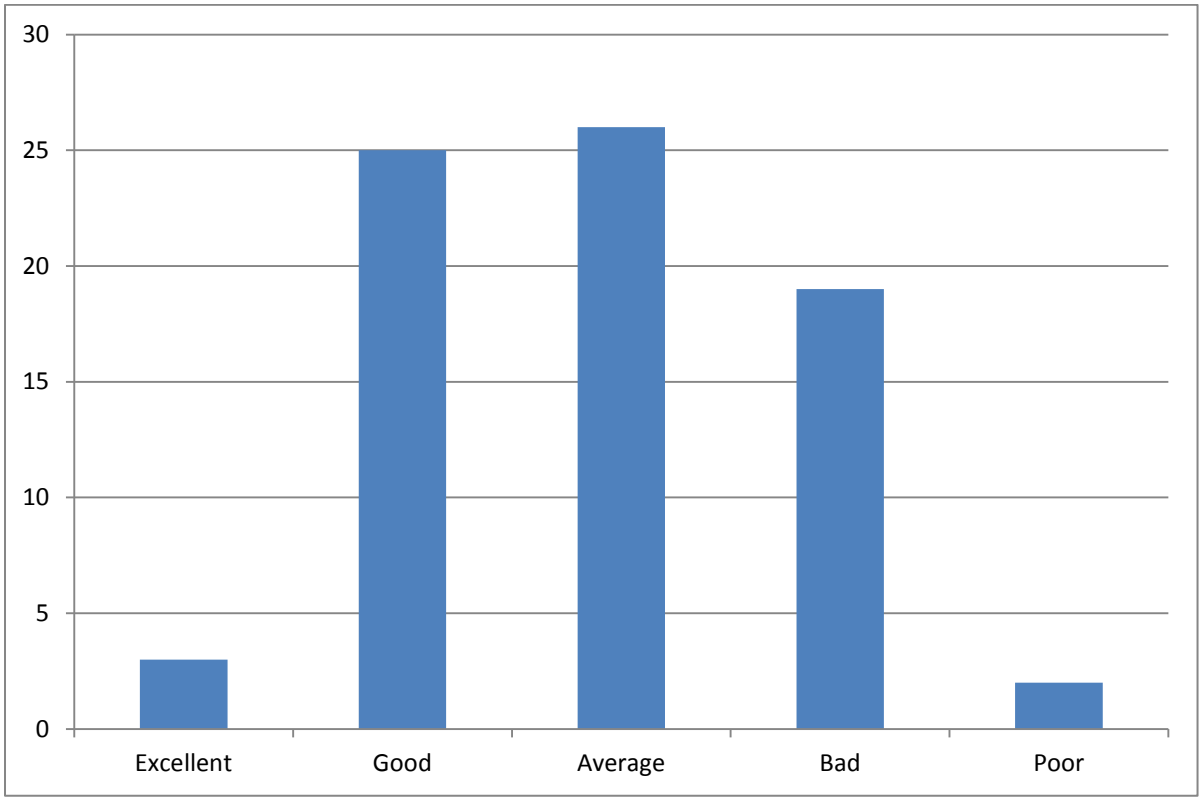

Figure 2: Plotting of Resting Heart Rate (HRrest) Frequency in Selected Grades

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CONCLUSIONS

- A 100 point 6 sigma scale has been developed in reference to Resting Heart Rate (RHrest)for habitat of Delhi youth.
- A grade scale with grades as Excellent, Good, Average, Bad and Poor has been developed for Delhi youth in reference to their Resting Heart Rate (RHrest).
- The developed scale and norms are good normative reference to Delhi youth in regard to their Resting Heart Ratewhich ultimately is a physiological parameter in predicting the cardio vascular fitness of an individual.

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MEAN DIFFERENCES OF PSYCHOLOGICAL SKILLS ON DIFFERENT SPORTS ENVIRONMENT

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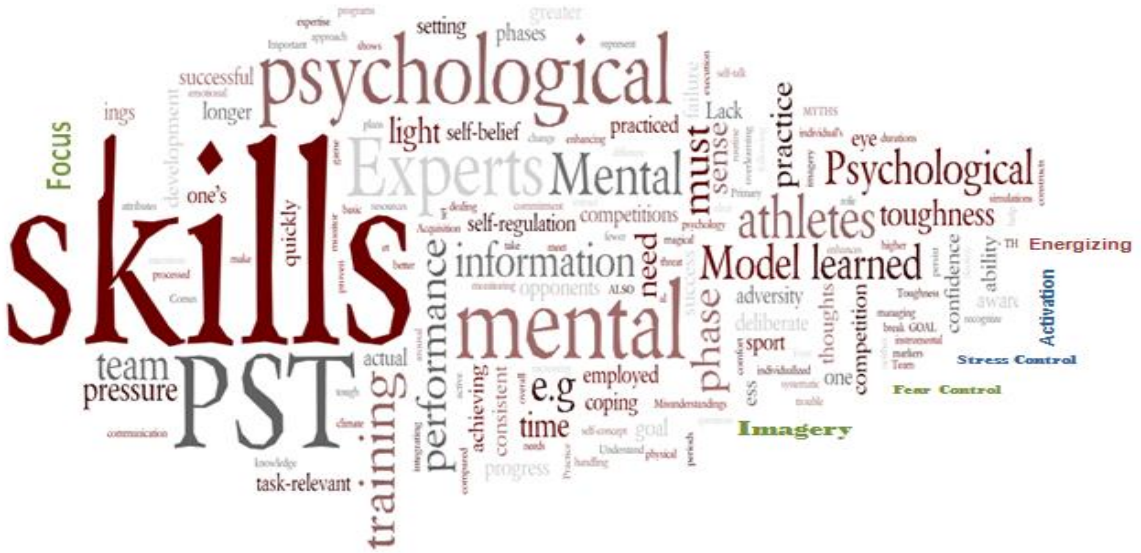
ABSTRACT

The aim of this research work was to examine mean differences between open skills sports v/s close skills sports with the help of OMSAT-3 (2 version) modified by Shilpi Jain 2014 to measures the 12 mental skills (Goal Setting, confidence, Commitment, Stress Control, Imagery, Fear control, Energizing, Relaxation, Focus, Competition Planning, Mental Practice and Refocus). The Descriptive statistical analysis was conducted to determine the average value with variance of population in open skills v/s close skills sports. Total 262 male and females participants were selected to analyses the mean differences between open skills v/s close skills sports. The result of this study found 12 mental skills mean value of Close skill sports is higher as compare to Open skill sports, except in case of confidence, commitment and relaxation mental skills variables.

Key Note: OMSAT-3 (2 version), Open and close skill sports, National + International Level athletes

INTRODUCTION

The psychological skills training improve the athlete's performance and execute these training program in training session that make the athletes' performance more effective in competition period and higher their personal level. All mental skills/ training program are described through fig. 1 which helpful for facilitating athlete's performance. Mental skill training programme is the technique to improve the cognition behaviour of an individual which are helpful for focused on structure, goal setting, reviewing the practice schedule etc.



Mental Skills are also known as the psychological skills or psychological skills training (PST) program which affected the sports performance of athlete and improve their goal attainment. Mental skills are combination of several required skills & strategies with goal setting, confidence

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and achievement that based on motivational constructs. Mental skill is the product of flow experiences and optimal performances in competitive sport as well as in training session.

In other words mental skills are one training program to reach formulated goal and enhancing sports performance of an individual and team game sports athletes.

According to Vealey 2007 mental skills training assisting sports participant work successfully (Birrer & Morgan, 2010; Hammer meister et al., 2010). According to Birrer & Morgan 2010 research study in the field of sports considers the psychological skills training programmes is suitable for the different types of sport. Furthermore related to PST Programmes should be included with skills training to evaluating the level of skills & make suitable to the PST Programmes for the better sports performance in any sports.

METHODOLOGY

Subjects:-During this research minimum 30 of athletes are selected from each competitive sport that comprises of 262 Elite and Non-Elite athletes. The selected athletes from both genders male and female are participated at All India Inter-University, National and International level in selected nine different sports during data collection. The selected subjects/athletes age ranged are above 17 years.

The participants from such selected sports under Open and Close Skill Sports environment as-

- Open Skills- Athletics, weightlifting
- Close Skills- Basketball, Boxing, Hockey, Judo, Kabaddi, Volleyball, and Wrestling.

Tool:- To measures the mental skill level of athletes Ottawa Mental Skills Assessment Tool -3 (OMSAT-3 – 2 version) are used. OMSAT-3 (2-version) designed /developed by Durand-Bush and Colleagues (2001) in English version and 2 version of OMSAT -2 proposed by Shilpi Jain (2014) in English and Hindi version.

This tool consists with 12 mental skills with 4 test items that are based on 3 broader conceptual components: Fundamental skills, Psychosomatic skills and Cognitive skills. The scoring range of every test item of scales are 1 to 7 key where, 1 (strongly disagree), 2 (Disagree), 3 (Somewhat Disagree), 4 (Neither Agree or Nor Disagree), 5 (Somewhat Agree), 6 (Agree) and 7 (strongly agree). The some variables/ mental skills of this questionnaire are measured in reverse order that are Fear control, Stress control, Focusing and Refocusing means strongly disagree score is 7 and strongly agree score is 1 and rest mental skills are measured normally.

Statistical Analysis:- The statistical analysis was computed by using the Statistical Package for the Social Sciences (SPSS) Version 21.0 where the data were measured with the help of Descriptive statistics (Mean and Standard Deviation) to find the mean differences between open skills sports and close skills sports environment athletes performance.

RESULT AND DISCUSSION

Table 1 shows the descriptive statistical analysis of 12 mental skills [OMSAT -3 (2 Version)] of athletes with open skills and close skills environment sports.

The Overall mean results of 12 mental skills shows close skills sports mean value is higher than comparison to open skills sports.

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But except confidence commitment and relaxation mental skills depicted the mean value of open skills sports is higher as compare to close skills sports.

The higher mean value in overall 12 mental skills is 23.15 with 3.80 std. Deviation (Goal Setting) in case of Close Skills Sports. And in case of Open Skills Sports higher mean value is 22.91 with 3.24 std. Deviation (Confidence).

Table 1
Descriptive Statistical Analysis on the basis of Open Skills & Close Skills Sports Environment with 12 Sub-Variables of OMSAT -3 (2 Version)

Sources	Skill	Mean	Std. Deviation	N
Goal Setting	Close Skills	23.15	3.80	52
	Open Skills	22.80	3.52	210
	Total	22.87	3.57	262
Confidence	Close Skills	22.12	3.77	52
	Open Skills	22.91	3.24	210
	Total	22.75	3.36	262
Commitment	Close Skills	20.50	3.59	52
	Open Skills	21.57	3.64	210
	Total	21.36	3.65	262
Stress Control	Close Skills	18.92	4.93	52
	Open Skills	17.66	4.55	210
	Total	17.91	4.65	262
Relaxation	Close Skills	20.02	4.10	52
	Open Skills	20.82	3.53	210
	Total	20.66	3.66	262
Fear Control	Close Skills	18.60	5.16	52
	Open Skills	18.15	4.59	210
	Total	18.24	4.70	262
Energizing	Close Skills	21.10	4.24	52
	Open Skills	21.67	3.91	210
	Total	21.56	3.98	262
Focusing	Close Skills	20.25	5.33	52
	Open Skills	19.15	4.64	210
	Total	19.37	4.80	262
Imagery	Close Skills	21.71	3.62	52
	Open Skills	21.09	3.43	210
	Total	21.21	3.47	262
Competition Planning	Close Skills	22.35	3.93	52
	Open Skills	21.60	3.63	210
	Total	21.75	3.70	262
Mental Practice	Close Skills	20.94	3.87	52
	Open Skills	20.91	3.74	210
	Total	20.92	3.76	262
Refocusing	Close Skills	17.56	4.52	52
	Open Skills	17.44	5.05	210
	Total	17.46	4.94	262

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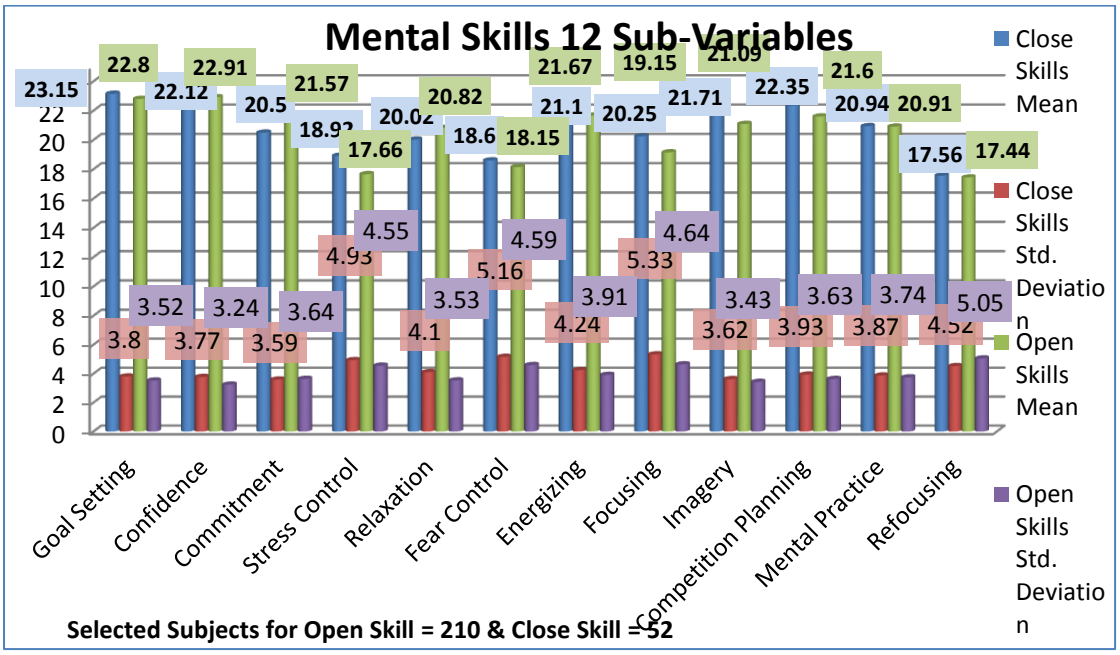

Fig 5.3: descriptive statistical analysis of 12 Sub-Variables of Mental Skills for comparison between open skill and close skill sports.

CONCLUSION

The aim of this research work was to examine mean differences between open skills sports v/s close skills sports. The Descriptive statistical analysis was conducted to determine the average value with variance of population in open skills v/s close skills sports.

The result of this study found 12 mental skills mean value of close skill sports is higher as compare to Open skill sports, except in case of confidence, commitment and relaxation mental skills variables.

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PHYSIOLOGICAL STATUS OF ELITE TABLE TENNIS PLAYERS OF INDIA

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ABSTRACT
Table tennis, in common with other non-endurance sports activities, does indeed have an endurance, or aerobic, component.The aim of the present study was to study the status of some selected aerobic and anaerobic parameters of elite Indian table tennis players.Total 10 elite table tennis players were studied NetajiSubhas, National Institute of Sports, Patiala, Punjab during the period of study.The Physical work capacity measure how successful the training regime is in improving cardiovascular performance. The mean physical work capacity (170) in males was measured 4.11(±1.54) while in the case of females 3.92 (±1.12).Anaerobic power was observed 9.58 (±2.80) in males and 6.28 (±1.66) in the case of female. Peak power was observed 152.5 (±11.6) in the case of males and 164.2 (±3.95).The mean aerobic capacity (ml/kg/min) was observed in male was 51.13(±4.13) and 40.35|(±2.35).The return of the muscle homeostasis to its pre-exercise state following exercise is known as recovery.Recovery heart rate (bpm) was recorded at 3rd min 100 (±4.37) in males while 105.3 (±11.22) in females. Based on a results, it observed that modern table tennis is a sport that requires both sub-maximal and maximal work and this puts pressure on both the anaerobic and aerobic systems.

Keywords: Table tennis, aerobic Capacity, Anaerobic Power, Recovery, Heart Rate

INTRODUCTION
Cardio respiratory endurance relates to the body as a whole. For a table tennis player, it means the ability to sustain prolonged activity in long table tennis competitions. (Gastin& Lawson, 1994). Cardio respiratory endurance is related to the development of the cardiovascular and respiratory systems and thus aerobic development. This is why the term aerobic endurance is used to represent cardio respiratory endurance. Most sports scientists regard VO_2max, representing aerobic power, as the best objective laboratory measure of maximal cardio respiratory endurance capacity.(O'Brien, Payne, &Gastin, 1997).VO_2max is defined as the highest rate of oxygen consumption attainable during maximal or exhaustive exercise. In table tennis these conditions arise only during training sessions and occasionally during long rallies – particularly when playing against a defensive player.

The aerobic Systemismost associated with recovery of the anaerobic system and support players to stay focused and active during long competitions. When measuring physiological demands within table tennis players the interest is often more in measuring which performance level that can be maintained without fatigue rather than how high the aerobic power is at the point of exhaustion (Kondrič, Zagatto, &Sekulić, 2013).

Cooper's test is frequently used by the Swedish Olympic Committee since it is an easy and low costing aerobic endurance test. The aim of the present study was to study the status of some selected aerobic and anaerobic parameters of elite Indian table tennis players.

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METHODOLOGY

Total 10 elite table tennis players were studied Netaji Subhas, National Institute of Sports, Patiala, Punjab during the period of study. Each subject have been first subjected to physical examination that included measurements of the corporal exercise testing, in a manner described below, to assess their following physiological transients:PWC170,Anaerobic Power output, Physical work capacity, Recovery response ,VO_2 Max

Exercise test were be performed on an electronically operated computerized bicycle ergo meter (ER 900: Erich Jaeger, Germany), using a test protocol that consisted of graded exercise test. The initial load in the test phase was fixed at 1watt/kg, and increased by 2 watt/kg after 2 min, consequent to which, the volunteers were asked to cycle briskly at a rate of 60-70 RPM. First heart rate was taken after 2 minutes, cycling at 1 watt/kg workload and 2^{nd} heart rate was taken after 4^{th} min cycling at 2-watt/kg workload. Heart rate and work was plotted on the graph paper to find out the PWC 170. DeBruyn Prevost test (1974) was used to measure the anaerobic power of the athletes. All the values of physiological and morphological variables were expressed as mean, Standard deviation by using statistical package, SPSS.

RESULTS AND DISCUSSIONS

Tennis has been classified as anaerobic predominant activity requiring high levels of aerobic conditioning to avoid fatigue and aid in recovery between points (Kovacs, 2006). Physical work capacity is usually related to a specific heart rate and is used as a measure of aerobic fitness. The most common test of physical work capacity is called the PWC_{170}, which relates to the maximum amount of work that can be done at a heart rate of 170 beats min^{-1}. This value is chosen because, for most people, it is a high, but well-tolerated work level. The Physical work capacity measure how successful the training regime is in improving cardiovascular performance.

Table 1: Mean and SD of physical parameters of male & female Table Tennis players

	Age (years)	**Height (cm)**	**Weight (kg)**	**Height-weight ratio (HWR)**
MALE (n=8)	23.12 ± 4.25	170.61 ± 7.54	64.23 ± 5.09	42.55 ± 1.78
FEMALE (n=5)	24.5± 4.5	156.55± 4.53	58.17± 7.68	40.50± 1.07

The mean pwc170 in males was measured 4.11(±1.54) while in the case of females 3.92 (±1.12). Anaerobic power was observed 9.58 (±2.80) in males and 6.28 (±1.66) in the case of female. Peak power was observed 152.5 (±11.6) in the case of males and 164.2 (±3.95).The mean aerobic capacity (ml/kg/min) was observed in male was 51.13(±4.13) and 40.35|(±2.35).

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Table 2: Mean and SD of physiological parameters of male & female Table Tennis players

	Physical Work Capacity	VO_2Max ml/kg/min	Peak Power (rpm)	Max HR (bpm)	Recovery HR
MALE (n=8)	4.11±1.54	51.13±4.13	152.5±11.6	176.4±10.8	100.3±4.37
FEMALE(n=5)	3.92±1.12	40.35±2.35	124.5±21.2	164.2±3.95	105.3±11.22

Anaerobic power is the power produced without the requirement for oxygen to be present. It relates to short-term high-energy production where the predominant fuels are produced without the necessity of oxygen. Anaerobic power was observed 9.58 (±2.80) in males and 6.28 (±1.66) in the case of female. Peak power was observed 152.5 (±11.6) in the case of males and 164.2 (±3.95).Recovery heart rate (bpm) was recorded at 3rd min 100(±4.37) in males while 105.3 (±11.22) in females.

	AGE	PWC	ANAEROBIC POWER	PEAK POWER	MAX HR	RECH R	HT	WT	HW R
PWC	**-.185**	**1**							
ANAEROBICPOWER	**-.077**	**.273**	**1**						
PEAKPOWER	**-.188**	**-.327**	**.743***	**1**					
MAXHR (BPM)	**-.022**	**.017**	**-.028**	**-.021**	**1**				
REC-HR(BPM)	**-.210**	**-.572**	**-.292**	**.248**	**-.103**	**1**			
HT (CM)	**-.461**	**.725***	**.183**	**-.260**	**.061**	**-.507**	**1**		
WT (KG)	**-.318**	**.241**	**-.014**	**-.214**	**-.778***	**.055**	**.375**	**1**	
HWR	**-.259**	**.596**	**.139**	**-.191**	**.551**	**-.581**	**.804***	**-.245**	**1**
VO2MAX ml/kg/min	**.167**	**-.098**	**-.518**	**-.630**	**-.099**	**.227**	**-.019**	**.450**	**-.289**

Multi-Correlations in Males

Positive correlation was observed between anaerobic power and peak power. Maximal oxygen uptake or aerobic capacity (VO2max) is the maximum capacity of an individual's body to transport and utilize oxygen during incremental exercise, which reflects the physical fitness of the individual. This expression is often used to compare the performance of athletes (Alen G.D, 1986)

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Multi-Correlations in Females

	AGE	PWC	ANAEROBIC POWER	PEAK POWER	MAX HR	REC HR	HT
PWC	.186	1					
ANAEROBIC POWER	-.908	.077	1				
PEAKPOWER	.685	.103	-.873	1			
MAX HR (bpm)	.999**	.194	-.922	.721	1		
RECHR (bpm)	-.923	-.162	.970*	-.912	-.942	1	
HT (cm)	.482	.241	-.110	-.301	.439	-.113	1
WT (Kg)	.141	-.840	-.499	.446	.156	-.312	-.456
HWR	.626	-.399	-.894	.862	.651	-.805	-.276
VO2MAX (ml/kg/min)	-.912	-.240	.946*	-.917	-.932	.996**	-.103

Maximum oxygen consumption was found to be positively related with Anaerobic power, Maximum HR and recovery heart rate .Regarding to motor ability and anthropometric assessment, side- jump, VO_2max, present body fat and somatotype were the most important component in players.

The dominance of the increases the success probability, while the anaerobic alactic system is the most energetic system used during periods of exertion in a table tennis game a strong capacity for endurance is what helps a player recover quicker for the following match and the next day of competition. Suchomel A, (2010).This information provides a reference frame for coaches to control the training process in order to help improve athletes' performance, and to improve talent detection and identification in table tennis.

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INNOVATION OF YOGIC TECHNIQUES TO IMPROVE PERFORMANCE OF FEMALE RACKET PLAYERS

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ABSTRACT

This study is based on an idea to improve concentration reaction ability, eye-hand coordination, focusing ability. Yoga is the means or techniques for developing physical and mental abilities. Trataka is a part of shatkarma.Trataka helps to improve eyesight and strengthen the muscles surrounding the eyes and helps to get rid of mild eye problems like short sightedness. Trataka helps in reducing the stress and improve performance of the player, thereby increasing the power of concentration. The main objective of study was to improve concentration of the female racket players after providing 4 weeks of trataka practices. The data was collected from female racket game players age range was 18-23 of LNIPE, Gwalior. The study conducted in two groups, experimental and control. The data was obtained by testing on Mirror Tracer before and after trataka practice upon the above mentioned groups.Results indicate that there was improvement on performance of female players after practicing of trataka. I would like to conclude by saying, "through regular practice of trataka one can increase its concentration."

Key Words: Trataka, concentration, yoga, eye-hand coordination, focusing ability etc.

INTRODUCTION

This study is based on an idea to improve concentration reaction ability, eye-hand coordination, focusing ability. Yoga is the means or techniques for developing physical and mental abilities. Trataka is a part of shatkarma. It is a practice where the gaze is fixed on an object. Trataka helps to improve eyesight and strengthen the muscles surrounding the eyes and helps to get rid of mild eye problems like short sightedness. Trataka improves attention and removes distractions of the mind thus we can say trataka strengthen optic nerve and develops coordination of eye muscles and hand. It can make the mind calm and steady and also helps in reducing the stress and improve performance of the player, thereby increasing the power of concentration.

YOGA: Gita defines Yoga as YogahKarmasukaushlam. (ii/48) "Yoga is skillful action" Yoga is art of all dedicated and focused work
Sri Aurobindo defines yoga mean a methodological effort towards self perfection by the development of potentialities latent in the individual.

TRATAKA: Trațaka is to look, or to gaze it is a part of Shatkarma and is also called yogic gazing technique. Trataka practice, continuous gazing on the flame of a candle or any object is to be done, which helps in keeping the eyes healthy and in the alleviation of certain eye disorders and also enhances concentration by reducing anxiety and distractions.

CONCENTRATION: Concentration is defined as the ability to give something our undivided attention to the exclusion of other distractions. Most students report dissatisfaction with their ability to concentrate and feel they do not work as efficiently as they would like. Intense mental application complete attention is concentration.

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YOGA, CONCENTRATION ANDPERFORMANCE: Performance with sure success is closely related with body mind coordination. The performer or players need is body mind coordination, without this performance cant perform skillful these are the major factor for winning the game. Improvement in concentration has been reported in several yogic studies. Without concentration intentional skillful movement would not be possible. The cognitive processes of game is needed to achieve, this includes the executive and attention control. These processes are sensitive to age, working memory, motor control and concentration is associated with cognitive capacity of learning to game. Working is a theoretical concept central both to cognitive psychology and neuroscience. Intentional control is the cognitive process of controlling the focus of attention. Intentional control refers to an individual's capacity to choose what they pay attention to and what they ignore. It is also known as endogenous attention or executive attention. In lay terms, attention control can be described as an individual's ability to concentrate. Intentional control is thought to be closely related to other executive functions such as performing, concentration and attention.Yogatechniques, tratakagive a tremendous beneficial effect on performance, concentration, and attention with skillful action in events.

STATEMENT OF THE PROBLEM:"Innovation of yogic techniques to improve performance of female racket players.

PURPOSE : The purpose of the study was to examine the impact of Trataka on female racket players. A secondary purpose of this study was to determine trataka practice to improve performance of racket players. The study is to determine the effective use of Trataka would help players to remove problems related with performance.

HYPOTHESIS: There is no significant difference of mean scores between experimental group and control group of female racket players.

METHODOLOGY

Study was conducted on 30 female racket game players of LNIPE, Gwalior were selected as the subjects of the study and divided into experimental group and control group, with 15 players in each group. On the Trataka Concentration Female racket players. **T**he data were obtained with the help of MirrorTracer before and after trataka practice upon the above-mentioned groups.Mirror tracing is an activity which is related with visual and motor learning. In mirror tracing a pencil is require for the subjects. The task is required to subjects to move the pencil to trace the diagram of a star while looking at his or her hand as a reflection in mirror.The students were assembled in a hall and made to sit in rows and than scholar had given instruction to subjects to collection the data. Data were collected before Trataka practice and after four weeks from both the groups experimental and control group. This study consists of comparing different groups between two different sets of conditions. The process of the design is illustrated by the following table.

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Table 1.1
Design of the study

S.NO.	GROUP	DATA	INTERVENTION	DATA
1	Experimental	Pre	Trataka	Post
2	Control	Pre	Non	Post

For present study experimental and control group data design had been used. This study involves data collection from both the groups at pre and post basis of Trataka practice.

Table 1.2
Progressive chart of training schedule

S. NO	PRACTICE	WEEK 1	WEEK 2	WEEK 3	WEEK 4
1	Opening prayer	3	3	3	3
2	Eye exercise	4	4	3	2
3	Jatrutrataka	6	4	3	3
4	Trataka	6	7	8	9
5	Post eye exercise	8	9	10	10
6	Closing prayer	3	3	3	3
7	Total time	30	30	30	30

Table 1.3
Difference between mean scores of experimental group and control group

GROUP	MEAN		SD	
	Pre	Post	Pre	Post
Experimental Group	22.6	7.933333	19.61705	6.204453
Control Group	16.66667	16.46667	12.2046	10.86848

Table: 1.3 Revels that mean scores of experimental group and control groupare pre and post are (22.6 & 7.93) and (16.66 & 16.46) respectively. This shows that there is change in concentration of experimental group after Trataka practice. Thus hypothesis is rejected.

CONCLUSION

The present study observed changes after Trataka practice on female racket players of LNIPE Gwalior. Research indicates that there is always a possibility of improvement in planning the action to be taken to achieve the aim. Yoga could be incorporate to inculcate and enhance various skills of sports persons. Yoga with its all perspectives at the physical, mental, emotional and intellectual with spiritual basis can be right solution to problem and to improve performance. As per the finding of the research it can be said that effect of Trataka improves performance and concentration. Students practicing Trataka had shown to have better maintain concentration.

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IMPROVING DAY TO DAY LIVING STANDARDS: A COMPARATIVE STUDY BETWEEN PAST AND FUTURE

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ABSTRACT:
Health is the most precious part of human life. As this derives the overall development of any kind in a human body. But now a days people are not serious about their health and just running behind wealth. They don't even understood that this health can help them in order to be more efficient and useful human resource. Here I had proposed a plan to prepare an online platform in order to overcome their health related issues with the help of leading physical educationists and other people from related fields. This system will enable them to improve their lifestyle and fitness level with easier steps and make them a healthy countryman.

Keywords: Health, Startup, Physical fitness, Revenue, lifestyle.

INTRODUCTION

We are living in a society where life is a race and technology is the primary aid in order to be in the race. People are more cautious about their wealth and health is left far way behind. We have observed a gradual change in the day-to-day as well as season-to-season daily routine, living standards as compared to the old times. "Old is gold" is a famous phrase used in the Indian sub-continent. In the present paper, it is observed that an increase in diseases and decrement in the fitness level of society. We see food habits and daily routine were more proficient in the old age times as a result of which people having longer life span as well as healthier lifestyle. However, in the present scenario, situation becomes very miserable and as a result of whichdiseases like diabetes, cardiac problems, digestive problems, problems related to joints etc were increasing day by day. After observing above facts, it is concluded that there is a degradation of life style. Therefore by following a planned daily routine, one can either overcome or prevent these health issues and this can be termed as " planned or scientific lifestyle". Life is very precious and it can be preserved with a healthy lifestyle. We observed from our surroundings that now a days a human is not just a human but a human machine. Also, we use to interpret that "make the most use of your, it pays you back". It seems useless because using our body in a random, unhealthy and with a hectic workload, this degrades our body, mind and health as well. People are not interested in healthy routine, diet plan and lifestyle.

FINDINGS:

Now days, technology is an integral part of life and it is almost impossible to drop it from an individual's life. It can utilized as a source of possible remedies. There are very much non-scientific, irregular and harmful materials available on the different sites in the form of videos and literature. The harmful effects can be overcome creates a bad impression regarding physical activities in the mind of society. To overcome this issue experienced and qualified experts, coaches, trainers and teachers have to join their hands together in order to form a platform where authentic, systematic and scientific information regarding health have to be published in the forms of videos(which includes practical sessions), theoretical materials and also a live interaction with experts. This platform must be in the shape of a website as well as a free

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downloadable application which are available on the play stores of androids. Through this step, we can reach to the maximum population and this awareness can bring a social reform in the form of change in increasing the living standards of the society. Also, digital centers in different cities can be formed in the order to resolve the queries of the people as well as that centers can be utilized as small physical and psychological testing centers with contributions of social institutions. Now a days, there are an ample of the funding and sponsoring agencies are available all across the globe. With these ways we can improve the awareness regarding fitness and health and can do justice with our profession. This will also helps in the making a healthy human resource for our nation and world.

The following graph is the result of a data based on death due to smoking and cancer during the period of 1910-2010. This result shows that there is an increase in the death rate due to smoking i.e. lung related issues is increasing year by year in the last 100 years as this can also be compared to the old period where death rate due to these factors were comparatively very low.

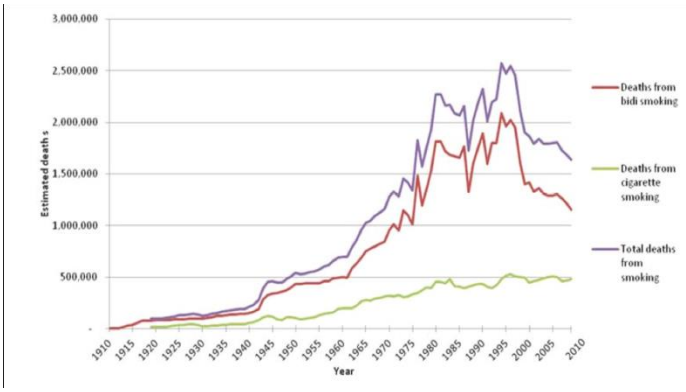

Fig.1 Deaths due to bidis and cigarettes in last 100 years in India (1910-2010).

In fig.2 which is based on the life expectancy at birth in African countries. In this graph we observe that there is a disbalance in the life expectancy at birth in the last 50 years. This trend is common to all over the world not only in the African regions. Also there is a visible decrease in the life span of the people, which is also a matter of great concern.

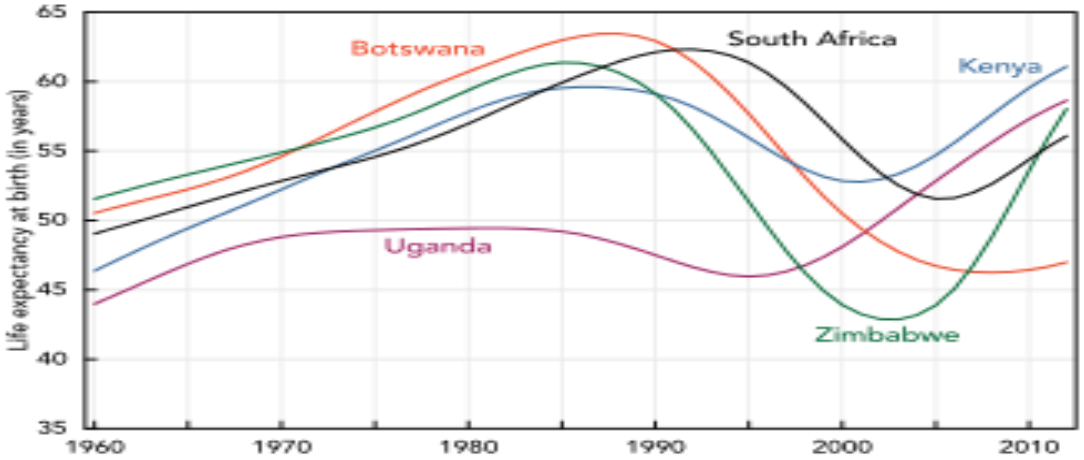

Fig.2 Life expectancy at birth in African regions

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In the third graph, there is an increasing trend of diabetes in USA. Through this which we can observe that there is a huge problem in the last 2-3 decades regarding diabetes in the whole world.

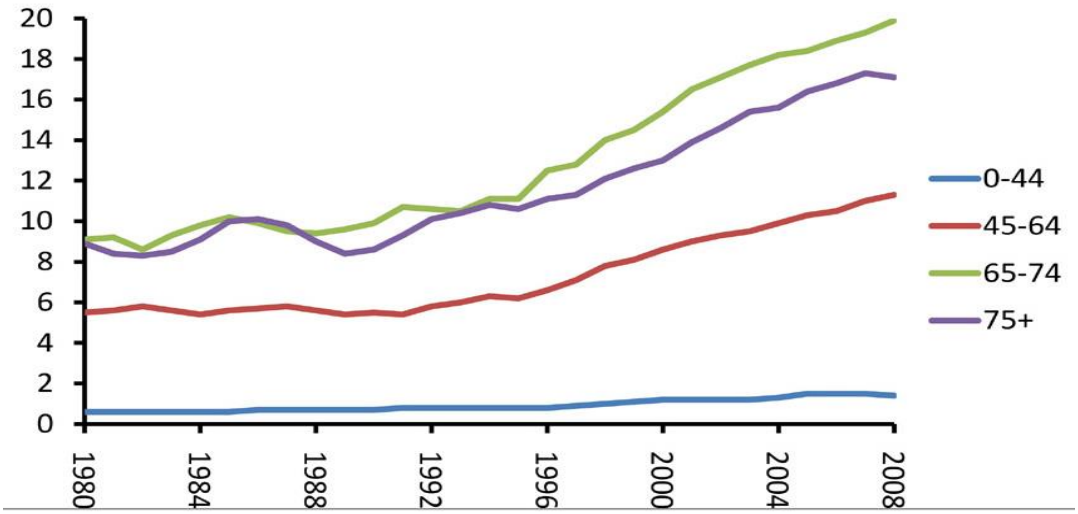

Fig.3 shows the increase in diabetes level in the people of USA.

These three situations made us to realize the real problem and that is the lack of awareness about there food habits and fitness level, lesser amount of rest, decrease in average sleeping span and increase in working hours etc. With this we came to an idea of a startup based on the solution of above problems. Which was discussed earlier in the paper.

RESULTS AND DISCUSSION:

Now, it is a matter of firm belief that how to overcome these increasing health issues. And with this we came to this startup idea that utilizing the digital platform and opportunities provided through government schemes, there must be a website and its application of android cellphones can be formed. Where there will be standard and complete information about all the health related problems and their remedies. For this, there will be an expert team which will coordinate this whole project allover India in the first phase. This startup will be expanded later on for the whole globe. This project also needs expert and veteran physical educationists, coaches and others related to the relevant field to play a vital role, as there is a plan to include all of them in the form their video lectures and online portal. So with this people will find adequate and authentic information about any problem related to their health and physical fitness. This project will also provide them a free online interactive session with the experts. At the later point of time this project can also generate huge amount of revenues and can be a successful business model, but in the starting phase it will be a different kind of startup i.e. a "Social Startup". For the project there is a need of these experts as core team members: An IT expert, a physical educationist, a management trainee and a legal advisor. Apart from this, there is a presence of experts from physical education and health from all over the country to support this movement voluntarily. There is a need of funding for the startup of about Rs. 7.5 lakhs initially. Which can recovered in the II phase of the project. Also an amount of about 5 lakhs will be financed through Startup India scheme, if selected. With a noble aim to make the world healthy and fit,

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we can join our hands and with this we can also give a new point of view for our profession. With this we can not only make our surrounding fit but also improve the lifestyle of the society

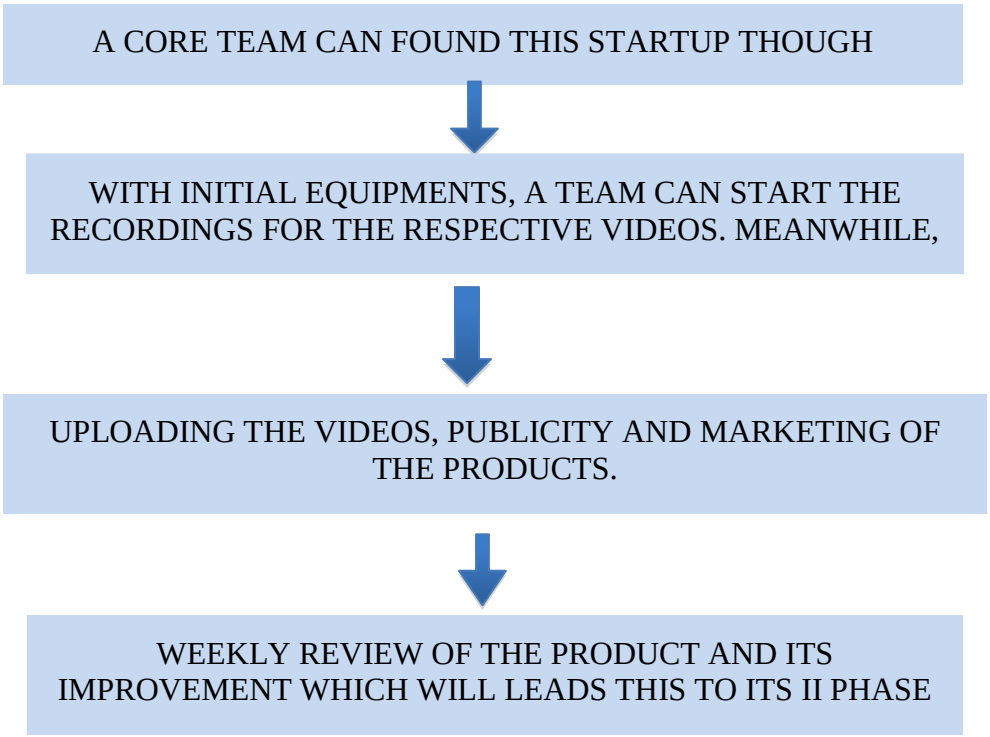

Fig. 4 shows the functioning of the proposed startup as block diagram.

Above is the proposed business model that is to be proposed for the healthy nation and its native.

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COMPARISON OF MENTAL TOUGHNESS BETWEEN INDIAN FOOTBALL AND VOLLEYBALL PLAYERS (MALE) OF 12TH SOUTH ASIAN GAMES

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ABSTRACT
The purpose of the study was comparison of mental toughness between Indian Football and Volleyball players (Male). The subjects for this study were selected from 12th South Asian Games 2016 held at Guwahati (India). A Total of 30 players were selected Football (18) and Volleyball (12) with the age group of 18-35 years. The selected variable was measured with the help of Mental Toughness. The obtained data were analyzed by Independent't' test for comparison of Mental Toughness differential between Football and Volleyball players. The level of significance was set at 0.05. There was no significant difference of Mental Toughness between Indian Football and Volleyball players because the calculated value 0.56 was less than the tabulated value 2.048 at 0.05 level of significance.

Keywords: Mental toughness, Sri Lankan volleyball team, Indian volleyball team, Indian football team**.**

INTRODUCTION
A key question for sport and exercise psychologists is whether champions have simply inherited the dominant psychological traits necessary for success or whether mental toughness can be acquired through training and experience. Recent research has attempted to explore the concept of mental toughness in sport more meticulously, and it appears that some people are naturally more tough-minded than others; people can be 'toughened-up' with the correct approach to training.In Search of Mental Toughness Sport psychologists (researchers and practitioners), coaches, sports commentators, sports fans, and athletes acknowledge the importance of mental toughness in sporting performance. Athletes and coaches felt that at least 50% of success is due to psychological factors that reflect mental toughness.

Some psychologists have argued that the attributes of a mentally tough athlete in one sport may differ greatly from the attributes of a mentally tough athlete in a different sport. Differences have been hypothesized between male and female athletes as well as between "team sport" and "individual sport" athletes, but till date a very little empirical evidence has shown what these differences are. Sport-specific studies of mental toughness have been conducted in cricket, soccer, gymnastics and Australian football. These studies have not employed a common framework, although many have used the definition of mental toughness provided by either the Jones et al. study, or the Gucciardi et al. study. Many sports focused studies have employed the Clough model of mental toughness. They have, using samples of athletes, shown a link between toughness, coping, emotional reactivity, psychological skills and performance.

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OBJECTIVE OF THE STUDY: The objective of the study was to compare the mental toughness between Indian Football (Male)and Volleyball (Male) players in 12th South Asian Games.

METHODOLOGY

A total of (30) player were selected from Football (Male) and volleyball (Male) through the channel of 12th southasian games 2016, After obtaining approval for the human subjects protocol from the tournament director and respective team coaches.

Mental toughness questionnaire developed by Dr. Alan Goldberg (1998) was used.

Mental toughness questionnaire consists of 30 items measuring the mental toughness in five

Areas, i.e. rebound ability, ability to handle pressure, concentration, confidence and motivation.

There were only true/false options for the response and subjects have to tick only one.

It was hypothesized that there may be significant difference in Mental Toughness between IndianFootball (Male) and Volleyball(Male) players of 12th South Asian Games.

The obtained data were analyzed by applying independent't'test in order to compare motivation and Mental Toughness differential between players. The level of significance was set at 0.05.

RESULTS

Table. 1

Comparison of Motivation between Indian Football (Male) and Volleyball Players (male).

Team	N	Mean	SD	SE	't'
Football	18	16	2.08	0.3246	**0.56**
Volleyball	12	15.5	2.84	0.733	

*'t'(2,28)=2.048 * level of significance is 0.05.

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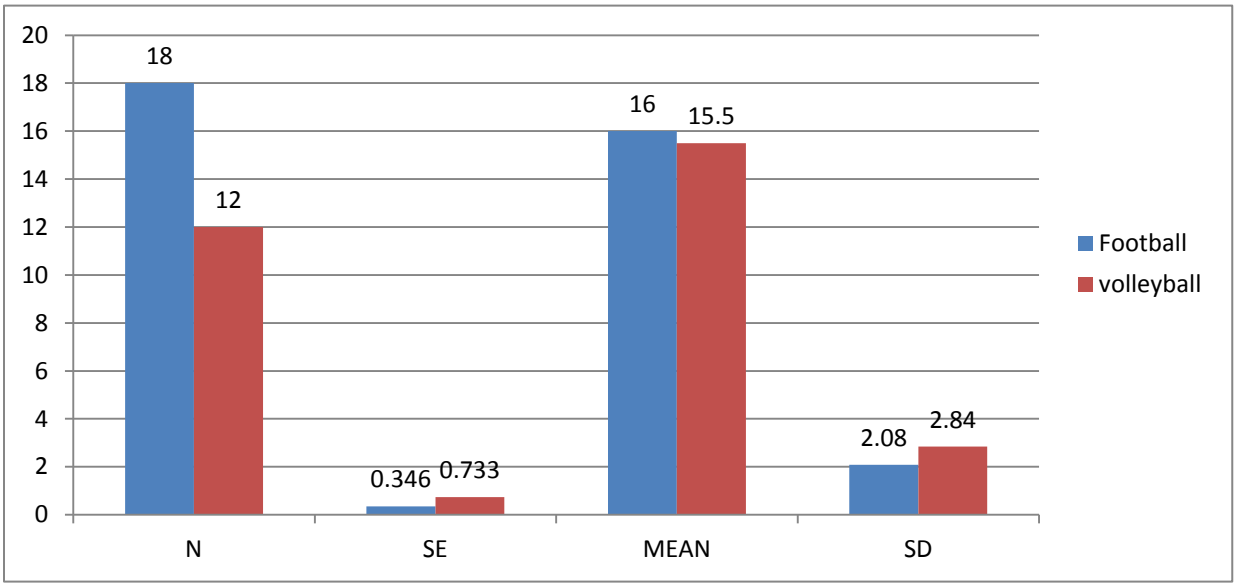

FINDING and RESULTS

From the above Table-1, it is revealed that there was nosignificant difference in case of mental toughness test as calculated 't'value [.56] is less than the tabulated 't'value [2.048] at 0.05 level of significance. Thus it may be concluded that there is no significant difference between India male Volleyball and Football players related to mental toughness test.

DISCUSSION OF FINDING

The finding of the study reveals that no significant difference is found in case of mental toughness between Indian Football and Volleyball players. Volleyball team won the gold medal in the 12th South Asian Games by defeating Sri Lankan team in the final match and Football team won the silver medal. It had happened because both the group ofplayers involved themselves more to prepare mentally and trained hard to participate in South Asian Games. Other conditions might be same for both the teams. They may have equal level of experience in terms of competition which must have been probable cause for the insignificant difference.

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UPLIFTMENT OF INDIAN SPORTS THROUGH CORPORATE SOCIAL RESPONSIBILITY

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ABSTRACT
A UN report on The International Year of Sport and Physical Education (IYSPE 2005) has highlighted the importance of Sports to the Society and wellbeing of Humans. "Sport and physical education play a vital role at all levels of society. On the national level, sport and physical education contribute to economic and social growth of the nation."

Indian sports except cricket, scenario is distressing in all other gamesThe government can get large financial resources from large profitable corporates through corporate social responsibility policy. Under the newCompanies Act 2013, it is mandatory for certain class of companies operating in India, including branches and project offices of foreign companies to spend at least, 2 per cent of their three-year average annual net profit towards corporate social responsibility (CSR) activities.As per the Schedule VII of the Companies Act, 2013, a list of CSR activities includes training to promote rural sports, nationally recognized sports, Paralympic sports and Olympic sport.Amendments in the CSR activities 2015, the construction, renovation, maintenance of stadiums, gymnasiums and rehabilitation centers have become part of the permissible CSR activities. The objective of this paper is to identify whether corporates through their CSR help uplift Indian sports to a competitive global level or not.

Key Words: Sports, Corporate Social Responsibility and India

INTRODUCTION
SPORTS is an activity which involves physical exertion and skill in which an individual or team competes against another or other teams for entertainment;or is an athletic activity requiring skill and physical prowess, which is often competitive in nature.

A UN report on The International Year of Sport and Physical Education (IYSPE 2005) has highlighted the importance of Sports to the Society and wellbeing of Humans. "Sport and physical education play a vital role at all levels of society. For the individual, sport enhances one's personal abilities, general health and self-knowledge. On the national level, sport and physical education contribute to economic and social growth, improve public health, and bring different communities together. On the global level, if used consistently, sport and physical education can have a long-lasting positive impact on development, public health, peace and the environment."

India never had a sporting culture.Except cricket, the condition of all other games is pathetic. There are a number of reasons for such a pathetic scenario. Collectively asnation, we accord respectability to education as against sports. Indian parents admonish their children for wasting their time playing. This negative mindset of parents, teachers and the society towards sports as a career, is unacceptable, moreover there are many examples of medal winning athletes who are living a life of penury without any support from the government or any other agencies. His ticket

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to Sochi Winter Olympic (2014) was paid not by the Indian government but by crowd funding.The world's second most populous nation has the worst Olympic record in terms of medals per head.In the past three decades, it has won only one gold medal - for the men's 10m rifle in 2008.In London, in 2012, it bagged its best haul, six medals, or one for every 200 million people.In 2008, it got just three medals. IOA is responsible for the Indian continent's participation in the Olympic Games, Commonwealth Games, Asian Games, and South Asian Games. Each Olympic and non-Olympic sport has a federation at the national level. The selection of the national teams is done by the respective national federations and recommended to IOA for official sponsorship for participation in the games conducted under the auspices of the International Olympic Committee, Olympic Council of Asia, Commonwealth Games Federation. Increasing involvement of non-profits as well as for-profit organizations in growth and development of budding sportspersons is also a boon for the country. Moreover, with the introduction of schemes such 'Khelo India', the government is working on providing a robust structure for sports development. In essence, India's road to sporting glory is brightly lit with an inclusive effort from all the stakeholders. Corporate Social Responsibility (CSR) has been defined under the CSR Rules, which includes but is not limited to: Projects or programmes relating to activities specified in the Schedule VII; or Projects or programmes relating to activities undertaken by the Board in pursuance of recommendations of the CSR Committee as per the declared CSR policy subject to the condition that such policy covers subjects enumerated in the Schedule.

Under the CSR Rules, that came into effect from 1st April 2014, it is mandatory for certain class of companies operating in India, including branches and project offices of foreign companies, with a net worth of Rs. 500 crore or revenue of Rs. 1,000 crore or net profit of Rs. 5 crore should spend 2 percent of their average profit in the last three years towardsCorporate Social Responsibility(CSR) activities. As per the Schedule VII of the Companies Act, 2013, a list of CSR activities includes training to promote rural sports, nationally recognized sports, Paralympic sports and Olympic sports.Originally, CSR funds could be spent only on training to promote rural sports, national-recognized sports, Paralympics sports and Olympic sports. Now with the amendments in the CSR activities in 2015, the construction, renovation, maintenance of stadiums, gymnasiums and rehabilitation centers have become part of the permissible CSR activities. The CSR policy is to be decided by a committee of the board, which will also identify projects and monitor their implementation. The Rules accompanying the Companies Act, 2013 say that CSR activities must be undertaken by a separate entity - it could be trust, a society or another company set up specifically for the purpose. It is not necessary that these trusts, societies and companies should be set up by the company on its own - companies can work with an existing independent one that has a three-year track record for carrying out such activities.

METHODOLOGY

To seek answers to the above-mentioned objectives, secondary data has been used. Data from CSR reports of top companies listed in National Stock Exchange (NSE) have been analyzed, along with surveys done by Confederation of Indian Industry (CII), KPMG, Ernst and Young (EY), Ministry of Youth Affairs and Sports and other agencies. News articles published in newspapers and magazines.

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RESULTS AND DISCUSSIONS

In the last four years, sports have not garnered much interest by corporate entities, as envisioned by the Ministry of Corporate Affairs to promote sports in the country through CSR policies. In the financial year 2015-16, only Rs. 57 crore (0.69%) of the Rs. 8,185 crore total spent in CSR expenditure, was spent on sports development. As per the KPMG survey 2016 on India's CSR reporting shows that of the top 100 listed companies as per market capital on the National Stock Exchange (NSE), less than 20 percent spend their CSR amount on Schedule VII specified CSR activities like training to promote rural sports, nationally recognised sports, Paralympics sports and Olympic sports. In fiscal year 2017 (FY17), of the actual spend of Rs. 6,810 crore on corporate social responsibility (CSR) activities by the top 100 (NSE)-listed companies by market capitalization (data for 92 firms was considered), as analyzed by Goodera, a CSR and sustainability management platform, only Rs122.71 crore (1.8%) was allocated to sports. However many public and private sector companies have been investing in sports even before the CSR Rules became mandatory and they continue to do so, for example, TATA Group has been financing, sponsoring, training athletes and other sports related activities.

Tata Steel Ltd, one of the top 10 CSR spenders in FY17, has put around Rs. 5.99 crore into promoting rural and Olympic sports. The group has three sporting academies: Tata Football Academy, Tata Archery Academy and the Tata Athletics Academy and a multi-disciplinary and well-equipped JRD Tata Sports Complex, and several sport feeder centres at different locations. Naval Tata Hockey Academy for young tribal boys, in Jharkhand. **Jindal Steel and Power Ltd (JSPL)** CSR is focusing on traditional sports such as KhoKho, Kabaddi, cricket, volleyball martial arts, and athletics. Over the past two years, JSPL has supported 200 coaching camps, benefiting more than 3,000 youths. These sports trainees are given sports accessories, nutritional supplement, rural gymnasiums and are helped to compete in district-level tournaments and promoted for state and national-level tournaments.**Jindal Steel Works (JSW) Foundation** engages the youth through sports. JSW Sports Excellence Programme encompasses the sporting disciplines of judo, wrestling, boxing, athletics and swimming offering high quality training and international exposure to athletes. The athletes are given an opportunity to train and compete across the globe.Rural sports program the foundation encourages sports through organizing championships; training and nutrition for rural children and youth; and establishing rural sports academies. **12 JSW Athletes (including** Sakshi Malik) represented India in Rio 2016 Olympic Games.. **ONGC** has been contributing towards **sports infrastructure development**, promotion of rural sports in 13 states in areas of its operations. It has also extended support for many national events like the hockey league by providing money for equipment, coaching and infrastructure even prior to the CSR Rules coming into force as part of the firm's sports promotion board, a must for all state-controlled companies. **SETCO**'s CSR funds were used to **build the Arena, a multipurpose, multisport stadium** in Ahmedabad. SETCO CSR Sportsfoundation has invested in developing grassroots sports and self-defense training as a medium of outreach for nearly a 100 boys and girls to increase gender parity, sense of community, discipline, team-work, physical health, work ethics and other life-skills.In 2015 - 2016, 29 medalists emerged at the Khel-Mahakhumbh, including 3 national level players for judo, track & field and volleyball**Hindustan ZincLtd** is setting up a state-of-the-art **National Residential Football Academy** in Zawar, a tribal belt of Udaipur district in Rajasthan, with a belief that India has a huge talent hidden in rural areas.The company has already started talent

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scouting camps and around 40 footballers have been identified for mentoring and training by experienced coaches. The programme will also focus on providing health and fitness facilities, and a nutritious diet to the trainees. Overall spending by the company in current year on the sport initiatives would be around Rs.15 crore.**India Infrastructure Finance Company Limited (IIFCL)** under its initiatives for CSR is supporting Badminton and archery and will contribute Rs. 30 Crore (Rs. 10 crore each year for 3 years starting 31.3.2015) to the Target Olympic Podium (TOP) Scheme within ambit of National Sports Development Fund (NSDF).**IndusInd Bank** in association with GoSports Foundation has launched 'Jeet ka Halla' a campaign to support the Para-athletes under the Para Champions Program.There are many companies in India that are associated with sports sponsorship for their own commercial interests such as creation of brand recognition, launch of new productsfor example**Hero MotoCorp** has been associated with golf, cricket, hockey and football for over two decades now.**Oxigen** the mobile wallet app has been associated with sports, like football, cricket.**Paytm**is the title sponsor for all bilateral cricket series to be played in India till 2019 and is actively exploring similar opportunities in other sports. Thecompanyhas allocated Rs 500 crore towards sports marketing over the next four years.**Videocon d2h is** associated with cricket, football and hockey. There are other corporates, which have been organizing one off activities like annual marathons and spend their CSR funds for it but these arenot CSR activities.

CONCLUSION

The dream of taking Indian sports to a higher level would require much more than CSR funds. The mindset of the entire society about sports needs to change and a deep cleansing of the entire sports set up has to be done. The will to make a change has been visible in making the amendments in the corporate legislations with regard to CSR and broadening the sports related activities. However, the analysis of various survey reports on CSR activities of large corporates during the period 2014-2017 shows that most of the companies have not been spending on sports or its related activities. The Government in the past 10 years 2007-2017 has received only a totalofRs.119 crore in corporate support towards sports.A handful of companies and their meager CSR budgets for sports cannot uplift Indian sports..It is also an opportunity for the corporates toshowcase their organizational and managerial capacityto set up world-class infrastructures and manage them as well.Finally, if all the corporates restrategise their CSR policies and align them with some sports related CSR initiativesin a sustainable manner then only some headway in uplifting Indian sports will be made.

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PHYSICAL MANAGEMENT OF ICE HOCKEY PLAYERS IN LADAKH

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ABSTRACT

Ice Hockey which are hugely popular.Ice Hockey Ladakh also called shinny or pond Hockey are a way of life during the long winter in Ladakh in natural ice .The huge Hockey players playing Hockey compels rehabilitation professionals working in orthopedic and sports settings to understand the unique functional demands of ice Hockey and then pattern of injuries they may promote.

Keyword: Physical Management of Ice Hockeyplayers.

INTRODUCTION

Ladakh is well known for its pristine natural beauty and spiritual places like monasteries and stupas but now it has also come to be known as emerging destination for lovers of winter sports like ice Hockey ice skating .Since ladakh is one of the few place in India that freeze in winter. As north India come under the grip of chill the cold desert of Ladakh gears up for winter sports ice Hockey which are hugely popular Ice Hockeyladakh also called shinny or pond Hockey are a way life during the long winter in ladakh.The mountainous region of ladakh has possibly the country's highest skating rink at 3483 m above the sea level.The history of ice Hockey in ladakh dates back to the early 70's when the ladakh scout battalion of in 2008 first time an Indian ice Hockeyladakh team participated in the Asian challenge cup which was in Abu Dhabi.

THE Indian army was transferred in boundary region they started playing the ice Hockey .The game has sustained to grow and popularity in the region .The local ladakhis took pleasure in this ice Hockey . But due to due to lack of defensive gear Growing participants in ice Hockey at all level may lead to higher incident of injuries sustained during the practice and participants to skate a narrow contact surface (blade) with a low friction surface (ice) while moving in all planes of motion .Injuries to head,Shoulder, hip ,knee ,and ankle foot are most common.Present a conceptual model for the clinical management and prevention of these injuries by rehabilitation professionals.

METHODOLOGY

Participant: Ten ice Hockey player from kargilladakh were selected for the research .They had almost similar anthropometric measurements physiological capacity, chorological age (18-19) year selected for the study.

Criterion measure: Three forwards two defensemen and one goaltender on the ice at a given time for each team at full strength.All of this position have varying functional demands.

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MANAGEMENT OF SELECTED ICE HOCKEY INJURIES

The identification and rehabilitation management of typical injuries sustained during Hockey play .The injuries will include closed head complex, hip, knee, and foot and ankle. The sports specific biomechanical predisposition for each injury will be discussed along with unique rehabilitation consideration that relate to the functional requirements of the sports.

Administration of the experiment:The Experiment was conducted in the khree sultan cho stadium kargil (ladakh) ice Hockey Rink having -20C during the month of January February2016.

Result and finding: research evidence is available to support the prevalence of injuries sustained while participating in ice Hockey as well as the most effective clinical treatment protocols to treat them most of the existing protocols are based on clinical and sports experience with incorporation of scientific data.

CONCLUSION

After the test the current concepts of the ice Hockey injury care and prevention based on scientific information regarding the incidence mechanism rehabilitation protocol prognosis and prevention of injuries science based patient centered reasoning is integral to provide the highest quality of rehabilitative and preventive care for ice Hockey athletes by physical management.

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COMPARATIVE STUDY OF PSYCHOLOGICAL AND PHYSICAL FITNESS STATUS BETWEEN NATIONAL BASKETBALL TEAM AND BKSP BASKETBALL SPORTSPERSONS OF BANGLADESH

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**** Shafiqul Islam** (BKSP, Zirani Saver, Dhaka, Bangladesh)

INTRODUCTION

Peak performances are those magic moments when the sportspersons put it all together both physically and mentally. Its focus is on the mental side of peak performance and how the mind interacts with the body in ultimately producing performance. Most sportspersons and coaches will acknowledge that at least 40% to 90% of success in sports is due to mental factors. The higher the skill level, the more important the mental aspects become. In fact, on the elite competitive level, it is not uncommon to hear that the winner invariably comes down to who is the strongest sportspersons mentally on a given day! Our **athletic performance** division focuses on developing both the mental and physical capabilities of a person as well as the connection between them. Our team enhances both the physical and mental performance by helping to analyze performance gaps and develop solutions allowing individuals to perform at your peak potential. Our goal is to maximize athletic performance and ultimately create a competitive advantage for individuals and teams.

As per Speilberger (1966), anxiety has two forms; trait anxiety and state anxiety. Trait anxiety is a tendency to respond emotionally to a wide range of non-treating stimuli. It refers to a predisposition to respond with heightened arousal to certain class of stimuli. State anxiety, on the other hand, is the actual feeling of tension and nervousness.

Scanalan (1977) contended that successful outcomes reduce threat of potential negative evaluation, whereas failure outcomes maximize threat. His investigation of attribution of high Vs low, A-trait subjects relative to success-failure on a competitive motor maze task clearly indicated that success-failure was an important factor affecting the perception of threat, as measured by A-state levels. Hall (1980) reported that external were significantly higher on A-trait than intervals, and there was a significant relationship for A-trait and pre-and post-performance A-state, as well as for relationship of post-performance A-state to number of internal attributions.

MATERIALS AND METHOD

The subjects of the study were 23 National Basketball Players selected from the differences Basketball Players who were come from differences camp for evaluation to BKSP and 23 were Basketball Sportspersons who were regular students of BKSP. Psychological variable were Anxiety Control, Anticipation Time and Physical variable were Strength and Flexibility. Psychological Skill Inventory for Sport (PST) prepared by Mahoney. Gabiel, Perking (1987) was used to assess the psychological skills of Anxiety Control) and Electronic Anticipation Time

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Apparatus (Lafayette, USA-2000) was used to measure the Anticipation Time as Psychological variable and Standing Broad Jump was used to measure Strength and Sit and Reach test was used to measure Flexibility as Physical Fitness variable. Mean, Standard Deviation and Independent t-test were used to analysis the data, and level of significant was set at 0.05.

RESULTS

Means, Standard Deviation and t-ratios were computed in order to analysis the separately for difference variables of National Basketball Team and BKSP Basketball Sportspersons. The significance chosen was .05 levels. The statistical analysis of data has been separately presented in Tables following.

Table -01

Means, Standard Deviation and t-ratios of Anxiety Control of National Basketball Team and BKSP Basketball Sportspersons of Bangladesh

Group	Size	Mean	Mean Difference	SD	't' ratio
National Basketball	23	21		3.49	
			1.57		0.081
BKSP Basketball	23	19.43		3.89	

* Not significant at .05 level $t._{05}(44) = 1.68$

Table 01 reveals that there is no significance Psychological variable like Anxiety Control between National Basketball Team and BKSP Basketball Sportspersons. The obtained value t-value of 0.081 is less than the table of value of 1.68.

Table -02

Means, Standard Deviation and t-ratios of Basin Anticipating Time (BAT) of National Basketball Team and BKSP Basketball Sportspersons of Bangladesh

Group	Size	Mean	Mean Difference	SD	't' ratio
National Basketball	23	.169		0.031	
			.04		2.54
BKSP Basketball	23	.129		0.026	

* Not significant at .05 level $t._{05}(44) = 1.68$

Table 02 shows that there is significance difference with Psychological variable like Basin Anticipation Time between National Basketball Team and BKSP Basketball Sportspersons. The obtained value t-value of 2.54 is more than the table of value of 1.68.

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Table -03

Means, Standard Deviation and t-ratios of Strength of National Basketball Team and BKSP Basketball Sportspersons of Bangladesh

Group	Size	Mean	Mean Difference	SD	't' ratio
National Basketball	23	249		20.09	
			22		0.082
BKSP Basketball	23	227		17.62	

* Not significant at .05 level $t._{05}(44) = 1.68$

Table 03 shows that there is no significance difference with Physical Fitness variable like Strength between National Basketball Team and BKSP Basketball Sportspersons. The obtained value t-value of 0.082 is less than the table of value of 1.68.

Table -04

Means, Standard Deviation and t-ratios of Flexibility of National Basketball Team and BKSP Basketball Sportspersons of Bangladesh

Group	Size	Mean	Mean Difference	SD	't' ratio
National Basketball	23	39.65		5.71	
			3.65		0.069
BKSP Basketball	23	36		6.34	

* Not significant at .05 level $t._{05}(44) = 1.68$

Table 04 reveals that there is no significance difference with Physical Fitness variable like Flexibility between National Basketball Team and BKSP Basketball Sportspersons. The obtained value t-value of 0.069 is less than the table of value of 1.68.

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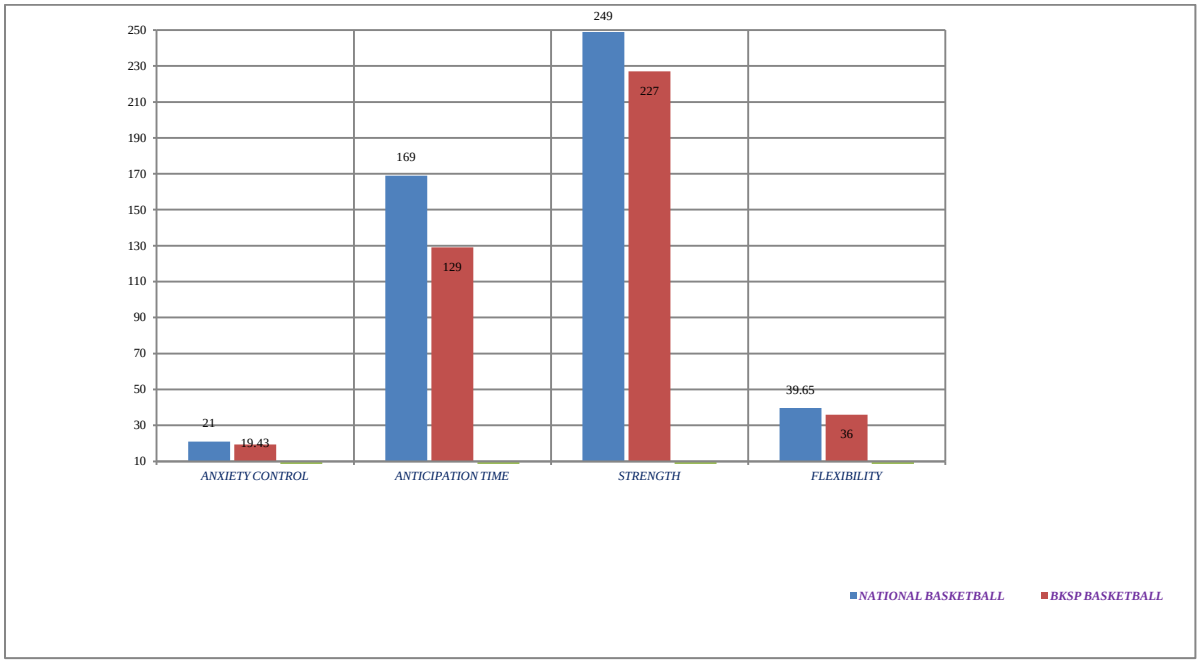
Table -5

Means of Anxiety Control, Anticipation Time, Strength and Flexibility National Basketball Team and BKSP Basketball Sportspersons of Bangladesh



DISCUSSION

The present study analysis the data indicates that there is Significant differences were found only between Psychological Variable like Anticipation Time between National Basketball Team and BKSP Basketball sportspersons in Bangladesh and no significant differences others Variable. The results show that Psychological and Physical variable like Anxiety Control, Strength and Flexibility between National Basketball Team and BKSP Basketball Sportspersons were no significance difference.

Studies on the Psychological and Physical aspects of players are essentially important because mind, technique and body are traditionally considered the three essential components of competitive ability in sportspersons as well as to the development of moral character and personality. While it is true that in competition, strength in one or two of these components can compensate for weakness in another, most successful competitors have excellent technique, Physical shape and conditioning and mental fitness and outlook in relation to training and competition. Outside the competition arena, proper development in each of this area is seen as a necessary condition to development of the whole person through practice

The purpose of study was to test the relationship between the Psychological measures on one hand and Physical fitness measures on the other, addressing the general hypothesis that who were in better physical shape had psychological profile more conductive to positive mental state and competitive performance. We know that from study a reliable relationship between psychological and physical indices in athletes in any sport. These finding suggest that the

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physical state of athletes in intimately and reliable connected to their psychological frames of mind as well.

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DEVELOPMENT OF LINEAR REGRESSION MODELS FOR ESTIMATING TOTAL BODY ISOMETRIC STRENGTH OF DELHI MALE(ABSOLUTE STRENGTH APPROACH)

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ABSTRACT
The purpose of this study was to develop linear regression models for measuring total body isometric strength. For fulfilling this objective 67male subjects from Delhi region have been randomly selected with Decimal Age (20.68 ± 1.52), Height (169.25 ± 7.24), Weight (60.92 ± 9.84) and BMI (21.20 ± 2.56).The subjects have undergone three trials of each three strength tests namely Hand grip strength test (right and left hand), leg strength test and back strength test. The mean values of all the three trials have been used for the calculation. For reliable and valid test results, tests were administered with standard protocols and with standard equipments (JAMAR hand grip dynamometer and TAKAI leg and back strength dynamometer). To calculate the relationship among the strength variables Pearson Correlation Coefficients were computed and the Linear Models were developed through Linear regression.Total 17 Linear Models have been developed, among which two models have shown very high predicting capability of total body strength namely, Model (M12) with leg strength as predictor variable and having R^2 = 0.853 and F = 376.892* and M14 with back strength as predictor variable and R^2 = 0.711; F = 159.869.

Key Words*: Regression Linear modeling, Isometric Strength, Absolute Strength, Strength Evaluation*

INTRODUCTION
Strength is the most basic and important physical fitness component and it serves in every aspect of life, whether it's related to our daily routines, vocational activities or leisure activities, every body movement requires some strength in one form or other. The development and maintenance of the optimum strength for every individual according to their life style and occupation is of utmost importance. A healthy person with optimum strength to carry out his daily tasks emerges as a clear leader in their field with an energetic and charismatic personalityThe most basic techniques employed to measure the strength aspect of the fitness are isometric strength tests such as hand grip strength dynamometer test, back strength dynamometer test and leg strength dynamometer test. These tests are quick, convenient and inexpensive and provide us with a general indication of total body strength levels. The three mentioned isometric strength tests have been found to be very reliable and valid for measuring and predicting the isometric strength of specific body part strength and total body strength as whole as well. Many researches have been conducted regarding the measurement and prediction of total body absolute strength through linear regression models and the models have found to be very accurate. Wind and taken found that Grip strength has a strong relationship with total muscle strength and reported coefficients between 0.736 and 0.890 ($p < 0.01$). They concluded that in the clinical setting grip strength test

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is a good source for measuring someone's general muscle strength (Wind, T, PJ, & RH., 2014). In their study Tosclair and Judge found that hand grip strength has a significant relationship with total body absolute strength and muscle endurance with correlations between hand grip strength and sit ups test ($r = .472$, $p \leq .001$), hand grip strength and push up test ($r = .241$, $p = .047$) for muscle endurance, hand grip strength and 1RM leg extension ($r = .718$, $p \leq .001$), hand grip strength and 1RM leg press ($r = .609$, $p \leq .001$) for muscular strength. (D, Bellar, Judge, Smith, Mazerat, & Brignac, 2011)

METHODOLOGY

For the purpose of the study total 67 male subjects were selected randomly from NCR, Delhi with Decimal Age (20.68 ± 1.52), Height (169.25 ± 7.24), Weight (60.92 ± 9.84) and BMI (21.20 ± 2.56). The subjects were indulged in three strength tests namely Hand grip strength test, leg strength and back strength tests.. To calculate the relationship among the strength variables Pearson Correlation Coefficients were computed and the Linear Models were developed through Linear regression Modeling.

Equipments Used: Through the course of our study we have used two standard equipments for measuring the three strength tests, their brief description are as follows:

1. **JAMAR** Hand Grip Dynamometer (Made in USA) for measuring hand grip strength.
2. **BACK-D** (Produced by TAKEI, Made in Japan), Back and Leg Strength Dynamometer for measuring back and leg strength.

Test Administration

Handgrip Strength Test

Procedure: The subjects hold the dynamometer in the hand to be tested, with their arms at right angles and the elbow by the side of the body. The handle of the dynamometer was adjusted if required and theywere supervised that the base of the hand grip dynamometer should rest on first metacarpal (heel of palm), while the handle should rest on middle of four fingers. When ready the subject squeezed the dynamometer with maximum isometric effort, which was maintained for about five seconds. **Scoring:** Three trials for each hand were recorded, with at least fifteen seconds recovery between each effort.(Topend Sports, Hand grip strength)

Leg a Back Strength Test:

Procedure. The subjects were supervised to stand upright on the base of the dynamometer with their feet shoulder width apart. Then for measuring the back strength subjects bend their back, pulled as hard as possible on the chain and tried to straighten their back, keeping the arms straight until their back became straight. Same procedure was appliedfor measuring the leg strength but in that case the back was not bend and kept fixed while legs exerted the force and the test was performed till both the legs were straightened at maximum possible.**Scoring**: Three trials have been taken and the average of three trials was considered for analysis.(Topend sportrs, Isometric Leg Strength)

Findings: Thefindings of our study have been depicted in the following Tables and figures as below:

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Table-2
Pearson Correlation Coefficient between Independent Variable and Total Body Strength (Dependent Variable)

S.NO	Predictor Variable	Pearson Correlation Coefficient
1	DA	0.018 NS
2	WT.	0.715*
3	HT	0.390*
4	BMI	0.639*
5	RGS	0.704*
6	RPW	0.028 NS
7	LGS	0.677*
8	LPW	0.007 NS
9	RLT	0.711*
10	RLD	0.106 NS
11	RLPD	-0.095 NS
12	LST	0.924*
13	LPWT	0.627*
14	BST	0.843*
15	BPWT	0.341*
16	LBD	0.606*
17	LBPD	0.305*

Absolute Sum of Correlation Coefficients =7.736
Note: *Significant at **0.05** levels; **NS** = Not Significant;Criterion Dependent Variable Total Strength**(TS) = (RGS+LGS+LST+BST)**

Table 2, the Correlation Coefficient between Total Body Strength and WT (r = 0.715), HT (r = 0.390), BMI (r = 0.639), RGS (r = 0.704), LGS (r = 0.677), RLT (r = 0.711), LST (r = 0.924), LPWT (r = 0.627), BST (r = 0.843), BPWT (r = 0.341), LBD (r = 0.606) and LBPD (r = 0.305) respectively were found to be statistically significant. However, Coefficient of Correlation

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between Total Body Strength and DA (r = 0.018),RPW (r = 0.028), LPW (r = 0.007), RLD (r = 0.106), RLPD (r = -0.095), respectively were found to be statistically insignificant.

Table-4
Linear Models Developed for Estimating Total Strength of Delhi Females

Model	D.V	Linear Model Constant	Predictor	R	R2	Std.Error of the Estimate	F
1	TS	= 299.035	+ 0.750 (DA)	.018	.000	62.46	0.022 NS
2	TS	= 40.196	+ 4.503 (WT)	.715	.511	43.69	67.899*
3	TS	= -250.439	+ 3.338(HT)	.390	.152	57.53	11.642*
4	TS	= -13.388	+ 15.467 (BMI)	.639	.408	48.05	44.863*
5	TS	= 39.144	+ 6.695 (RGS)	.704	.495	44.38	63.777*
6	TS	= 300.286	+20.949 (RPW)	.028	.001	62.45	0.052 NS
7	TS	= 59.398	+ 6.422 (LGS)	.677	.458	45.98	55.016*
8	TS	= 4.833	+311.360 (LPW)	.007	.000	62.47	0.003 NS
9	TS	= 33.229	+3.479 (RLT)	.711	.506	43.92	66.489*
10	TS	= 305.348	+ 3.307 (RLD)	.106	.011	62.12	0.742 NS
11	TS	=323.436	-1.325 (RLPD)	.095	.009	62.19	0.595 NS
12	TS	= 126.818	+ 1.455 (LST)	.924	.853	23.96	376.892*
13	TS	= 163.263	+ 71.453 (LPWT)	.627	.393	48.69	42.14*
14	TS	= 37.417	+ 2.647 (BST)	.843	.711	33.59	159.869*
15	TS	= 162.414	+88.181 (BPWT)	.341	.117	58.72	8.576*
16	TS	= 269.284	+ 1.482 (LBD)	.606	.367	49.70	37.712*
17	TS	= 288.258	+ 1.207 (LBPD)	.305	.093	59.50	6.658*

Note: *Significant at 0.05 levelNS = Not Significant, Total Strength = (RGSA+LGSA+LDA+BDA)

Table 3 depicts strongest Linear Model (M12) for predicting TS with R^2 = 0.853 and F = 376.892* followed by M14 with R^2 = 0.711 and F = 66.489*, M2 with R^2 = 0.511 and F = 67.899*, M9 with R^2 = 0.506 and F = 66.489*, M5 with R^2 = 0.495 and F = 63.777*, M7 with R^2 = 0.458 and F = 55.016*, M4 with R^2 = 0.408 and F = 44.863*, M13 with R^2 = 0.393 and F = 42.14*, M16 with R^2 = 0.367 and F = 37.712*, M3 with R^2 = 0.152 and F = 11.642*, M15 with R^2 = 0.117 and F = 8.576*, M17 with R^2 = 0.093 and F = 6.658*. However The Linear Model M8 has the least prediction value of Total Body Strength with R^2 = 0.000 and F = 0.003 NS, followed by M1 with R^2 = 0.000 and F = 0.022 NS, M6 with R^2 = 0.001 and F = 0.052 NS, M11 with R^2 = 0.009 and F = 1.911 NS and M10 with R^2 = 0.011 and F = 0.742 NS.

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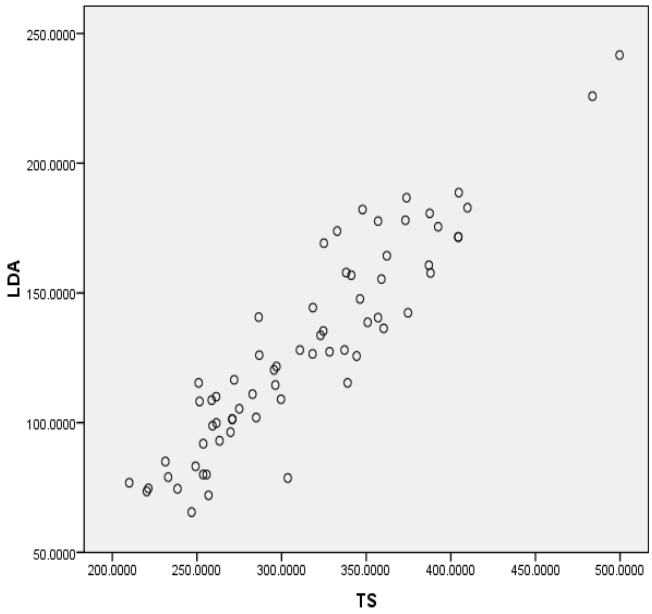
A Partial Regression Plot of our 2best models with dependent variables leg strength (LST) and Back Strength (BST) with Total body strength (TS) has been graphically represented below in the figures 1 and 2 respectively:



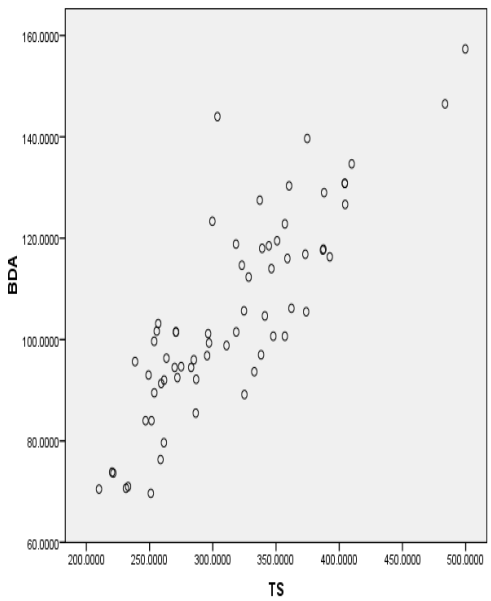


Fig. 1 Regression plot of Model 12 with dependent variableLeg strength with total body strength

Fig. 2 Regression plot of Model 14 with dependent variable back strength with total body strength

Results and Findings

The criterion dependent variable total body strength (TS) is the sum of strength of right grip, left grip, leg strength and back strength is well justified because the absolute sum of the coefficients of TS ($\sum$ =7.736) is highest among all selected variables.

Total 17 Linear Regression Models have been developed among which two models have shown very high predicting capability of total body strength namely, Model (M12) with leg strength as predictor variable and having R^2 = 0.853 and F = 376.892* and M14 with back strength as predictor variable and R^2 = 0.711; F = 159. The regression models are TS = 126 + 1.455 (LST) and TS = 37.417 + 2.647 (BST).The reason behind is that the linear relationship between the dependent variable total body absolute strength (TS) and independent variables leg strength (LST) and back strength (BST) is very high.

The results of our study shows that leg strength and back strength can be considered good predictors of total body absolute strength.

CONCLUSION

Based upon the analysis we suggest following four models for predicting total body absolute strength: TS = 126.818 + 1.455 (LST); TS = 37.417 + 2.647 (BST); TS = 39.144 + 6.695 (RGS) and TS = 33.229 + 3.479 (RLT).

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EFFECT OF YOGASANA TRAINING ON THE SELF-ESTEEM AND SELF-EFFICACY OF WOMEN SUFFERING FROM POLYCYSTIC OVARIAN DISEASE

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ABSTRACT
The study wasconducted to determine the effect of Yogasana Training on the Self-esteem and Self-efficacy ofwomen suffering from polycystic ovarian disease. For the purpose of the study 35 womensuffering from PCOD in New Delhi underwent Yogasana Training for 4 weeks (60 Minute a day for 6 days a week). The criterion measure's used were Rosenberg Self Esteem Scale (1965) and Ralf Schwarzer and Matthias Jerusalem General Self Efficacy Scale (1995). Both the tests were administered twice i.e. before and after the 4 weeks Yogasana training. Mean, Standard Deviation, Percentage Change and Paired Sample 't'- test was used as statistical procedure for analysing the data. The results of the study revealed a significant improvement in self-esteem (20.70%) and self-efficacy (25.86%) of the women suffering from PCOD as the paired t' value obtained were 8.286 and 19.077 at $p \leq 0.001$. Therefore it was concluded that Yogasana training should be included in daily lifeas it is an effective technique to improve the self-esteem and self-efficacy of the females who are suffering from PCOD.

Keywords: Yogasana Training, Self-Esteem, Self-Efficacy**.**

INTRODUCTION
Polycystic ovarian disease (PCOD) is one of the most common endocrinal disorders among women, affecting 5-10% of women at their reproductive age (Franks, 2015). The disease was first defined in 1935 by Stein and Leventhal based on the observation of a set of symptoms such as amenorrhea, hirsutism and obesity in women whose ovaries were enlarged and contained multiple follicular cysts. It is a disorder in which women do not experience normal release of eggs from the ovaries (ovulation). They have an abnormal production of male hormones and their body is resistant to the effects of the hormone insulin.Polycystic ovarian disease (PCOD) is a growing problem in countries like India, especially in big cities. It is a growing concern of today and every woman should be aware of this. Polycystic Ovarian Disease is one of the most common endocrine disorders.. So the aim of the present study was to analyze the Impact of cultural aspects on perception of PCOD symptoms and, above all, infertility of the three populations of Guwahati city. And also to find out how far bio-cultural factors effect on this disease.It has been shown that the effects on physical appearance, including obesity, hirsutism, cystic acne, seborrhea and hair loss can cause psychological distress and decreased quality of life, possibly by influencing feminine identity (Kitzinger C and Willmott J 2012). Several studies have shown that PCOD women suffer from marked reductions in quality of life, impaired emotional well-being, and reduced sexual satisfaction (McCook JG, Reame NE et al. 2005). Adolescent girls with PCOD, who are at the height of identity development and awareness of body image and concern with social acceptance, develop a more significant disturbance in mood that potentially precipitate depression and social phobia (Farrell K and Antoni MH 2010).. This points to the need for stress management based life style changes that reduce sympathetic tone and influence the HPO axis. Yogic life style is a form of holistic mind-body medicine, developed

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thousands of years ago, is known to reduce stress and symathetic tone. Yogic intervention haveshown to be effective in increasing insulin sensitivity, reducing fasting blood glucose and improving lipid profiles. Although there are studies which have shown the beneficial effects of yoga in many of the associated psychological conditions, to the best of our knowledge, there are no published studies on yoga as a treatment for psychological conditions associated with PCOD to-date. Hence the present study has been planned to study effect of Yogasana training on the self-esteem and self-efficacy of women suffering from polycystic ovarian disease.

OBJECTIVES AND HYPOTHESIS

The study was conducted with the objective to determine the effect of Yogasana Training on the Self-esteem and Self-efficacy of women suffering from polycystic ovarian disease. After thoroughly going through the literature it was hypothesized that there would be significant effect of Yogasana Training on Self-esteem and Self-efficacy of women suffering from polycystic ovarian disease.

PROCEDURE AND METHODOLOGY

Subjects: Thirty five women suffering from polycystic ovarian disease in New Delhi were selected as the subjects for the study. ***Training Protocol:*** All the selected subjects underwent Yogasana training of 1 hour, six days a week for four weeks. The following Asana's were practiced in the training programme by the subjects:

Standing Postures: Tadasana, Padahastasana, Veerabhadrasana, Garudasana.
Sitting Postures: Padmasana, Vajrasana, Gomukhasana, Ustrasana, Paschimottasana, Vakrasana, Bhadrasana.Supine Lying Postures: Shavasana, Sarvangasana, Halasana, Setubandhasana, Chakrasana, Markatasana, Uttanpadasana, Pawanmuktasana.
Prone Lying Postures: Makrasana, Bhujangasana, Shalabhasana, Dhanurasana, Naukasana.
Balancing Postures: Vrikshasana, Natarajasana, Ashvasthasana, Utkatasana.
Shatkarma: Jalneti, KunjalKriya and KapalBhati.
Pranayama: Bhastrika, Anlom-Vilom, Bhramhari, NadiShodhan.
Suryanamaskar

Testing Procedures: All the subjects selected were administered Rosenberg Self Esteem Scale (1965) and Ralf Schwarzer and Matthias Jerusalem General Self Efficacy Scale (1995). Both the tests were administered twice i.e. before and after the 4 weeks Yogasana training. Mean, Standard Deviation, Percentage Change and Paired Sample't'- test was used as statistical procedure for analyzing the data.

Findings of the Study

Table-1: Effect of Yogasana Training on the Self-Esteem and Self-Efficacy of Women Suffering From Polycystic Ovarian Disease

S No	Variables	N	Pre Test (M± S.D.)	Post Test (M± S.D)	Improvement (%)	't'
1	**Self-Esteem**	35	17.97± 2.76	21.69± 1.98	20.70%	8.286*
2	**Self-Efficacy**	35	22.97± 2.77	28.91± 2.65	25.86%	19.077*

*Significant at 0.001 level

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As indicated in table-1,the Self-esteem of the women suffering from polycystic ovarian disease had improved as the mean score of self-esteem before the training was obtained to be 17.97± 2.76 while mean score of self-esteem after 4 weeks of Yogasana training was obtained as 21.69± 1.98. It indicated an improvement of 20.70%. This improvement was found to be significant as the paired t' values obtained were 8.286 at p≤ 0.001. Similarly, the Self-efficacy of the women suffering from polycystic ovarian disease had improved as the mean score of self-efficacy before the training was obtained to be 22.97± 2.77 while mean score of self-efficacy after 4 weeks of Yogasana training was obtained as 28.91± 2.65. It indicated an improvement of 25.86%. This improvement was found to be significant as the paired t' values obtained were 19.077 at p≤ 0.001.

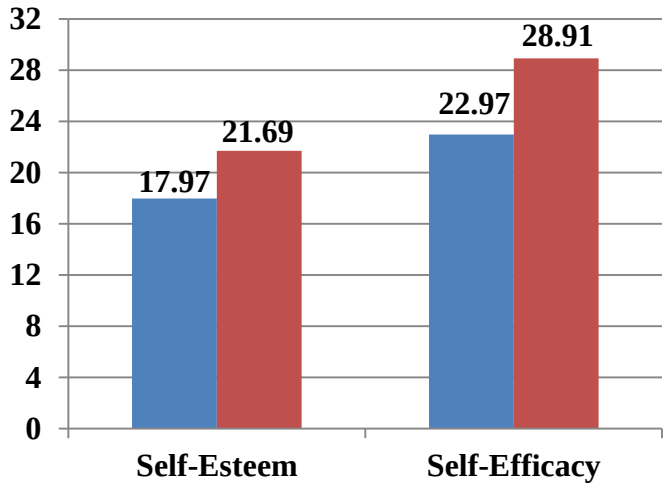

Fig- 1: Effect of Yogasana Training on the Self-Esteem and Self-Efficacy of Women Suffering From Polycystic Ovarian Disease

DISCUSSION & CONCLUSION

The results of the study indicated that the four weeks Yogasana training had significantly improved the self-esteem and self-efficacy of the women suffering from polycystic ovarian disease.The Self-esteem had a significant improvement of 20.70% while the Self-efficacy had a significant improvement of 25.86%.The results had indicated that Yogasana training is an affective mean for the reduction of the stress and enhancing the self–esteem and self-efficacy of the women suffering from polycystic ovarian disease. In the previous researches, Yogasana training has been used as a method to reduce mental tension and to prevent the depression. Yogasana training enhances the mental health and consequently reduces the muscle tension thereby increasing the physical and mental abilities after activities. The different asana's helps in improving flexibility, balance and equilibrium, muscle strength and increasing one' satisfaction leading to develop a sense of confidence and independency which helps in improving the self-esteem and self-efficacy of an individual. Hence further it is recommended that the findings of the present study must be used to inculcate appropriate yoga training programmes in the life style so as to make every women use the variety of benefits of Yogasana.

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EFFECT OF 6 WEEKS YOGA TRAINING ON LEVEL OF STRESS AND PHYSICAL SELF-CONCEPT OF DIABETES MELLITUS PATIENTS

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ABSTRACT

The study was conducted to determine the effect of 6 weeks yoga training on level of stress and physical self-concept of diabetes mellitus patients. For the purpose of this study 30 diabetes mellitus type- II middle aged patients were purposely selected. The selected patients underwent 6 weeks yoga practice. NSAD stress questionnaire by International Stress Management Association, UK and PSDQ-S by Marsh, H. W., Martin, A. J. & Jackson, S. (2010) were used to measure level of stress and physical self-concept respectively. The questionnaires were administered before and after the 6 weeks yoga training. The findings of the study showed 27.74% and 11.64% improvement in the level of stress and physical self-concept of diabetes mellitus patients respectively. The level of stress had decreased down from 13.23± 2.58 (Pre Test) to 9.56 ± 1.36 (Post Test) while the physical self-concept had increased from 181.18± 6.58 (Pre Test) to 202.27± 3.65 (Post Test). The decrease in the level of stress and increase in the physical self-concept were found significant as the't' values obtained were 5.175 and 12.154 at $p \leq 0.05$. It is concluded that yoga practice must be included as a mandatory activity in life so as to benefit people especially patients suffering from diabetes to improve their mental/ psychological well being.

Key Words: Stress, Physical Self Concept.

INTSRODUCTION

Diabetes Mellitus is one of the oldest and most prevalent chronic non-communicable diseases. It is a serious, costly and heterogeneous metabolic disorder. It represents a cluster of metabolic diseases characterized by high levels of blood glucose (hyperglycaemia). This may be as a result of defects in insulin secretion, insulin action or both. Insulin is a hormone secreted by beta cells of islets of Langerhans, situated in pancreas. Approximately 12.6% of Indians aged 30 years or older (a total of 32.6 million people) have diabetes.

In this modern world, almost every individual is being stressed. Life has been much simpler in the past but now it seems that every day you need to work non-stop and live a life full of stress. The stress among the people comes from various aspects; it may be due to specific demands of academia, financial problems, work demands or it may be due to any diseases like diabetes. Humans experience stress, or perceive things as threatening, when they do not believe that their resources for coping with obstacles (stimuli, people, situations, etc.) are enough for what the circumstances demand. When people think the demands being placed on them exceed their ability to cope, they then perceive stress.. Literature has shown that people who participate in physical activities have better mental health and more resilient to challenges of modern living. Activities like yoga practice or other socially supported physical activities have shown significant effect on mental well being. A highly stressful life and emergent need to look for the most feasible coping strategy to improve their well being has motivated the researcher to conduct this research.

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METHODOLOGY

A total of thirty diabetes mellitus type II middle aged patients were purposively selected from Delhi. The selected patients were in the age range from 40-45 years. The selected patients underwent 6 weeks yoga training. NSAD stress questionnaire by International Stress Management Association, UK and PSDQ-S by Marsh, H. W., Martin, A. J. & Jackson, S. (2010) were used to measure level of stress and physical self-concept respectively. The results obtained from the questionnaire were quantified as per the manual of the questionnaire and further independent 't' test was employed to measure the significance in the effect of the yoga practice training on level of stress and physical self-concept of female undergraduate students.

Findings and Results

Table 1

Effect of 6 weeks Yoga Training on Level of Stress and Physical Self-concept of Diabetes Mellitus Patients

Variable	Mean	Percentage Change	't'	Sig.(2- tailed)
Level of Stress	Pre test 13.23± 2.58 Post test 9.56± 1.36	27.74%	5.175**	0.001
Physical Self Concept	Pre test 181.18± 6.58 Post test 202.27± 3.65	11.64%	12.154**	0.001

N- 30, **Significant at 0.001 level

Table1 clearly reveals that the level of stress of the diabetes mellitus patients had lowered down by 27.74% as the level of stress before and after the yoga training were found as 13.23± 2.58 and 9.56± 1.36. This decrease in the level of stress was found significant as the't' values obtained was 5.175 at $p \leq 0.05$.

Similarly the physical self-concept of the selected diabetes mellitus patients had improved by 11.64% as the physical self-concept before and after the yoga training was found as 181.18± 6.58 and 202.27± 3.65. This increase in the physical self-concept was found significant as the 't' values obtained was 12.154 at $p \leq 0.05$.

DISCUSSION AND CONCLUSIONS

Physical activities particularly yoga practice has positive effects on physical as well as mental well being of the individuals (Norris *et. al.* 2000, Stephen *et. al.* 2005). During yoga exercise the body releases chemical substance (endorphin) that is similar in nature to opiates. Yoga exercise has been shown to be as effective as anti-depressant medication in relieving the symptoms of stress and improving self concept. In the present study, 6 weeks yoga training had resulted in 27.74% and 11.64% improvement in the level of stress and physical self-concept of diabetes mellitus patients respectively. The level of stress had decreased down from 13.23± 2.58 (Pre Test) to 9.56 ± 1.36 (Post Test) while the physical self-concept had increased from 181.18± 6.58 (Pre Test) to 202.27± 3.65 (Post Test). The decrease in the level of stress and increase in the physical self-concept were found significant as the 't' values obtained were 5.175 and 12.154 at

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$p \leq 0.05$. It is concluded that yoga practice must be included as a mandatory activity in life so as to benefit people especially patients suffering from diabetes to improve their mental/ psychological well being.

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TO EVALUATE SKILL-RELATED PHYSICAL FITNESS OF FOOTBALLERS AT DIFFERENT LEVEL OF COMPETITION

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Vaibhav Saxena (Ph.D. Research scholar of University of Delhi)
Dr. Taraknathpramanik (Assistant Professor I.G.I.P.E.S.S)

ABSTRACT
The purpose of the study was to Evaluate and compare the skill related physical fitness components of football players at different level of competition. A group of 30 subjects aged 20-25 years participated in the study. The Random sampling and purposive technique was used to attain the objectives of the study. They were further divided into two groups of 15 each (i.e., N1=15; inter-university and N2=15; inter-college). The unpaired t-test was applied to find out the significant differences between inter-university and inter-college Malefootball players. To test the hypotheses, the level of significance was set at 0.05. The results revealed significant differences between inter-university and inter-college Malefootball players on the variables i.e. Reaction Time, Balance Power Speed agility and Coordination and inter-university level players performed better than inter-college players on all the variables.

Keywords: skill-related, physical fitness, football, inter-university, inter-college

INTRODUCTION
Football today is one of the most popular and highly paid sports in the world. Football as it is seen today has undergone a tremendous amount of improvement. The performance in most of the sports is determined by such factors as physical fitness, techniques and tactics, tough their relative contribution varies from sport to sport . In addition of these, other factors like physique, body composition and psychological traits also have an overall effect on the performance . These factors also influence the physical fitness status and technical and tactical capabilities of the sportsman. Of all these factors the most important one that of the physical fitness, as a high level of efficiency in techniques and tactics are also dependent upon physical fitness . Therefore, it is necessary that during the selection of sportsmen for competition a relatively high weight age should be given to physical fitness . It has been recognized by experts and sports scientists that performance in football team game does not directly depend upon the mastery of skills but also on the optimum development of physical, psychological, and physiological capacities of the athletes. If the right talents for sports are selected on the basis of scientific guidelines at the right age, the chances of achieving excellence in sports increase. The scientific data on champion players have given a tremendous knowledge about the physiological requirements of the different sport activities. Football has been described as an 'interval' sport with both anaerobic and aerobic components. At the higher skill levels, technical performance may be limited by physical characteristics as well as physical fitness, and performance characteristics. High level performance in football not only requires certain physical qualities like speed, endurance, explosive power, agility, flexibility, strength etc., but also physical structure. In addition to the techniques and tactics of a player or a team, physical and physiological characteristics help him for his better performance. Optimal performance now requires a combination of technical and tactical abilities as well as a high degree of physical fitness and as a result this study was conducted with the purpose to compare the physical fitness components of football players at different level of competition.

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METHODOLOGY

Thirty (N=30) Male subjects aged between 20-25 years were selected for this study. TheRandomsampling technique was used to attain the objectives of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. They were further divided into two groups of 30each (i.e., N1=15; inter-university and N2=15; inter-college).

Table 1: Details of physical fitness components, and tests.

S. No	Physical Fitness Components	Tests
1.	Reaction Time	Nelson hand reaction time test
2.	Balance	Stork balance stand test
3.	Power	Standing broad jump
4.	Speed	30-yard dash
5.	Agility	Illinois agility test
6.	Coordination	Eye hand coordination test

Results and Findings

Table 2:

Descriptive Statistics, t-value and p-value of football players at different level of competition

Variables	Mean		SD		SEM		t-value	p-value
	Inter-university	Inter-college	Inter-university	Inter-college	Inter-university	Inter-college		
Reaction Time	0.24	0.26	0.02	0.0009	0.0004	0.0003	2*	0.0394
Balance	28	27.5	6	4.4	1.26	1.2	2.13*	0.0469
Power	3.03	3.03	0.44	5.8	1	3	2.05*	0.0499
Speed	6.89	6.9	0.6	0.1	0.15	0.09	3*	0.0425
Agility	7.01	7.04	0.69	1	0.17	0.22	7.8*	0.0001
Coordination	23.45	24	4.9	4.9	0.9	1	4.5*	0.0001

*Significant at 0.05 level, Degree of freedom=38

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Reaction Time-Table 2: shows that the mean of reaction time of inter-university and inter-college players was 0.24 and 0.26 respectively, whereas the standard deviation (SD) of reaction time of inter-university and inter-college players is 0.02 and 0.0009 respectively. The critical value of t at 95% probability level is much lower (1.697) than the observed value of t (2*). The data does suggest that the differences between inter-university and inter-college players in regard to reaction time are significant.

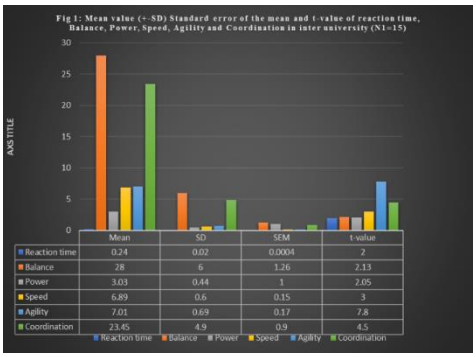
Balance-Table 2: shows that the mean of balance of inter-university and inter-college players was 28 and 27.5 respectively, whereas the standard deviation (SD) of balance of inter-university and inter-college players was 6 and 4.4 respectively. The critical value of t at 95% probability level is much lower (1.697) than the observed value of t (2.13*). The data does suggest that the differences

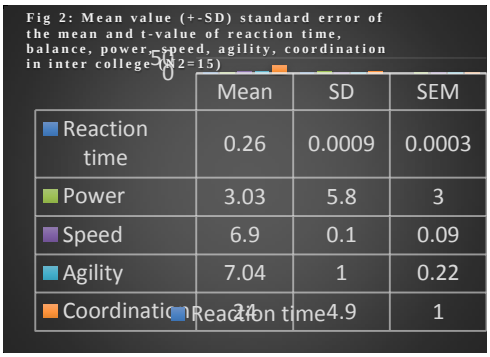
Power-Table 2: shows that the mean of power of inter-university and inter-college players was 3.03 and 3.03 respectively, whereas the standard deviation (SD) of power of inter-university and inter-college players was 0.44 and 5.8 respectively. The critical value of t at 95% probability level is much lower (1.697) than the observed value of t (2.05*). The data does suggest that the differences between inter-university and inter-college players in regard to power are significant.

Speed-Table 2: shows that the mean of speed of inter-university and inter-college players was 6.89 and 6.9respectively, whereas the standard deviation (SD) of speed of inter-university and inter-college players was 0.6 and 0.1 respectively. The critical value of t at 95% probability level is much lower (1.697) than the observed value of t (3*). The data does suggest that the differences between inter-university and inter-college players in regard to speed are significant.

Agility-Table 2: shows that the mean of agility of inter-university and inter-college players was 7.01 and 7.04 respectively, whereas the standard deviation (SD) of agility of inter-university and inter-college players was 0.69 and 1 respectively. The critical value of t at 95% probability level is much lower (1.697) than the observed value of t (7.8*). The data does suggest that the differences between inter-university and inter-college players in regard to agility are significant.

Table 2: shows that the mean of coordination of inter-university and inter-college players was 23.45 and 24 respectively, whereas the standard deviation (SD) of coordination of inter-university and inter-college players was 4.90 and 3.90 respectively. The critical value of t at 95% probability level is much lower (1.697) than the observed value of t (4.28*). The data does suggest that the differences between inter-university and inter-college players in regard to coordination are signify at 0.05 level.





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DISCUSSION

Since the ancient times, it has been believed that a suitable physique is important to achieve success in particular sports (Powers *et al*., 1997). Judging the performance of the human body by its size, shape and form has been a topic of great concern. Physical and physiological aspects are essential factors that have contributed to the success of national and international competition in sports. Team football, like several other ball games, requires not only technical and tactical skillsbut also great deal of physical fitness (Marques, González-Badillo&Kluka, 3006; Marques *et al*., 3009).

CONCLUSION

On the basis of the findings, it can be concluded that inter-university players are better in overall skill related physical fitness than their counterpart inter-collegiate as they scored better selected skill related fitness components viz. reaction time, balance, power, speed, agility and coordination.

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RELATIONSHIP BETWEEN WILL TO WIN AND SPORTS COMPETITIVE ANXIETY OF COLLEGE PLAYERS.

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ABSTRACT
As a sport has developed in to a district scientific discipline in itself and each nation is varying with other produce top class player to win laurels in international competition considerable research in devoted to identify factor that will be produced of achieving high level of skill in a given sports with proper coaching. Will to wins defined as the extent to which a person desires to reach some standard of excellence or defeat of opponent. The will to win is worthless of you don`t have the will to prepare. Anxiety may be heightened prior to a contest. Subside during the competition .And increase again following competition as the contest is replayed in the contestant`s minds.

Keywords: Relationship between will to win and Anxiety.

INTRODUCTION
Sports have assumed world-wide importance. In a shrinking world which is coming nearer and nearer day by day .It is playing an important role in bringing people together at regional, national and international level. It does not distinguish concepts to all aspects of sports such as coaching and teaching .The sports psychologists uses psychological assessment techniques and intervention strategies in an effort to help individual to achieve their optimal performance. White sports psychology is concerned with analyzing human behavior in various types of sports settings are focuses on the mental aspects of performance. As a primary objective of physical; education the attainment of total fitness has over whelming implication for growth and developed of youth .As the definition implies a child who is fit enjoy robust health a fine looking physique a satisfactory level of special and emotional adjustment and a proficiency in the basic skill of movement .Such a compressive definition of total fitness permit us to identify a general way the prime responsibility to children us as physical education has inherited however as our objective is to measure and reflect to a reliable degree the status of children in term of fitness we must not in more precise manner that tangible qualities that can be evaluated the term and physical fitness is somewhat exact in it meaning indicating to us specific components. weight measure to reflect person`s fitness included muscular strength, muscular endurance flexibility, cardio-vascular or respiration fitness and neuron-muscular coordination.

SELECTION OF THE TEST:-
For the study 50 male college Hanball players of various physical education college of yavatmal district to participate in the in Amravati University were selected for the study. The age group of the subject was varied from 18 t0 25 years.

ADMINISTRATION OF THE TEST:-
The test in all parameters was administered keeping in view the maturity of the subjects. All the subjects were made familiar with the prescribed questionnaire to ensure uniform testing conditions.

Will to win Test Purpose:-The purpose of the test was to measure the level of will to win.

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Procedure: - Will to win questionnaire was a self-administrating test and was administrated individually or the group .The interaction were given for the test are sufficient to take care of the statement that given.

Written or oral administration however was effective for non-reader cannot respond to stimulus items without help.

Written or oral administration of the will to win questionnaire generally was take 5 to 10 min

TABLE NO -1 KEY OF CORRECT RESPONSE OF ITEM IN WILL TO WIN QUESTIONAIRE

Item No	Correct Response	Item No	Correct Response
1	Yes	8	No
2	No	9	Yes
3	No	10	Yes
4	Yes	11	Yes
5	Yes	12	No
6	Yes	13	Yes
7	No	14	No

Scoring and interpretation:

Will to win questionnaire was consist 14 items in which 7 item was leveled true and rest of 7 item false.For each item 1 score was given .So that maximum score may be 14 on this questionnaire and minimum was zero.

Reliability:-The result was same for different in testing different time test is said reliable.

Sports competitive Anxiety Test:-

Purpose:-The sports competition anxiety test (SCAT) was administered few hours before competition. Instruction were also given spectrally to answers all the players then questionnaire was distributed handle players.10 minutes time was to answer the statement and questionnaire was taken back after it was duly completed.

Scoring:-The questionnaire has 15 items.For each item in the questionnaire , one out three response are possible

Collection of Data:- Data was collected by administration questionnaire will to win sports competitive anxiety.
Statistical procedure to be used:-Pearson product Movement method of correlation was used ,the level of significance was at 0.05 in order to check the significance relationship.

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ANALYSIS AND INTERPRETATION OF DATA

In this chapter statically analysis of data level of significance, finding and their discussion has been presented.

Analysis of data:-To find out the relationship between will to win and Sports competitive anxiety of college handball player of various physical education college of yavatmal district (MH)

Level of Significance: The level of. Significance was set at 0.05 level of confidence and the degree of freedom was 48, which was consider appropriate in view of the fact the highly Sophisticated instrument and device for stringent level of confidence.

Finding:- The relationship between will to win Sports Competitive anxiety of college hand ball players ofvarious physical Education college of yavatmal district Maharashtra have been presented in Table No 2

Table No 2

Variable correlated	Coefficient of correlation	Tabulated value
Will to win and Sports Competitive Anxiety	0.351*	3.496

Significant at 0.005 level confidence, Tabulated value r 0.05(48) =3.496

The table no 2 shows that there is a significance difference between will to win and sports competitive anxiety of college hand ball players, thus the Null-hypothesis is rejected it can concluded that the calculated value of coefficient of correlation is 0.351 which is less than a tabulate value r is 3.496 at 0.05 level of confidence for 48 degree of freedom..

SUMMARY:-

The purpose of the study was to find out the relationship between will to win and sports competitive anxiety of college hand ball players.

Fifty college handball players of various physical education college of yavatmal district were related to the study out of which fifty male hand ball player were selected.

The data on will to win was obtaining by administrating the will to win questionnaire constructed by DR. Anand Kumar and P.S. Shukla

CONCLUSION:-

Within the limitation of the present study and on the basis of finding the following conclusion were made.

1. There was highly significant relationship between “will to win “and sports competitive Anxiety of college football players of various physical education colleges,Yavatmal district.

2. It also reveals that optimum level of arousal is helpful in the performance.

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AN ECONOMIC AND SPORTS PERFORMANCE RELATIONSHIP IN INDIA

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ABSTRACT
The purpose of this study is to find out the relationship between investment of finance and sports performance in India. The study was conducted in the period 2012 to 2016 that includes seasons 2011-2012, 2012-2013, 2013-2014, 2014-2015 and 2015-2016. The sources of collecting data was various governing body of games and sports in India; their official websites i.e. IOC, IOA, OCA, government website of finance and Ministry of Youth Affairs and Sports. Only the achievement in international games & sports like winner in any tournament and gold, silver and bronze medallists in any discipline was considered as achievement in game and sports and taken into consideration in this study. Year wish games and sports budgeting which is officially announced by finance minister of India in every years was taken into consideration. Total number of international events which were occurred in each year taken as a variable of this study. The mean and standard deviation of the variables were employed as a descriptive statistic. A Pearson Product Moment correlation was employed to see the correlation among the variables by setting 0.05 level of significance. The result was expelled significance between sports performance and the years. A linear positive correlation was found between sports performance and the Years.
Key Words: Sports Finance, Sports Performance, Finance Investment, Medallists.

INTRODUCTION
Some countries win lots of medal and achieved highest while others win very less and show lower category in sports. Is there economy has any relationship with sports performance? Research conducted internationally to identify factors that affect sports performance focuses on resource endowments, a country's population, cultural and social resources (Kiviaho and Makela 1978; Bernard and Busse 2004; Andreff, 2001; Johnson and Ali 2004). It is suggested that countries those are successful in sports have an abundance of financial resources, have a large population and an appropriate climate. The studies tend to suggest that countries such as the United States, Great Britain, and Australia have an advantage in sports competitions due to their economic endowments. The research fails to explain why poor countries are able often to compete successfully despite these apparent obstacles. For instance, Kenya and Ethiopia excel in middle distance running, Angola in basketball, and the Cameroon in football. Yet, South Africa, with its economic hegemony on the continent, underperforms relative to its economic endowment. The majority of scholars were researched to find out the connection between the sporting success of a country measured by the number of medals won at international competitions (mostly Olympic Games) and numerous economic, but also sociological and political variables (Jokl and associates, 1956; Johnson and Ali, 2000, 2004; Moosa and Smith, 2004; Lui and Suen, 2008). The most commonly used variables are GDP per capita, hosting the competition, political system of a country, population, climate etc. (Čustonja and Škorić, 2011). All the results are based on econometric testing, mostly regression analysis, and find that GDP or

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GDP per capita and population are significant determinants of Olympic performances (Andreff, 2008:5). It can be argued that a country's success in sport should be evaluated relative to its economic resources. The purpose of this study is to find out the relationship between economy and sports performance and analysing sports performance in relation to economic resources in India.

METHODOLOGY

The study was conducted in the period 2012 to 2016 that includes seasons 2011-2012, 2012-2013, 2013-2014, 2014-2015 and 2015-2016. To collect the data the websites of various governing body of games and sports in India; their official websites i.e. IOC, IOA, OCA, government website of finance and Ministry of Youth Affairs and Sports were searched. Only the achievement in international games & sports like champion in any tournament or gold, silver and bronze medalists in any discipline was considered as achievement in game and sports and taken into consideration in this study. One point was given equally for winning a tournament or achieving gold, silver and bronze medals in any games and sports. Year wish games and sports budgeting which is officially announced by finance minister of India in every years was taken into consideration as invested finance for games and sports. Another variable of the study was number of international sports events held in each year. A year wise list of games and sports, number of medals, investment of finance and their mean and standard deviation was illustrated as descriptive statistic. Pearson Product Moment correlation was conducted to find of the relationship among Sports Event, invested finance and sports performance within this five years. A level of significance was taken 0.05.

FINDINGS AND RESULTS

The results of five year data of the achievements of country in various sports was obtained and is shown in the Table-1.

Table - 1
Year wise Achievement in Various Games& Sports

Name of the Games &Sports	'12	'13	'14	'15	'16	Total
Shooting	2	9	27	5	50	93
wrestling	7	9	24	9	28	77
Badminton	1	1	10	12	16	40
Boxing	5	5	14	12	11	47
Judo	14	8	37	5	12	76
Kabaddi	2	1	6	0	13	22
Football	1	2	1	1	4	9
Cricket	6	6	8	6	4	30
Hockey	2	3	3	2	5	15
Basketball	2	0	3	1	1	7
Volleyball	0	0	1	0	2	3
Handball	0	0	0	0	2	2
Tennis	3	2	6	9	12	32
Table Tennis	14	16	6	10	12	58
Rowing	3	0	3	0	0	6

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Track & Field	1	17	16	36	18	88
Aquatics	0	0	1	1	45	47
Squash	0	0	8	2	5	15
Gymnastic	0	0	1	0	55	56
Weight lifting & Best Physique	3	14	18	43	66	144
Archery	0	0	5	3	14	22
Wushu	0	12	5	25	16	58
Sailing	0	0	1	0	0	1
Beach Sepaktakraw	0	0	2	0	0	2
Kurash	0	0	1	1	1	3
Muaythai	0	0	1	0	0	1
Martial Arts	0	10	0	0	2	12
Cycling	0	0	0	0	13	13
Kho-kho	1	0	0	0	2	3
Taekwondo	0	0	0	0	10	10
Triathlon	0	0	0	2	6	8
Sum of performance	67	115	208	185	425	1000

Tabl-1 shows the year wise achievements in various games and sports the data reveals that the Country has performed well at International competitions in Shooting (93 medals), Wrestling (77 Medals) and Judo (76 Medals) . There is considerable performance in Hockey (15) and Cricket (30) has improved as compared to past four years.

Table – 2

Year Wise Comparative Chart of Total Number of Events, Performance and Finance

The Federal Government and MYAS provide a budgetary allocation for sports activities each year. However, much of this money does not produce the intended results in terms of the number of medals won by the country in international and regional sporting events.

Year	Events	Performance	Finance (In crores)
2012	22	67	288.00
2013	29	115	302.00
2014	24	208	326.00
2015	29	185	405.00
2016	22	425	369.00

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Source: Rajya Sabha Unstarred Question No. 3096, dated on 20.12.2012; Lok Sabha Starred Question No. 556, dated on 06.05.2013; Lok Sabha Unstarred Question No. 2935, dated on 10.02.2014; and Lok Sabha Starred Question No. 29, dated on 08.07.2014.

Table – 3

Descriptive Statistics of Selected Variables

Variables	N	Mean	SD
Performance	5	200.0000	137.68442
Finance	5	3.3800E9	4.84510E8
Events	5	25.2000	3.56371

Note: Here N = Number of years = 5

Table No. 3 shows the means and standard deviations of the selected variables. The mean along with SD of Performance, Finance and Events were 200.0000± 137.68442, 3.3800E9± 4.84510E8, 25.2000± 3.56371 respectively.

Table – 4
Pearson Product Moment Correlation among Selected Variables

S.No	Variable I	Variable II	N	Pearson Correlation	P Value
1	Performance	Year	5	.903*	.036
2	Finance	Year	5	.865	.058
3	Event	Year	5	.000	1.000
4	Performance	Finance	5	.584	.301
5	Performance	Event	5	-.349	.565
6	Finance	Event	5	.279	.649

*Significance

Table number 4 shows the Pearson Product Moment Correlation among the selected variables with their P values and sample size. The Performance was found to be positively significantly correlated (.903) with the Year and the Finance was found positively correlated (.814) with the Year but not significance. The variable Event was found to be positively correlated (.000) with Year and there was positive correlation between Performance and Finance was also found positively correlated (.532) with the Finance but not significance. The Performance was found negatively correlated (-.349) with Event and the Finance was found positively correlated (.277) with Event but not significance.

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CONCLUSIONS

India's performance in international sporting events saw a progress since 2000 following the launch of the MYAS. However, most events in which Indian sportsperson earned recognition were individual events for which the training was personalised to them. The culture of sports in India witnessed a sudden boost through the model of Indian Premier League (IPL) introduced in cricket. The model saw the formation of various leagues owned by private individuals and collectives sponsoring and buying players for the event. Cricket was modified from its existing format to suit this business proposal. As per the medal tally it is shown in Table-1. India has won major international medals in Shooting (93), Badminton (40), Wrestling (77) and Boxing (47) these sports shows that they are the potential sports for Medal prospects for India. Further the study has shown positive correlation between Finance and increased fund on the performance at International Level.

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EFFECTS OF VISUO MOTOR BEHAVIOR REHEARSAL ON COHESION OF HANDBALL PLAYERS

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ABSTRACT

The present investigation attempted to determine the effects of Visuo Motor Behavior Rehearsal on cohesion of handball players after the duration of 08 weeks. Twenty (20) male handball players with age group 18 to 24 years from LNIPE, NERC Guwahati were purposively selected and all the subjects were divided randomly into two groups, each group consisting of 10 subjects. Experimental group under gone Visuo Motor Behavior Rehearsal for the duration of eight weeks three times a week whereas control group was not involved in any training programme except their daily routine. Measurements of cohesion of all handball players with the use of Group Environment Questionnaire developed by Carron A.V., Lawrence R. Brawley, W. Neil Widmeyer, 2002 were taken at the beginning and after the experimental period of eight weeks. Descriptive statistics, analysis of covariance (ANCOVA) as statistical techniques were employed. Further Bonferroni post hoc means comparison was also used when F value was found significant. The main effect for the treatment groups were significant at 5% level for ATGS; $F=105.673$, $p=0.00$, $p<0.05$ and for GIT; $F=68.088$, $p=0.00$, $p<0.05$). Whereas on the other hand, the main effect for the treatment groups were not significant at level 5% in ATGT; $F=2.851$, $p=0.110$, $p>0.05$ and in GIS; $F=5.420$, $p=0.033$, $p<0.05$). Post hoc results showed that difference between the experimental and control group 1.579 for ATGS and 1.395 for GIT are positive that means experimental group is having higher score compared to the control group.

Key Words: Visuo Motor Behavior Rehearsal, ATGS, GIT, ATGT & GIS.

INTRODUCTION

In modern world of competition psychological skill training for players become a very essential and widely accepted by everyone (Petrie & Diehl, 1995). In performance psychology, visualization technique has been widely popularized and Visuo-motor behavior rehearsal (VMBR) is a standardized training method contribute to the enhancement of sports performance across a wide variety of different sports. It is a mental practice required the synergistic involvement of both relaxation and mental imagery. Visuo-motor behavioral rehearsal (VMBR), was developed by Suinn (1972; 1976). Components of VMBR include relaxation training, visualization or mental imagery, and performance of the skill in a simulated stressful environment. The VMBR is established on the fact that performing the task based on previous imagination this make the work easier and more accurate to perform and imagination of exercise make physical and intellectual achievement (Aziz, 2011). The VMBR has been applied to make the player train under real match conditions. In 1976 Olympics this method was used to face similar real games conditions and to develop mental coordination. Mental imagery can be used to facilitate effective responses to competitive stress and emotions, and produce feelings of a successful performance and achieving a desired goal (Mortiz et al., 1996). Therefore the purpose

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of this study was to examine the effects of Visuo motor behavior rehearsal on team cohesion of handball players.

METHODOLOGY

Twenty (20) male handball players with age group 18 to 24 years from LNIPE, NERC Guwahati were purposively selected and all the subjects were divided randomly into two groups, each group consisting of 10 subjects. Experimental group under gone Visuo Motor Behavior Rehearsal for the duration of eight weeks three times a week whereas control group was not involved in any training programme except their daily routine. To assess cohesion of handball players Group Environment Questionnaire developed by Albert V. Carron, Lawrence R. Brawley, W. Neil Widmeyer (2002) was used. Data was collected at the beginning and after the duration of 08 weeks of training. The score on any specific scale is computed by obtaining the mean response for a subject from the pertinent items. To analyze data descriptive statistics and the analysis of co-variance (ANCOVA) at 0.05 level of significance was applied. In case of F-value significant Bonferroni post hoc means comparison was used.

FINDINGS AND RESULTS

The data collected was analyzed by using descriptive statistics and scores of post mean of cohesion of handball players is presented in table-1

Table 1

DESCRIPTIVE STATISTICS

Measures of Cohesion	Group	Mean	Std. Deviation	N
ATGS	Experimental Group	7.04	.295	10
	Control Group	5.14	.517	10
ATGT	Experimental Group	5.47	.845	10
	Control Group	5.09	.346	10
GIS	Experimental Group	5.30	.956	10
	Control Group	4.45	.610	10
GIT	Experimental Group	7.36	.645	10
	Control Group	6.04	.295	10

Table 1 depicts that the original post mean of cohesion of handball players for four measures of cohesion. It is very clear from the above table that group integration task mean value was found highest and group integration social mean value was found lowest among all the measures of cohesion. Descriptive statistics and scores of adjusted post mean of different measures of cohesion is presented in table-2

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Table 2
ADJUSTED MEAN AND STANDARD ERROR OF DIFFERENT MEASURES OF COHESION OF EXPERIMENTAL AND CONTROL GROUP IN POST TESTING

Measures of Cohesion	**Group**	Mean	Std. Deviation
ATGS	Experimental Group	6.880[a]	.102
	Control Group	5.300[a]	.102
ATGT	Experimental Group	5.643[a]	.258
	Control Group	4.922[a]	.258
GIS	Experimental Group	5.255[a]	.230
	Control Group	4.495[a]	.230
GIT	Experimental Group	7.397[a]	.119
	Control Group	6.003[a]	.119

Covariates appearing in the model are evaluated at the following values: pre ATGS = 5.40, pre ATGT= 4.13, GIS = 4.94, GIT = 6.06. The above table indicates the new adjusted post mean values for the treatment groups after nullifying the effect of initial difference among the treatment groups. It can be still seen that group integration task mean value was found highest and group integration social mean value was found lowest among all the measures of cohesion. The analysis of covariance (ANCOVA) was used to find out the significant difference between experimental groups & control group after eliminating the effects of covariate is presented in table-3.

Table 3
ANCOVA POST TEST RESULTS FOR DIFFERENT MEASURES OF COHESION

Measures of Cohesion	Source	Sum of Squares	df	Mean Square	F	Sig.
ATGS	Pre	1.657	1	1.657	18.397	.000
	Treatment	9.517	1	9.517	105.673	.000
ATGT	Pre	.470	1	.470	1.135	.302
	Treatment	1.181	1	1.181	2.851	.110
GIS	Pre	2.637	1	2.637	5.016	.039
	Treatment	2.849	1	2.849	5.420	.033
GIT	Pre	2.131	1	2.131	15.120	.000
	Treatment	9.598	1	9.598	68.088	.000

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In the above table, it is seen that the significant values of the variables pre ATGS & Pre GIT are 0.000, which are significant at 0.05 level of significant ($p<0.05$). So it can be concluded that initially in both variables there were significant difference in the groups which might affect the main effect of the study. In that case, ANCOVA is the appropriate test to compare the two groups. On the other hand the main effect for the treatment groups were significant for ATGS; $F=105.673$, $p=0.00$, $p<0.05$ and for GIT; $F=68.088$, $p=0.00$, $p<0.05$) and it indicates that there was statistically significant differences between the groups after adjusting the effect of pre-test.
It is also seen in the above table that significant values of the variables pre ATGS; .302 & GIS; .039 are insignificant at 0.05 level of significant ($p>0.05$). So it can be concluded that initially there was no significant difference in the groups which might affect the main effect of the study. On the other hand, the main effect for the treatment groups were not significant in ATGT; $F=2.851$, $p=0.110$, $p>0.05$ and in GIS; $F=5.420$, $p=0.033$, $p<0.05$) and it indicates that there was statistically no significant differences between the groups after adjusting the effect of pre test. As the calculated 'F' value was found to be significant in ATGS & GIT at 5% level a post hoc comparison test was applied by using Bonferroni test. The result of the post hoc test is shown in table-4.

Table 4
PAIR WISE COMPARISON OF MEAN FOR ATGS AND GIT BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP

Measures of Cohesion	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.
ATGS	Experimental	Control	1.579*	.154	.000
GIT	Experimental	Control	1.395*	.169	.000

* Significant at 0.05 level of significance

b. Adjustment for multiple comparisons: Bonferroni.
Since the F value in the ANCOVA result table is significant, a pair wise comparison of means has been made by using the Bonferroni method. The result is displayed in the above table. It can be seen that the p value associated with the mean difference in ATGS & GIT between experimental and control group is 0.00 hence the difference is significant at significant level of 0.05 ($p<0.05$). The difference between the experimental and control group 1.579 for ATGS &1.395 for GIT are positive that means experimental group is having higher score compared to the control group. It is also clear from above table that significant improvement was seen more in ATGS than GIT as mean difference was higher in ATGS between experimental & control group.

CONCLUSION

The present investigation attempted to determine the effects of Visuo Motor Behavior Rehearsal (VMBR) on cohesion of handball players after the duration of 08 weeks. The finding of study showed that Visuo Motor Behavior Rehearsal significantly improved the two measures of cohesion- individual attraction to group social (ATGS) and group integration –task (GIT) of experimental group whereas no significant difference was found in individual attraction to group – task (ATGT), group integration –social (GIT), individual attraction to group social (ATGS)

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and group integration –task (GIT) of experimental group and control group as a result of eight weeks of training programme. Therefore Visuo Motor Behavior Rehearsal was found effective to improve individual attraction to group social and group integration –task only. It may be attributed due the fact that Visuo Motor Behavior Rehearsal enhances clarity of mental image by identifying errors in motor performance and to modify them with visualization practice, correction and reduce distraction to connect mind to body and relieve muscle tension.

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COMPARISON OF ANXIETY LEVEL BETWEEN SPORTS PERSONS AND NON-SPORTS PERSONS AMONG UNDER-GRADUATE FEMALE STUDENTS OF UNIVERSITY OF DELHI

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ABSTRACT
Anxiety is a feeling of nervousness or apprehension generally experienced before commencement of an important event or competition. Present paper makes a comparison of anxiety between sports persons and non-sports persons among under-graduate female students of University of Delhi. 100 female students (50 sports persons & 50 non-sports persons) were studied and their Anxiety levels were compared. Hypothesis: It was hypothesized that there was no significant difference between Anxiety level of sports-persons and non-sports persons among under-graduate female students of University of Delhi. Anxiety levels were assessed using questionnaires and descriptive statistics were used to compare the results. It was found that there is no significant difference in Anxiety level between sports persons and non-sports persons among Under-graduate students of University of Delhi.

Key words: Anxiety, Nervousness, Feeling.

INTRODUCTION
Anxiety is a feeling of nervousness or apprehension or fear usually before an important competition or event. Anxiety is experienced by everyone. This paper is an attempt to compare the anxiety level between sports-persons and non-sports persons during my Ph.D. work. In the games and sports, psychological and physiological factors play an important role in determining the performance level (Grange & Kerr, 2010; Schilling &Hyashi, 2001). It has been recognized for many years that psychological factors, in particular anxiety, play an important role in competition. (Lizuka, 2005) observed that many factors, such as expectations, perfectionism, fear of failure, lack of confidence include feelings of anxiety in athletes. Those athletes, who experience high levels of anxiety, may fall sick, muscle tension, show aggressive behaviours face sleeping problems, low self- confidence and drop out of sport (Cox, 2010; Weinberg & Gould, 2010; Abel & Larkin, 1990). Anxiety is also divided into state anxiety and trait anxiety. State anxiety changes all the time even during competition. For example in ice hockey the level of state anxiety might be slightly elevated before a game, a lower level once he or she is settled into the pace of game, and then an extremely high level in the final minutes of a close game. (Weinberg & Gould 2007.) State anxiety is defined as an emotional state "characterized by subjective, consciously perceived feelings of apprehension and tension, accompanied by or associated with activation or arousal of the autonomic nervous system.'' (Spielberger 1966).The Present study was done in order to compare whether there is significant difference between Anxiety level between sportspersons and Non-sportspersons.

METHODOLOGY
For the purpose of the present study, 100 females (50 sportspersons and 50 Non-sportspersons) of Daulat Ram College were selected as the subject for the research. The age of the subjects were ranging from 18-25 years. The criterion measure chosen to test the hypothesis was to scores

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obtained in sports competition Anxiety test (SCAT) by Martens at al. (1990). SCAT consisted of 15 items. Out of these fifteen items 5 items were neutral, 2 items were negative and remaining 8 were Positive. The positive statements were awarded 1,2 and 3 respectively for rarely, sometimes and often while negative statements were awarded 3,2 and 1 respectively for rarely, sometimes and often. The SCAT questionnaire was distributed to Sportspersons and Non sportspersons among under graduate students of University of Delhi. Subjects were oriented and explained regarding the purpose and the procedure of the questionnaire. Descriptive statistics were computed for the data collected and t test was administered.

FINDINGS AND RESULTS

The data was analyzed by using "t" test. The significance of mean difference was found between scores obtain on anxiety between sportspersons and non-sportspersons has been presented in table-1.

Table-1

Significant difference of Mean on Anxiety between Sportspersons and Non-sportspersons.

Variable	Group Mean		Mean difference	t-value
	Sportspersons	Non-sportspersons		
Anxiety level	18.13	21.82	3.69	1.5

*Significant at .05 level of confidence t.05 (98) 1.90

Table-1 shows that Mean Value, Mean difference and t-value for anxiety levels of sportspersons and Non-Sportspersons. It was evident from Table-1 that there was no significant difference between the means of sportspersons and Non-Sportspersons on the scores of SCAT since the obtained value of 't' (1.5) was lower than the tabulated value of 't' (1.90) which was required to be significant at (98) degree of freedom with 0.05 level of confidence. The result of the studyindicates that there was no significant difference found in terms of anxiety level among Sportspersons and Non-sportspersons among under graduate females of University of Delhi. The mean value of Sportspersons on SCAT was found to be a bit lower than the non-sportspersons. The analysis revealed that there is no significant difference in anxiety level between sports persons comparison to the non-sportspersons. In case of sportspersons and non- sportspersons, there could be number of reasons for no significant difference sportspersons and non-sportspersons, as anxiety is something we apprehend before the start of any event. This may be experienced by both sports-persons and non-sportspersons alike.

CONCLUSIONS

In regard to anxiety levels there was no significant difference between the means of anxiety levels of sportspersons and non-sportspersons among under graduate females of University of Delhi. The anxiety level of sportspersons was found to be a bit lower than the non-sportspersons.

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IMPACT OF ENGAGING IN WELLNESS PROGRAMME ON LEVEL OF ASPIRATION OF UNDER-GRADUATE STUDENTS OF UNIVERSITY OF DELHI

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ABSTRACT
Lifestyle related health problems are on a rise these days. Various diseases are an outcome of faulty lifestyles. Present study was done in order to assess the impact of engaging in wellness programme on the level of Aspiration of under-graduate students of university of Delhi. In the study a group of 50 students were engaged in a wellness programme that included different aspects like Physical, Mental and Spiritual etc.Level of aspiration of these students was measured by using descriptive statistics both before and after engaging in wellness programme. Hypothesis: It was hypothesized that there will be no impact of engaging in wellness programme on level of Aspiration of under-graduate students of University of Delhi. Level of Aspiration was measured using questionnaire and descriptive statistics was used. There was a significant impact of engaging in wellness programme on the Level of Aspiration of Under-graduate students of University of Delhi.
Key words: Aspiration, mental and spiritual, wellness.

INTRODUCTION
Lifestyle related health problems are on a rise these days. Engaging in a wellness program can not only reduce the risk of various diseases it also works towards betterment of psychological aspects of a person. Factors may be physical, physiological or psychological in nature. To excel during a sports competition an athlete must work out on the training programmes which nurture all these factors to the optimum level. Training designed for the enhancement of any of the factor leaves some impact on other factors also which ultimately leads to enhanced sports performance. Hence this study was undertaken to understand the impact of wellness Programme which had awareness/ training on Balanced Diet, Training and Coaching Motivation, Intramural Competitions, Consolation Tournaments and Incentive & Awards along with engagement of students in various activities of Physical Fitness, Yoga and Aerobicson the level of aspiration of the students of University of Delhi.

METHODOLOGY
For the purpose of the study 50 females in the age group of 17 years to 20years were randomly taken. The group underwent 21 days Wellness Programme Designed by Dr. Kavita Sharma. The wellness Programme was consisting of awareness/ training on BalancedDiet, Training and Coaching, Motivation, Intramural Competitions, ConsolationTournaments and Incentive & Awards. A test of Level of aspiration developed by Dr. M.A. Shah and Mahesh Bhargava was administered on the participants before and after the wellness Programme. Mean, Standard Deviation, percentage change, and independent sample ‘t’ test were calculated to study the impact of wellness Programme.

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Findings and results

Table- 1
Level of Aspiration be
fore and after 21 days wellness programme

S No	Variables	After Wellness Prog	Before Wellness Prog	't'	Sig.
N-50 (M± S.D.)		N-50 (M± S.D.)			
1	Goal Discrepancy Score	4.832± 0.67	3.244± 1.84	5.36	0.001
2	Attainment Discrepancy Score	3.334± 0.62	2.346± 1.64	3.76	0.001
3	No. of Time Goal reachthe Score	1.760± 1.18	2.640± 2.15	3.12	0.001

Table- 1 reveals that the mean Level of Aspiration of the groupobtained from Goal Discrepancy Score (GDS), Attainment Discrepancy Score (ADS) andNumber of times the goal reach score (NTRS) were 4.832± 0.67, 3.334± 0.62 and 1.760±1.18 respectively while before they were 3.244± 1.84, 2.346± 1.64 and2.640± 2.15 respectively. The group had significantly improved their levelof aspiration after the wellness programme as the 't' value obtained were 5.36, 3.76 and 3.12 respectively with $p \leq 0.001$. 3
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CONCLUSION

Based on the findings of the present study, it was found that the students who undertook wellness programme had improved their level of aspiration significantly compared to the before undertaking any such programme other than their daily routine activities. Studies have shown that the awareness or the training and lifestyle modifications on anyof the factor named Balanced Diet, Training and Coaching, Motivation, IntramuralCompetitions, Consolation Tournaments and Incentive& Awards given to students had significant effects on physical, psychological as well as physiologicalparameters of the students but when the training designed consisting all these factors in one wellness programme, the findings showed significant effects on the psychological parameters. Hence further it is recommended that sport psychologists, counsellors, and coaches use the findings of the present study to implement such kind of training programmes for the students so as to enhance their Level of aspiration as well as otherpsychological parameters which ultimately leads to an enhanced well-being.

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A COMPARATIVE STUDY OF PHYSICAL FITNESS BETWEEN GOVERNMENT AND PRIVATE SCHOOL CHILDREN

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ABSTRACT
The aim of the current study was to compare the physical fitness of government and private school secondary level children. For the purpose of this study 435 (N=435) students were purposively selected as the participants. The mean age of the participants was 15.83±1.19 and ranged between 13 to 18 years. Out of those participants 229 participants were from government school and 206 participants were from private school. Appropriate physical fitness test were employed to measure the physical fitness level of the students. To compare the physical fitness level between government and private school students the researcher employed Independent Sample T test by means of SPSS software. The researcher found that the Body Mass Index and reaction ability of private school students are higher than the students of government school.
Keyword: Reaction ability,Physical fitness and School children.

INTRODUCTION
According to the Centers for Disease Control and Prevention, the number of overweight students has been tripled since 1980. The report says that 16% of students and teen aged between six to nineteen years are overweight which accounts almost over nine million (Satcher, 2005). Despite this horrible situation in student's health issues, physical education programs were being cut more than ever to make room for more core academic time. The trend continues until childhood obesity became a national health problem (Hessler, 2009) which leads to adopt physical education (PE) as a curricular component in schools from recent years and attention has recently increased on the important role that schools play for physical activity and physical fitness surveillance due to concern about childhood obesity (Ogden CL et al., 2006; Kelder SH et al., 2009). In India the ministry of Youth Affairs and Sports and the Ministry of Human Resource Development have been constantly working on to promote physical and health education for the overall development of school going children. It has been seen in India that the private schools are having better infrastructure required to overall development of children in comparison to government school but it is also to be considered that they are more academic oriented. More of it, there are so many other socioeconomic factors which creates confusion, "Which group is having better fitness level? Private school children or government school children." Therefore the researcher intends to analyse the physical fitness of government and private school children. The research will help to determine which group is better and then appropriate policies can be developed to bridge the gap.

METHODOLOGY
For the purpose of this study 435 (N=435) boys and girls from government and private schools of Meerut region (Hapur, G.B. Nagar, Bulandshahr, Bagpat, Ghaziabad and Meerut) were purposively selected as the participants. The mean age of the participants was 15.83±1.19 and

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ranged between 13 to 18 years. Out of those participants 229 participants were from government school whereas 206 participants were from private school. Among the participants, 340 participants were boys and rest 95 participants were girls. Out of those 340 boys 182 boys were from government school and 158 boys were from private school and among girls 47 girls were from government school and 48 girls were from private school. On the basis of review of related literature and the researchers own understanding, the following physical fitness variables were selected for the purpose of the study: Cardiovascular, Endurance, Muscular Endurance , Flexibility, Body Composition, Reaction Time. To analyse the data Independent-Sample T test was used by means of SPSS software. The significant level was set at 0.05 level of significant.

FINDINGS AND RESULTS

Table - 1

Descriptive statistics of selected physical fitness variables

	School	Mean	Std. Deviation
Cardiovascular Endurance	Government	1725.9709	320.35465
	Private	1717.0306	291.8008
Flexibility	Government	27.6048	7.75134
	Private	27.0782	6.68466
BMI	Government	18.9378	3.40460
	Private	21.2130	4.10089
Muscular Endurance	Government	34.3712	13.46592
	Private	33.4660	6.71121
Reaction Time	Government	.4659	.20765
	Private	.3794	.11316

Table -1 indicates that mean and standard deviation of physical fitness variables of school children. It is very clear from above table that all physical fitness parameters of government school children are better than private school children.

Independent sample t test was used to find out significant difference between government and private school children and results is presented in table-2.

Table - 2

Independent Sample T test

t-test for Equality of Meanst	Sig.	(2-tailed)	Mean Difference
Cardiovascular Endurance	.305	.761	8.94031
Flexibility	.755	.451	.52665
BMI	6.318	.000	2.27520
Muscular Endurance	.872	.384	.90516
Reaction Time	5.307	.000	.08643

The results of the study exhibit that there significant difference was found in BMI and Reaction time between government and private school children as significant value ($p<0.05$)was found less than 0.05 between government and private school children at 0.05 level of significance. On

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the other hand all the other selected variables have exhibited no significant difference ($p>0.05$) between the two groups.

CONCLUSIONS

The following interpretation can be drawn on the basis of the results shown above. The table 1 has exhibited the mean and standard deviation of the selected physical fitness variables. It can be seen that the mean cardiovascular endurance of the students of government school are lower than the students of private school. Though there is difference between government and private school students in case of cardiovascular endurance, the table 2 exhibits that the difference is not significant. The results of the study also exhibits that there is no any significant difference in flexibility between government and private school. It can be seen from the table 1 that there is some difference in body mass index between government and private school students. The result says that private school students are having higher body mass index compared to the government school students. The Independent T test result also exhibits a significant difference between the two groups (Government and Private School). From the results it can also be seen that the variable muscular endurance does not exhibits any significant difference. In case of the variable reaction time, the private school students are showing significantly better result. The result says that the private school students are having lesser reaction time compared to the government school students. From the above interpretation it is clear that the Body Mass Index and reaction ability of private school students are higher than the students of government school. The present study also exhibits a similar kind of result, which says that the Body mass Index and Reaction ability of private school students are higher than the students of government school student. Though the reason of this result was not in interest of the researcher, the researcher concludes that the difference in Body Mass index and Reaction ability may be because of different life style and socioeconomic status between government school students and private school students.

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KINEMATIC ANALYSIS OF JUMP SHOT OF FEMALE HANDBALL PLAYERS

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ABSTRACT
The purpose of the present study was to analyse the relationship of selected kinematic variables with the performance of Jump shot High in female Handball players. A total of 5 female intervarsity level Handball players were selected from Handball match practice group of Lakshmibai National Institute of Physical Education, Gwalior (M.P.) by using purposive sampling. The age of the subjects was ranged from 17 to 25 and all were regular players with good level of skill. Videography method was used to record the Execution of Jump Shot High in Handball. The selected linear kinematic variable was height of centre of gravity at the moment execution. In Angular kinematic, variables were angles at Ankle joint, Knee joint, Hip joint, Shoulder joint, Elbow joint and Wrist joint were selected for the present study. Kinovea software was used in order to obtain the values of selected angular kinematic variables. Height of Center of Gravity was also calculated by Kinovea software. For the purpose of this study Pearson product moment correlation was used. The level of significance was set at 0.05. Result of this study reveals that two angular kinematic variables that are angle at right shoulder joint and angle at right elbow joint shown significant relationship with the performance of jump shot in handball. Whereas other angular and linear kinematic variables did not show any significant relationship with the performance of jump shot.

Keywords: Kinematic, handball, jump shot high.

INTRODUCTION
Biomechanics is most helpful prospects in improving the performance in sports or activities where technique is the dominant factor rather than physical structure or physiological capacity. Handball is one of those rare games that are easy to learn, but difficult to perfect. Essentially a game of running, jumping, throwing and catching .At the same time, many unique and refined skills of the advanced player and readily identifiable and continue to be developed with years of practice and experience. All activities in team handball are performed in specific conditions, with the presence of players of the opposing team and while observing playing regulations. Their selection and execution therefore depend mostly on the situations in the match. Even if a player can execute the individual elements sometimes in a non-typical way, certain kinematic parameters do exist for most elements that show a greater or lesser efficiency of the element's execution. The jump shot is one of the most important elements of handball as in the game, motor behavior are performed in specific conditions with the presence of players of the opposing team and while adhering to the regulations. Thus researcher wanted to kinematically analysis the jump shot high specifically its execution to find out relationship of variables with its performance we will look into the jump shot in which handball is analyzed in its different phases (approach run, take off, execution of the ball and landing) to find out its efficiency.

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METHODOLOGY

The subjects for the present study were five (N=05) female Handball players of Handball match practice group from LNIPE, Gwalior. All subjects ranged between the chronological age of 17-25 years who participated in the Intervarsity tournament for LNIPE, Gwalior. All the subjects had been undergoing training for a considerable period; therefore, it is assumed that they possess a good level of technique Jump Shot High. The purpose of the research was explained to all the subjects and subjects were motivated to put their best during each trial. The research scholar familiarized subjects with the testing equipments and procedures. Following were the Kinematic variables which were constituted in the study: The selected kinematical variables were divided in two parts. (A) Linear Kinematic Variable**;** Execution of the ball- Height of center of gravity at moment release of ball in jump shot high. (B) Angular Kinematic variables; Angles at Ankle joint, Knee joint, Hip joint, Shoulder joint, Elbow joint, Wrist joint.

Jump Shot High performance as assessed through Zinn battery test, 1981. Measuring angle in nearest degree at selected joints at execution phases of jump shot high. Videography was employed for the biomechanical analysis of Jump shot in Handball. CANON-70D with the frequency of 24 frames per second was placed on the sagittal plane. The distance of the camera from the subject was 8.35 meters away and the height of the lens was 1.40 meters from the ground. Execution (releasing of ball) was selected for the analysis. On the basis of sequence photographs obtained from the videography, the scholar developed stick figures from which selected kinematic variables were calculated. The stick figures were developed by Kinovea software. The subjects performed the technique five times and the best trail was used for the analysis. The center of gravity and angular kinematics variables of each subject at moment of release of ball during Jump Shot High was measured by Kinovea software. Statistical analysis was done with SPSS (Statistical Package for the Social Sciences, 20.0, USA). The Pearson's product moment correlation was used in order to find out the relationship between selected Kinematics variables with the performance of Handball players in Jump shot high. For testing the hypothesis, the level of significance was set at 0.05.

FINDINGS AND RESULTS

Mean and standard deviation of linear and angular kinematic variables of the moment release phase in table - 1

Table – 1

Descriptive statistics of Linear and Angular Kinematic Variables at the Moment Release

Variables	Mean	Std. Deviation
Angle at Right Ankle	115.40	23.76
Angle at Left Ankle	129.40	4.72
Angle at Right Knee	96.80	27.38
Angle at Left Knee	126.20	22.62
Angle at Right Hip	166.00	10.58

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Angle at Left Hip	131.80	17.59
Angle at Right Shoulder	105.80	52.75
Angle at Left Shoulder	47.60	46.00
Angle at Right Elbow	134.00	6.92
Angle at Left Elbow	112.40	60.49
Angle at Right Wrist	143.20	42.61
Angle at Left Wrist	145.80	18.55
Center of Gravity	122.20	2.04

Table - 1 shows the values of Mean and Standard Deviation for the linear and angular kinematic variables at the time of moment release phase of Jump Shot High in Handball. These values may be used for further analysis in the study. Relationship of Selected Linear and Angular Kinematic Variables at the moment release Phase in table -2

Table – 2
Relationship of Selected Linear and Angular Kinematic Variables
at the Moment Release Phase

Variables	**Performance of Subjects**	**P-Value**
Angle at Right Ankle	.246	.690
Angle at Left Ankle	.367	.543
Angle at Right Knee	.693	.194
Angle at Left Knee	.190	.760
Angle at Right Hip	-.690	.197
Angle at Left Hip	.249	.686
Angle at Right Shoulder	.991*	.001
Angle at Left Shoulder	-.762	.134
Angle at Right Elbow	.922*	.026
Angle at Left Elbow	-.077	.902
Angle at Right Wrist	-.199	.748
Angle at Left Wrist	.704	.185
Center of Gravity	-.802	.103

Table -2 clearly revels that the angular kinematic variables at the time of execution phase right shoulder and right elbow showing significant relationship at 0.05 level of significance. As the p-value of the variables are lesser than 0.05. whereas none of the other angular kinematic variables and linear kinematic variable at the time of execution phase not show any significant relationship. As the p-value of all the variables are greater than 0.05. In kinematical analysis of jump shot selected kinematic variables, right shoulder and right elbow of the angular kinematic variables had shown significant relationship with the performance of Jump Shot High in

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Handball, whereas other selected liner and angular kinematic variables showed insignificant relationship to the performance of Jump Shot High in Handball. It may be due to extension of right shoulder and right elbow enables the player to hit the ball with greater height and power.

CONCLUSIONS

Based on the analysis and within the limitations of the present study, following were the conclusions drawn: 1. At the time of execution phase, the right shoulder and right elbow showed significant relationship with the performance of Jump Shot High in Handball. 2. None of the other angular kinematic variables at the time of execution phase didn't show any significant relationship. 3. All the selected linear kinematic variable showed insignificant relationship with the performance of Jump Shot High in Handball.

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COMPARATIVE STUDY OF PERSONALITY TRAITS BETWEEN ACTIVE SEDENTARY, TEAM AND INDIVIDUAL PLAYER

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ABSTRACT

To compare the Big Five personality factors between Active Sedentary, Team Players and Individual players. The sample size was 20 in each group of Active Sedentary, Team and Individual Players chosen randomly from male population of LNIPE, Gwalior with purposive sampling method. Age and education level of subjects were controlled according to Lifestyle of the Individual. For collecting data, the BIG FIVE inventory was used; five factors of personality can be assessed by which. These five Factor are (OCEAN) Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. The data were analyzed by SPSS software version 19 through descriptive and inferential statistics using ANOVA TEST. A total of 60 subjects were taken to the study with 20 subjects from each category i.e. active sedentary, Team and Individual Players. The Openness and extroversion there is significant difference between these with (p=0.000) and (p=0.001). Other personality traits such as Neuroticism agreeableness and conscientiousness have no significance difference between the groups by giving p value (0.104, 0.090 and 0.414, respectively).

Keywords: Sedentary, Big five inventory, neuroticism.

INTRODUCTION

Many theorists have attempted to define personality, and they agree on one aspect: Uniqueness. In essence personality refers to the characteristics or blend of characteristics that make a person Unique. (Robert & Weinberg, Daniel Gould). The most noted of the trait proponent in the 1960s and 1970s included Gordon Allport, Raymond Cattell and Hans Eysenck. Cattell developed a personality inventory with 16 independent personality factors that he believed describe a person (1). Today the big five model of personality is most widely accepted(Gill,2000;Vealey 2002). This model contends that five major dimensions of personality exist, including Neuroticism (nervousness, anxiety, depression and anger VS Emotional stability), Extraversion (Enthusiasm, Sociability, assertiveness, and high activity level VS introversion); Openness to experience (originality, need for variety, curiosity); Agreeableness (amiability, altruism, modesty); and Conscientiousness (constant, achievement striving, self-discipline).these five dimensions have been found to the most important general personality characteristic that exist across individual, with most other more specific personality characteristic falling within the dimensions (McRae & John, 1992).

METHODOLOGY

The present study was conducted on 10 Male from each categories ranging in age from 19-26 years. A total of 30 subjects (Active sedentary, Team and Individual Player) were selected for the present research study. The sample selection method was used as purposive sampling technique. The area was limited to LNIPE, Gwalior. In order to collect the required data, the BIG

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FIVE personality Inventory was used in this study. This BIG FIVE Inventory contains 44-item that measures an individual's different (dimensions) of personality (Goldberg, 1993) it includes i.e. neuroticism, extroversion, openness, agreeableness and conscientiousness. The subject should choose one of the following responses for each question: Disagree strongly, Disagree a Little, Neither Agree nor Disagree, Agree a Little, Agree Strongly. Method of analysis was independent ANOVA by using SPSS software version 19.

FINDINGS AND RESULTS

DESCRIPTIVES		N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Openness	Active Sedentary	20	33.3500	2.58080	.57708	29.00	37.00
	Team	20	37.2500	2.17340	.48599	31.00	40.00
	Ind Sports	20	35.4000	2.98064	.66649	29.00	40.00
Conscientiousness	Active Sedentary	20	30.4500	5.32595	1.19092	21.00	41.00
	Team	20	32.3000	6.98193	1.56121	22.00	44.00
	Ind Sports	20	32.7000	4.40215	.98435	24.00	41.00
Extroversion	Active Sedentary	20	22.3000	3.64331	.81467	16.00	27.00
	Team	20	27.6500	4.60292	1.02924	18.00	36.00
	Ind Sports	20	24.8000	3.98154	.89030	15.00	32.00
Agreeableness	Active Sedentary	20	34.8500	3.85630	.86229	29.00	41.00
	Team	20	34.1500	3.37600	.75490	28.00	40.00
	Ind Sports	20	32.4000	3.43971	.76914	27.00	37.00
Neuroticism	Active Sedentary	20	22.4000	4.82755	1.07947	15.00	35.00
	Team	20	25.1500	2.92494	.65404	21.00	30.00
	Ind Sports	20	23.5500	4.08431	.91328	16.00	32.00

In this descriptive-analytic study a total of 60 men in the age range of 19-27 year Participated who 20 of them were employed and living active sedentary life and the other 40 men were from Team Sports and Individual Sports. In the comparing all three group results is like that there is significant difference of (p=.000) in Openness between Active sedentary, Team Players and Individual Players as given in TABLE 1. Deliberation of the Extroversion Factor Resulted in the Significant difference of (p=.001) is between Active sedentary, Team Player and Individual Players, extroversion is significantly Lower among Active Sedentary rather than Team and Individual Players as given in Table 2. Deliberation of the Neuroticism factor resulted in the no significant difference (p = 0.104) observed between the three group's mean scores as shown in TABLE 3. By assessing the Conscientiousness, (p = 0.414), although there is no significant

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difference among the three groups as shown in TABLE 4. By assessing the Agreeableness, (p = 0.090), although there is no significant difference among the three groups as shown in TABLE 5.

TABLE-1
Anova table for the data on openness among active sedentary, team and individual players

OPENNESS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	152.233	2	76.117	11.266	.000
Within Groups	385.100	57	6.756		

TABLE 2

Anova table for the data on extroversion among active sedentary, Team and individual players

EXTROVERSION	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	286.633	2	143.317	8.545	.001
Within Groups	955.950	57	16.771		

TABLE 3
Anova table for the data on neuroticism among active sedentary, Team and individual players

NEUROTICISM	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	76.300	2	38.150	2.358	.104
Within Groups	922.300	57	16.181		

In the above given data sum of square between group is 76.300 with DF 2, Mean Square 38.150 and Within Group is 922.300, DF 57, Mean Square 16.181, F -statistic 2.358 and p is 0.104.

TABLE 4
Anova table for the data on conscientiousness among active sedentary, Team and individual players

CONSCIENTIOUSNESS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	57.633	2	28.817	.896	.414
Within Groups	1833.350	57	32.164		

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In the above given data sum of square between group is 57.633 with DF 2, Mean Square 28.817 and Within Group is 1833.350, DF 57, Mean Square 32.164, F -statistic 0.896 and p is 0.414.

TABLE 5
Anova table for the data on agreeableness among active sedentary, Team and individual players

AGREEABLENESS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	63.700	2	31.850	2.508	.090
Within Groups	723.900	57	12.700		

In the above given data sum of square between group is 63.700 with DF 2, Mean Square 31.850 and Within Group is 723.900, DF 57, Mean Square 12.700, F -statistic 2.508 and p is 0.090. The current study aimed to conduct a comparative research of the five factors of personality among the Active Sedentary, Team Players and Individual Player. The results determined a significant difference between Active Sedentary, Team and Individual Players male as the matter of Openness, so that the active sedentary individuals are having very less openness. Michel et al. in a meta analytic review have shown openness was related to positive work–non work spill over (β = 0.20) (3). Also in the study of Khakpour et al. it has shown that, among personality traits, openness was not significantly related to job performance (taskcontextual) (4). The results also determined a significant difference between employed and unemployed male as the matter of Extroversion, so that the Active Sedentary People were less Extroversion we can also determine them more Introversion. The result also determined a no significant difference between Active Sedentary, Team and Individual Players male as the matter of neuroticism. The results also determined a no significant difference between Active Sedentary, Team and Individual Players male as the matter of Conscientiousness and in Agreeableness.

CONCLUSION

it may be concluded that there are significance differences is found when ANOVA is applied where we have calculated the variables of the Big Five Personality Traits i.e. Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism used in present study.here can be a significant relationship between the personality attributes between active sedentary, team and individual players. As the score acquisition in the openness and extroversion has a negative and significant relationship with the active sedentary, team and individual players, while the other personality attributes expects showed a positive and significant relationship within three groups. For this conclusion the following reason can be assumed. 1. There is difference in the lifestyle of the Individuals. 2. The practice environment may not be same for both the categories and active sedentary people. 3. Team players always want to lead the group as they are having more extroversion traits. 4. Because of their working pressure.

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EFFECT OF RECEATIONAL ACTIVITIES ON COORDINATIVE ABILITIES OF PRIMARY SCHOOL LEVEL STUDENTS

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ABSTRACT
The objective of the study was to find out the effect of exercise on coordinative abilities of primary school level students. To attain this aim, a total of 40 (primary school students with age ranging from 10 to 13 years were randomly selected from school from army cantonment primary bound school M.H choraha Morar Gwalior. All the subjects were informed about the objective of the study. It was hypothesized that there will be significant difference in mean of coordinative abilities between treatment group & control group and significant difference will be found in terms of effect of duration on coordinative abilities. The specific coordinative abilities were measured with appropriate test, Reaction Ability- Ball Reaction Exercise Test, Orientation Ability- Medicine Ball Run Test. To maintain the validity and reliability, valid and reliable test items were used. Pre -Data for the study was collected and after that the data was collected at different duration as per training of 2 week, 4 week and 6 weeks repeatedly. To find out the effect of training program Mixed model design or between group designs –within group design was used 3&4 between –within factorial ANOVA was used as statistical technique to find out the significant difference. To test the hypothesis, the level of significance was set at 0.05.
Keywords: Rhythmic Ability, Reaction Ability,

INTRODUCTION
Coordinative abilities are primarily dependent on the motor control and regulation process of the Central Nervous System. For each Coordinative ability the motor control and regulation process function in a definite pattern, when a particular aspects of these functions is improved then the sportsman is in a better position to carry out a certain group of movements which for their execution depends on the Central Nervous System functioning pattern (Singh,1991). The learning of movements has a positive effect on the coordinative abilities belong to the performance factor technique or coordination (Singh, 1991). Coordinative abilities have a significant role in acquiring motor skills, as the time needs to master any scale (under study). Motor skill depends on the level of ability at the beginning. There is statistical significant appositive relation of learning. Improving and promoting coordinative between the averages of post-measures in some abilities are with a great importance to improve the quality coordinative abilities and between the averages of motor performance and the speed of motor learning and post-measures in some offensive skills performance. The capability of adapt the mentally motor programs to the changeable conditions [Abd Alkhalk, E., 2003, Sayed, M.A., 2009]. Playing fundamental motor skills have developed into various movement patterns. But at every stage of human history physical activity provides an existing out let for human expression often creative in nature. Human being normally run, jumps, throw, catch, kick, strike and perform a multitude of basic skills. They combine the skills into pattern of unceasingly greater specificity and complexity. The science of sport and preparation of athletes is continuously evolving.

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Contemporary sport scientists continue to explore the physiological and performance effects of different training interventions, recovery modalities, nutritional countermeasures and biomechanical factors on performance in order to increase it. As our understanding of body's response to different stressors has grown, contemporary training theorists, sport scientists, and coaches have been able to expand upon the most basic concept of training. (Tudor.D.Bompa and Gregory Hoff, 2009).

METHODOLOGY

The purpose of the study was to determine the main effect of training duration i.e. 2 Weeks, 4 Weeks and 6 Weeks, main effect of Training Program i.e. 15 Min, 30 Min and 45 Min along with the interaction effect of the Training duration and Training Program. To attain this aim, a total of 40 children' (treatment group – 10,student 15 minutes,10 student 30 minutes 45 minutes , control – 20) from school primary school level for army cantonment primary bound school M.H choraha morar. Gwalior having age group of 10 to13years was randomly selected from school for Gwalior, Madhya Pradesh. For the purpose of administering the training program a training schedule as treatment variable was prepared. The subjects were randomly classified in to four groups of 10 each (treatment = 10, control = 10). The training was given to treatment group thrice a week i.e. on Monday, Wednesday and Friday. The subjects were given various exercises framed in the training schedule. The data was collected on the selected variable after the training of six weeks.

	VARIABLES	**TEST**
1-	Orientation Ability -	Medicine Ball Run Test
2-	Reaction Ability-	Ball Reaction Exercise Test

Mixed model design or between group designs –within group design was used 3&4 between–within factorial ANOVA was used as statistical technique to find out the significant difference. To test the hypothesis, the level of significance was set at 0.05.

FINDINGS AND RESULTS

Table 1
F-table of test the significance of training programmes (between-subjects effects) of orientation ability

Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**
Training Program	25.717	2	12.858	3.831	.034	.221
Error	90.625	27	3.356			

In Orientation ability it was found that there was significant effect of training duration as well as interaction effect. Along with the main effect of Training Program was also significant.

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Table 2
F- table for testing the significance of traniing programmes (between-subjects effects) of reaction ability

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Training Program	2.937	2	1.47	7.59	.002	.36
Error	5.227	27	.194			

In reaction ability it was found that there was significant effect of training duration.

CONCLUSION

It revealed that Training Program (II) is equally effective to that of Training Program (III) and is significantly better than Training Program (I). The main effect of duration was significant. The further pair wise analysis with Bonferronie Correction reveled that significant difference was found between 2 weeks and 4 weeks but the performance improved in the initial two weeks and then deteriorated for further duration. This might be because of the fact that the subjects were primary school students.

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STUDY OF PERSONALITY OF FOOTBALL PLAYERS AT DIFFERENT LEVELS OF PARTICIPATION IN PUNJAB

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ABSTRACT

The objective of the study was to analyses the personality differences among football players at different levels of participation. For the purpose of the study 216 football players were selected as subjects who had won first four positions in Panjabi University Inter-college tournament, All India Inter University and National level football championships. The criteria measure adopted for the present study for selected psychological variables was ----Personality was assessed with NEO Personality Inventory developed by Paul T Costa, Jr and Robert R Mccrea, was used to assess the personality of football players at different levels of participation. The data was analysed by using Descriptive Statistics and TWO WAY analysis of variance methods to assess and compare selected psychological var iable of first four positions at three different levels of performance. The data collected during the Punjabi university Inter college tournament, All India Inter University and National level tournament and psychological questionnaire were administered on the subjects for psychological characteristics. On the basis of the finding of the study it was revealed that insignificant differences were found between mean among the three groups at three different levels of competition in relation to personality.

Key Words: Personality, Players and Football.

INTRODUCTION

In recent years, there has been an increasing amount of attention to the inter-relationships of personality variables and psychological factors with a player's performance. Most of this work has been concerned with delineating personality traits of players, differentiating among individuals by sports and level of success etc. Studies of measurement of personality traits of players are vital, if we are to secure the information needed by sports psychologist and coaches, who are charged with responsibility for selection, counseling and also the training of the players for competition. During 1960s and 1970s more than 1000 studies were done on sports personalities; reported in various quarters of globe but unfortunately with far from consistent results and conclusions. Some reviewers of sports personality research such as Martens (1975) came to the conclusion that general trait measures are worthless for The purpose of predicting relevant sport behavior.The aim of the study is to analyze the personality differences among football players at different levels of participation.

METHODOLOG

For the purpose of the study, 191 football players were selected as subjects (male) who had won first four positions in Punjabi University Inter-College Tournament, All India Intervarsity and National level football. The material required for scoring include a NEO inventories manual, one form-s reusable test booklet and one feedback sheet per respondent. It is a self-report, quick, reliable and accurate measure of 5 domains. The manual reports that administration of the full version should take between 30 and 40 minutes. Costa and McCrae report that the assessment should not be evaluated if there are more than 40 items missing. They also state that despite the

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fact that the assessment is balanced" to control for the effects of acquiescence and nay-saying, that if more than 150 responses or less than 50 responses „agree" or „strongly agree", the results should be interpreted with caution. The domain scores are reported in T scores and are recorded visually as compared to the appropriate norm group, much like other measures of personality. The statistical analysis of the data was performed on computer. At the first stage mean and standard deviation were calculated for all the variables and at the second stage ANOVA was applied to find out the difference between Intercollegiate, Interuniversity and national level players for their personality. The data pertaining to psychological characteristics i.e. personalities of 191 subjects at different levels of competition of male players were gathered for the purpose of the study. The data pertaining to the variables in the study were statistically examined by using one way analysis of variance (ANNOVA). The level of significance was fixed at 0.05 level.

FINDINGS AND RESULTS

The data was analyzed by using descriptive statistics and one way analysis of variance method to find out differences between Intercollegiate, Intervarsity and national level players in the personality. Findings are presented below in tabular form:-

Table I
Descriptive statistics of Intercollege, Nationals and Intervarsity level competitions in relation to Personality.

Competition level	Mean	Standard deviation
Intercollege	123.71	8.322
Nationals	122.49	9.105
Intervarsity	122.30	12.525

Table I revealed mean and standard deviation at three different levels of competitions i.e intercollege, nationals and intervarsity. Mean scores at Intercollegiate, Nationals and Intervarsity levels have been found 123.71, 122.49 and 122.30 respectively. The standard deviation scores at Intercollege, nationals and intervarsity levels have been found 8.322, 9.105 and 12.525 respectively.

Table II
Analysis of variance for the comparison at three different levels in relation to Personality.

Source of variance	Type III sum of squares	df	Mean square	f	Sig.
Between					
Groups	71.160	2	35.580	.336	.715

*significant at 0.05 level.
f- value required to be significant at 189 df =2.99

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Table II revealed that insignificant difference existed among the three groups at three different levels of competition in relation to personality at 0.05 level since f-value of .336 was found lower than the required value 2.99 at 189df. Since, insignificant difference was found between the means of Intercollege, Nationals and Intervarsity level players in relation to personality, LSD post hoc test was applied for based means.

Table III

LSD post hoc test for the comparison of paired means of three different levels in relation to personality.

Competition level	Std. error	Mean difference	Sig.
Intercollege -	1.873	1.21	.810
Nationals			
Intercollege -	1.827	1.41	.744
Intervarsity			
National-Intervarsity	1.787	.19	.994

*Significant at 0.05 levels

Table III revealed that insignificant difference existed between the mean scores of Intercollege and Nationals, Intercollege and Intervarsity and National and Intervarsity level.

CONCLUSIONS

On the basis of the findings following conclusions are drawn. Insignificant differences were found between mean among the three groups at three different levels of competition. Insignificant difference existed between the mean scores of Intercollege and National, Intercollege and Intervarsity and National and Intervarsity level.

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COMPARISION OF ADAPTIVE SPATIAL ABILITY AMONG MALE AND FEMALE VOLLEYBALL PLAYERS

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ABSTRACT

The purpose of the study was to compare the adaptive spatial ability (A3DW) among male and female volleyball players. The 24 subjects (12 male and 12 female) were selected on the bases of purposive sampling from Lakshmibai National Institute of Physical Education, Gwalior, India. Their age ranged between 17-24 years with a mean and SD of male and female i.e., 20.67 $\pm$ 2.35 and 21.09 $\pm$ 2.15 respectively. Vienna test system (VTS), a leading computerized psychological assessment tool was used for measuring adaptive spatial ability. The Vienna Test System SPORT is perfectly designed for sports psychology assessment. The psychometrically valid tool for profile analysis, talent assessment and development of training plans gives players and athletes a clear picture of their sports psychology profile – in terms of both skills and personality (Vienna Test System sports, 2017). Researcher analyzed the adaptive spatial ability (A3DW) with sub factors of quotient spatial (A3DW_QS); mean item working time (A3DW_MIWT); and dispersion of item working time (A3DW_DIWT) in which how consistently in term of the same latent ability dimension is assessed in all respondents. Independent t test was applied to compare spatial ability among male and female volleyball players. Insignificant difference were found among (A3DW_QS); (A3DW_MIWT); & (A3DW_DIWT) as the p value were (0.74; 0.68; & 0.33) respectively which is greater than 0.05. The results concluded that there is no difference between spatial ability among male and female.

Keywords: Visual-spatial ability, Gender difference, Volleyball, Vienna test system

INTRODUCTION

Spatial visualization ability or visual-spatial ability is the ability to mentally manipulate 2-dimensional and 3-dimensional figures. It is typically measured with simple cognitive tests and is predictive of user performance with some kinds of user interfaces. This ability can be viewed as a unique type of intelligence distinguishable from other forms of intelligence, such as verbal ability, reasoning ability, and memory skills. Spatial ability is one of the primary dimensions of intelligence. An important coordinative ability is visual spatial skill. This ability is to prevent us getting lost and being able to read or build a map of the surrounding space. It is achieved and maintained by a complex set of sensory motor control systems that include: sensory input from vision, proprioception, and the vestibular system. To determine this ability, intrinsic individual components and environmental factors intervene .The existence of gender differences in cognitive ability is a controversial topic. Nevertheless, researchers in psychological and the social sciences widely acknowledge that males and females differ in spatial ability (Halpern & Collaer, 2005; Kimura, 2000). Indeed, it is one of the most robust and consistently found

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phenomenons of all cognitive gender differences (Halpern, 2011; Voyer, Voyer, & Bryden, 1995). While there is individual variability within each gender, on average males score higher than females on tests that measure visual-spatial ability. However, there is considerable debate over just how large the differences between males and females are. Researchers also differ in their perspectives on the origins of the gender differences, including the relative contributions of biological, social and cultural factors. This chapter provides an overview of the research literature, as well as covering the developmental and educational implications for children.

METHODOLOGY

The 24 subjects (12 male and 12 female) were selected on the bases of purposive sampling from Lakshmibai National Institute of Physical Education, Gwalior, India. Their age ranged between 17-24 years with a mean and S.D of male and female i.e., 20.67 $\pm$ 2.35 and 21.09 $\pm$ 2.15 respectively. Vienna test system (VTS), a leading computerized psychological assessment tool was used for measuring adaptive spatial ability. The instruments and variables selected for this study were as follows: Vienna test system (VTS):- ADAPTIVE SPATIAL ABILITY, S1 form (10 minutes). Independent t-test was used to compare the psycho-motor variable i.e., adaptive spatial ability and irs sub variables are quotient spatial (A3DW_QS); mean item working time (A3DW_MIWT) & dispersion of item working time (A3DW_DIWT) in the study.

FINDINGS AND RESULTS

In this study various team games assessed on the basses of various psychomotor variables such as: Adaptive Spatial ability (ADW), Quotient Spatial (QS), Mean item working Time (MIWT), Dispersion Item Working Time (DIWT).

Table 1.
Descriptive Table of Adaptive Spatial Ability Among Male And Female Volleyball Players

Variables	Gender	N	Mean	S.D
(A3DW_QS)	Male	12	65.17	12.74
	Female	12	63.58	9.9
(A3DW_MIWT)	Male	12	19.4	16.9
	Female	12	17.08	8.81
(A3DW_DIWT)	Male	12	12.14	13.46
	Female	12	8.08	4.07

Table 1. show that the mean and standard deviation of psychomotor variable that is adaptive spatial ability among male and female volleyball players. The sub factors of adaptive spatial ability i.e., quotient spatial (A3DW_QS); mean item working time (A3DW_MIWT); and dispersion of item working time (A3DW_DIWT) of male is 65.17 $\pm$ 12.74; 19.4 $\pm$ 16.9; and 12.14 $\pm$ 13.46 & female 63.58 $\pm$ 9.9; 17.08 $\pm$ 8.81; and 8.08 $\pm$ 4.07 respectively.

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Table 2. t Value Adaptive Spatial Ability Among Male And Female Volleyball Players

Variables		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	p-value	T	df	p-value	Mean Difference	Std. Error Difference
(A3DW_QS)	Equal variances assumed	2.4	0.136	0.34	22	0.74	1.58	4.66
(A3DW_MIWT)	Equal variances assumed	1.83	0.189	0.422	22	0.68	2.32	5.5
(A3DW_DIWT)	Equal variances assumed	3.28	0.084	0.999	22	0.33	4.06	4.06

Table 2 shows that one of the conditions for using the two- sample t– ratio for unrelated groups is that the variance of the two groups must be equal. To test the equality of variances, Levene's test was used. F-value is 2.4 Quotient spatial (A3DW_QS); 1.83 Mean item working time (A3DW_MIWT); 3.28 Dispersion of item working time (A3DW_DIWT) which were insignificant as the p value is 0.13; 0.18; 0.084 which is more than .05. Thus, the null hypothesis of equality of variances may be accepted, and concluded that the variances of the two groups are equal. It can be seen from table 2 that the value of t statistic are 0.34 Quotient spatial (A3DW_QS); 0.42 Mean item working time (A3DW_MIWT); 0.99 Dispersion of item working time (A3DW_DIWT). t value is insignificant as p value is 0.74 Quotient spatial (A3DW_QS); 0.68 Mean item working time (A3DW_MIWT); 0.33 Dispersion of item working time (A3DW_DIWT) which is greater than 0.05.

CONCLUSION

While men and women do not differ in levels of general intelligence, gender differences do exist for more specific cognitive abilities. In particular, gender gaps in spatial ability are the largest of all gender differences in cognitive abilities. There were not any significant gender differences in athletes' spatial orientation. Longer period of sports training was related to better spatial orientation (Reilly, Neumann & Andrews 2016). Increase of sports practice with the advance in age, and being a national (elite) or regional competitor determined spatial orientation. The non-existence of gender difference in spatial orientation in athletes could be explained by the fact that they all developed their spatial orientation ability by means of sports training. The number of male and female athletes practicing different kinds of sports was not big enough in order to be made inter-sport gender comparisons. (Stoyanova, & Ivantchey 2016)

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IMPACT OF YOGA PACKAGE ON STRESS OF SCHOOL STUDENTS

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ABSTRACT
The purpose of the study was to examine the impact of yoga package on stress individuals. A secondary purpose of this study was to determine yoga as alternative therapy for stress and its complications. The study is to determine the effective use of yoga in education would help children to manage their stress and other problems. Variables of study 1. Independent Variable: Yoga 2. Dependent variable: Stress. The sample of the study covered students from sr. sec. schools of Bhopal in the age range 15 to 17 years. This sample had been collected from sr. sec. students before and after yoga practice. Bisht Battery of Stress Scales (BBSS) by Abha Rani Bisht (1987) and it's manual. The study was conducted on sr. sec school students of Bhopal. Bisht Battery of Stress Scale (BBSS) was administered on students with ages ranging from 15 to 17 years. BBSS was administered to identify stress of the students. This test was developed for the measurement of 13 types of stress. This study concluded that there was significant effect of yoga package on students. Practice of yoga gives a stress free life with skillful living.

Keywords: yoga, stress, therapy.

INTRODUCTION
Life starts with stress. Without stress we can't come in this world. Stress is beginning of the life. Stress is the demand of this competitive era, because without stress we can not do any thing in this competitive era but you should think what is your need? Living in stress or to deal stress with an understanding in calm way and achieve what you want in materialistic or spiritual world. Stress is one word but it is a bundle of many problems of mental, behavioral, emotional and physical health. Generally it has observed our thought process influence our behavior when people are under stress they start thinking negatively and misbehave with people. But daily yoga practice give you chance to think about your attitude, behavior, health, achievements etc. education of yoga with its theory and principles, (not only asanas) can give healthy and happy life to each growing personality . Brudhyajnavalkasmruti says "Yoga teaches us to realize our own problems, our draw backs our wrong ideas & views our faulty attitude wrong concepts". Psychological and physiological response of the body that occurs whenever we must adopt to changing conditions, whether those conditions be real or perceived. Stress= Pressures on Mind/Resilience Power.Stress is more if pressure on mind is more and RP (Resilience Power) is less. The maximum stress is called distress. Stress is less if pressure on mind is less & RP is high. If pressure < Resilience power, it is called Marginal stress and Eu-stress. If pressure > Resilience power, it is called stressed state and distress. If pressure = Resilience it is called optimum stress. Here, resilience power indicates 8 fold powers that is power to discriminate right or wrong, power to Judge, power to face, power to adjust, power to tolerate, power to cooperate, power to pack-up (to be ever-ready for any work), power to withdraw from sense organs and just remain in the state of being, that is: peaceful love full, blissful, powerful, knowledge full, joyful and pure.

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METHODOLOGY

The sample of the study covered students from sr. sec. schools of Bhopal in the age range 15 to 17 years. This sample had been collected from sr. sec. students before and after yoga practice. Bisht Battery of Stress Scales (BBSS) by Abha Rani Bisht (1987) and it's manual. BBSS was administered to identify stress of the students. This test was developed for the measurement of 13 types of stress. These scales were consisted of different items. 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 Hindi. Meaning of difficult words was also explained. The students were told to finish their test within given time. This study consists of comparing a group between two different sets of conditions. This design consist a special. The process of the design is illustrated by the following table.

Design is one group Pre-test, Post-test

Pre test Intervention	Post test	
200	Yoga practice	200

There is somewhat more structure, there is a single selected group under observation with measurement being done before applying the experimental treatment and then measuring after. For present study one group procedure of experimental method has been used because it involves data collection at pre and post basis of yoga practice. Intervention: A yoga package (asana + pranayama + meditation + mudra + kriya) was given to students. Mean and z test was used for testing the hypothesis and to analyze the data.

FINDINGS AND RESULTS

Scores of effect of yoga package on stress of Sr. Sec. School students.

Variable		No of students	Mean score before yoga package	Mean score after yoga package	Z Value	Inference
Stress	Frequency	200	1315.58	1313.25	4.72	Significant
	Quantity		1399.83	1351.83	4.69	Significant

Table: Reveals that mean scores of effect of yoga package on stress of Sr. Sec. school students (N-200). Before and after yoga practice mean scores of stress frequency are (1315.58 and 1313.25), stress quantity (1399.83 and 1351.83). This shows that the before yoga practice students have more stress (quantity, frequency) as compared to after yoga practice. Z-value obtained is 4.72 & 4.69 which is more than the critical value 1.96 and significant at α=0.05. There is significant effect ($p>0.05$). The results indicate that the positive effect of yoga package on stress of Sr. Sec. school students.

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CONCLUSION

This study concluded that there was significant effect of yoga package on students. Practice of yoga gives a stress free life with skillful living. Stress is like a comma, not a full stop. It is like waves in the ocean. Ocean cannot be without waves. We must know surfing to enjoy waves in the ocean. To a skilled surfer, sea waves can be exhilarating but if the surfer is inexperienced, it could lead to disaster. Similarly, human life is like an ocean and stresses are waves. Human life cannot be without stress. Therefore, we must know how to relax and manage stress. Today's students need is to process their stress and harvest their stress, in a productive way and it is possible only thru the practice of yoga. Yoga teaches us to live in present, not to brood over past and worry about future. Because only yoga is the therapy in which your body is the instrument / tablet or medicine to your treatment.

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COMPARATIVE STUDY ON MENTAL TOUGHNESS OF FEMALE COMBATIVE AND INDIVIDUAL SPORTS

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ABSTRACT
The purpose of the study is to compare the mental toughness of the female athletes of combative and individual sports. The study was conducted on the age group of 18-23 years with 40 female athletes. The questionnaire measures seven factors in mental toughness and it was taken in the LNIPE campus. In this study independent T test is been used. The result of the study showed no significance difference in mental toughness in both the sports as the result is higher than 0.05.
Key words: combative, mental toughness, athletes.

INTRODUCTION
Mental toughness can be defined as the ability to cope up with difficile and pressure, regardless of prevailing (either good or bad) circumstances. Mental toughness has been shown to be a major factor underpinning performance, positive behaviour, well-being, and desire. Mental toughness is a measure of a person dynamism and confidence that may forecast accomplishment in sport, education. "Mental toughness" is used frequently refer to any set of positive attributes that helps a person to deal with difficult circumstances. Coaches and sport commentators commonly use the term mental toughness to explain the mental state of athletes who persist through challenging sport circumstances to accomplish. Sports Psychology branch is one of the leading source to boost the mental toughness though it is a psychological aspect but sports psychology gives certain techniques to boost it like stress dealing techniques, counselling, motivational talks, visualization, imagery and many more factors which can improve the mental toughness of the athletes.

METHODOLOGY
The present study was conducted on mental toughness and weakness of 40 female combative and individual sports athletes. The subjects were taken from LNIPE Gwalior campus with the age group of 18-23years.The study was conducted with the questionnaire of mental toughness called as Psychological Performance Inventory which was developed by James.E.Loehr in the year 1982. In this study seven factors of an individual is been measured. The statistical tool used in this study was independent T test. Scoring, Take that number and place it alongside the item number in the following chart, e.g., 6 __5__. After doing this for all 42 items, add each of the seven columns separately. Use that total for making the profile of mental strengths and weaknesses. Any of the total scores which fall below 20 need special attention. When that happens, thoroughly review all training procedures which relate to that area of weakness. 26 – 30 Excellent Skills, 20 – 25 Room for Improvement, 6 - 19 Needs Your Special Attention. The area questionnaire deals with are as follows: - 1. Self Confidence
2. Negative Energy Control 3. Attention Control 4. Visual/ Imagery Control 5. Motivational Level 6. Positive Energy Control 7. Attitude Control

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FINDINGS AND RESULT

Table 1
Descriptive Analysis

Factors	Group	N	Mean	Std. Deviation	Std. Error Mean
self confidence	individual	20	23.9500	3.66312	.81910
	combat	20	24.9000	3.94568	.88228
negative energy control	individual	20	20.3000	2.88554	.64523
	combat	20	19.3500	4.09460	.91558
attention control	individual	20	20.4000	3.21837	.71965
	combat	20	20.3000	2.67739	.59868
visual/imagery control	individual	20	22.1000	3.27511	.73234
	combat	20	23.2000	3.77805	.84480
motivational level	individual	20	24.3500	4.83708	1.08160
	combat	20	24.6500	5.13271	1.14771
positive energy control	individual	20	24.3000	2.90372	.64929
	combat	20	24.2500	4.72257	1.05600
attitude control	individual	20	24.8500	2.94288	.65805
	combat	20	24.3500	5.79723	1.29630

Table 2

Factors		t	Sig.-(2Tailed)	Mean Difference	Std. Error Difference
Self confidence	Equal variance assumed	-.789	.435	-.95000	1.20389
	Equal variance not assumed	-.789	.435	-.95000	1.20389
Negative energy control	Equal variance assumed	.848	.402	.95000	1.12009
	Equal variance not assumed	.848	.402	.95000	1.12009
Attention control	Equal variance assumed	.107	.915	.10000	.93612
	Equal variance not assumed	.107	.916	.10000	.93612
Visual/imagery control	Equal variance assumed	-.984	.331	-1.10000	1.11803
	Equal variance not assumed	-.984	.332	-1.10000	1.11803

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Motivational level	Equal variance assumed	-.190	.850	-.30000	1.57706
	Equal variance not assumed	-.190	.850	-.30000	1.57706
Positive energy control	Equal variance assumed	.040*	.968	.05000	1.23964
	Equal variance not assumed	.040*	.986	.05000	1.23964
Attitude control	Equal variance assumed	.344	.733	.50000	1.45376
	Equal variance not assumed	.344	.733	.50000	1.45376

The result is insignificant in the all seven factors of mental toughness. The result of the mental toughness variables does not show any significant relationship at 0.05 level of significance. The result is insignificant because certain factors like education, cultural issues, mental skill training, coaching, lifestyle and nature of sports.

CONCLUSION

The study shows that there is no significant difference in it.

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ATTITUDE OF INTER-UNIVERSITY PLAYERS TOWARDS ERGOGENIC AIDS: AN EXAMINATION

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ABSTRACT
Ergogenic Aids in sports and games has become the most increasingly well known issue. The conclusion to take part in Doping practice is Depending on several factors that are based on many different information and sources of varying reliability for the purpose. The purpose of study the research want to determine the attitudes of athletes at a Lakshmibai National Institute of Physical Education (LNIPE) toward doing and figure out Ergogenic Aids are to be valid information Source on prescribed medicine usage for this athletes. LNIPE athletes competing in at least 1 of 8 sports were asked to complete a questionnaire. The questionnaire asked regarding Attitudes of awareness of banned substance and sources of substance and doing information. Role of the Ergogenic Aids to provide advice medicine usage. We were preparing the questionnaire for Lakshmibai National Institute of Physical Education .athletes (under graduation boys) to collects the valid information regarding the use of Ergogenic aids. The output result of the questionnaires was partially completed in total, 94.66% (142/150). Generally, these athletes did not feel pressured to Ergogenic aids that I was prevalent or necessary to take. Conclusion of this study is that LNIPE students have awareness towordsergogenic aids there also appears to be an opportunity for pharmacists to play a more prominent role in providing advice on medication that use by the athletes (university player) to enhance the performance.
Keywords: Ergogenic Aids, Doping and Pharmacists

INTRODUCTION
Ergogenic Aids in sports and games has become the most increasingly well known issue. The conclusion to take part in Doping practice is Depending on several factors that are based on many different information and sources of varying reliability for the purpose. The purpose of study the research want to determine the attitudes of athletes at a Lakshmibai National Institute of Physical Education (LNIPE) toward doing and figure out Ergogenic Aids are to be valid information Source on prescribed medicine usage for this athletes. LNIPE athletes competing in at least 1 of 8 sports were asked to complete a questionnaire. The questionnaire asked regarding Attitudes of awareness of banned substance and sources of substance and doing information. Role of the Ergogenic Aids to provide advice medicine usage. We were preparing the questionnaire for Lakshmibai National Institute of Physical Education .athletes (under graduation boys) to collects the valid information regarding the use of Ergogenic aids.

METHODOLOGY
150 inter university player(cricket , judo, football, soccer, wrestling, track and field, basketball, volleyball, hockey or cross-country) randomly selected. Subjects were selected from the students of Lakshmibai National Institute of Physical Education, Gwalior. LNIPE athletes competing in at least 1 of 8 sports were asked to complete a questionnaire. Participants were asked various questions regarding their perceptions of doping. Questionnaire 1: Attitudes and awareness of banned substances. Questionnaire 2: Sources of substance and ergogenic aids information. The

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statistical technique applied in order to examine the hypotheses of the study were, basic descriptive statistics such as mean and standard deviation . The questionnaires were totally anonymous.

FINDINGS AND RESULTS

QUESTIONNAIRE 1. ATTITUDE AND AWARENESS OF BANNED SUBSTANCES.

STATEMENT	RESPONSE	STRONGLY AGREE N(%)	AGREE N(%)	DISAGREE N(%)	STRONGLY DISAGREE N(%)	UNSURE N(%)
I am aware of the substances I cannot use in competition.	142	34(23.94)	95(66.90)	6(4.22)	3(2.11)	4(2.81)
Most athletes competing in the LNIPE are not using banned substances.	142	24(16.90)	94(66.19)	8(5.63)	2(1.4)	14(9.85)
Ergoganic aids is necessary to achieve the best results.	142	7(4.92)	12(8.45)	42(29.57)	78(54.92)	3(2.11)
Ergoganic aids gets too much attention from sports organizations.	142	3(2.11)	23(16.19)	76(53.52)	19(13.38)	21(14.78)
My performance would be improved by banned substances.	142	12(8.45)	34(23.94)	37(26.05)	36(25.35)	23(16.19)
I feel pressure to use banned substances.	142	2(1.4)	3(2.11)	45(31.69)	89(62.67)	3(2.11)
Anabolic steroids are used by some high performance student athletes.	142	8(5.63)	45(31.69)	35(24.64)	14(9.85)	40(28.16)
When using a medication or supplement, I am concerned about the possibility of a ergoganic aids violation.	142	15(10.56)	80(56.33)	32(22.53)	3(2.11)	12(8.45)

A total of 150 questionnaires were distributed of which 142 were at least partially completed (94.66% response rate). Questionnaire 1 outlines the respondents' answers about their attitudes and awareness of banned substances. Generally, most athletes felt they hadgood awareness of the substances whose use was not permitted both in and out of competition. A majority of participants (83.09%, 118/142)believe that most of their colleagues and competitors do not use banned substances. In contrast, 37.32% (53/142) of participants indicated that they believe anabolic steroids are used by *some* high-performance student athletes. The general attitudes of respondents towards banned substances are that they are unnecessary (84.52%,120/142) Most do not feel pressured to use banned substances (94.36%, 134/142). It appears these athletes are not entirely confident about what they are or are not allowed to take regarding typical pharmacy medicines, as 66.90% (95/142) indicated they are concerned about a doping violation when using a medication or supplement.

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QUESTIONNAIRE 2. SOURCES OF SUBSTANCES AND ERGOGANIC AIDS

SOURCE	RESPONSES	YES	NO
Coach	142	119	23
Teammate	142	107	35
Physiotherapist	142	23	99
Internet	142	123	19
Product label	142	60	82

A list of information sources for doping information was provided to participants, from which they were asked to answer in YES/NO of the information source (questionnaires 2). Participants indicated that they had not used many of the information sources they only uses the internet sources, coaches and teammates. The product label (57.14% had not used). Followed by physiotherapists (69.71%). The majority of participants (55.04%) indicated that they believe they receive adequate information on ergogenic aids

CONCLUSIONS

Conclusion of this study is that LNIPE students have awareness towards ergogenic aids there also appears to be an opportunity for pharmacists to play a more prominent role in providing advice on medication that use by the athletes (university player) to enhance the performance. There seems to be an opportunity for pharmacists to play a more prominent role in providingadvice on medication use to high performance athletes.

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ANXIETY MANAGEMENT OF POST GRADUATE GIRLS THROUGH MEDITATION

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ABSTRACT
The objective of this study is to incorporate yoga for anxiety management. The data has been collected from post graduate females of Patanjali University, Haridwar with the help of Sinha's comprehensive anxiety test (SCAT). Design of the study is one group pre and post design. After assessing level of anxiety there were four weeks meditation training had given to the participants of the study. After analyzing the data with the help of appropriate statistical techniques. It is concluded that there was significant effect of meditation on anxiety of post graduate students.

Key Words: Anxiety, Yoga, Meditation, anxiety management .

INTRODUCTION
Today is modern life style is full of imbalance in society. Every individual is suffering from lifestyle diseases like stress, tension, fear, anxiety, aggression, frustration, jealousy, depression moroseness, blood pressure, diabetes, thyroid etc. So society is being cranky. As much as we are getting progresses in physical world, we are decreasing our health, physical, mental, emotional, social, economical, intellectual etc. Generally anxiety is characterized by excessive, worry and fear in life events. Anxiety is a feeling of worry and fear that can be mild and severe. Everyone has feeling of anxiety at some point in their life. Anxiety is a component of stress. Anxiety is "a future-oriented mood state in which one is not ready or prepared to attempt to cope with upcoming negative events". In present scenario of education, there is absence of holistic applications and an imbalance growth of knowledge, deals only with external world around us and not related to the inner self of individual. But yoga improves awareness of self and surrounding in conscious way. According to Aurovindo yoga meant a methodological effort towards self perfection by the development of potentialities latent in the individual. Yoga practice improves compassion, devotion, receptivity, develop divergent and positive thinking, willpower and the list is so long. Yogasana and meditation develops harmony of universe with individual, with society, with matter and energy, with child-youth-old, with all three state of body- walking-dream-deep sleep, with gross-subtle-causal body and with body mind and intellect. So, we can say yoga is the need, to solve for today's world problems. Yoga and meditation helps to remove anxiety and its completion. Anxiety is the most common mental, emotional, and behavioral problem which occurs in every individual in some extent. Every individual occurs or experience some kind of anxiety. Anxiety is a general feeling of apprehension or worry and is a normal reaction to stressful situations. Anxiety is related to the specific behaviors of fight-or-flight responses, defensive behavior or escape. It occurs in situations only perceived as uncontrollable or unavoidable, but not realistically so.

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METHODOLOGY

sample of the study covered students from post graduate females of Patanjali University, Haridwar. 1. Independent Variable: Meditation 2. Dependent variable: Anxiety 3 Demographic variable: Post Graduate girls. The data had been collected with the help of Sinha's comprehensive anxiety test (SCAT). The students were assembled in a hall and made to sit in rows. Booklets containing statement items along with options available in sheet were distributed to each student. Researcher told to students the collected data and its information will be kept confidential but, if anybody personally wants to get information regarding your anxiety you can contact me. Instructions were delivered by the investigator, statements were written in Hindi. Meaning of difficult words was also explained. The students were told to finish their test within given time. After assessing level of anxiety there were four weeks meditation training had given to the participants of the study. Post data collected after successful completion of meditation training. This study consists of comparing a group between two different sets of conditions. Design is one group Pre-test, Post-test. In loosening practice different joints movements practice were given and a schedule for meditation practice had made which is as follows.

Schedule for meditation practice

S. No.	Meditation practice	1. Weeks	2. Weeks	3. Weeks	4. Weeks
1.	OM	3 Minute	3 Minute	3 Minute	3 Minute
2.	Beginning prayer	2 Minute	2 Minute	2 Minute	2 Minute
3.	Meditation	22 Minute	22 Minute	22 Minute	22 Minute
4.	Closing prayer	3 Minute	3 Minute	3 Minute	3 Minute

Statistical technique, Mean scores was computed for testing the hypothesis and to analyze the data.

FINDINGS AND RESULTS

Table – 1

Scores of anxiety on post graduate girls students

Variable	Pre Scores of mean		Post Scores of mean		t- Value
	Mean	S.D.	Mean	S.D.	
Anxiety	27.8	12.5283678	22.1	12.3971771	0.44

Significant at 0.05

Table -1 Revels that the Pre Mean & SD value of anxiety are 27.8 ± 12.5283678 and the post Mean & SD value of anxiety are 22.1 ± 12.3971771. On the basis of mean scores we can state that the impact of meditation is found on anxiety of post graduate girls, after doing four week yoga intervention program based on meditation.

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CONCLUSION

This study concluded that there was difference found between mean scores of meditation on post graduate girls students. On the basis of results it is said that practice of meditation can remove anxiety but four weeks are not sufficient to remove anxiety more practice of meditation is needed. Practice of yoga gives a stress free life with skilful living.

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PREMIER BADMINTON LEAGUE IN PROMOTING INDIAN BADMINTON

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ABSTRACT
The purpose of this paper is to inform reader about how premier Badminton League is promoting Badminton in India. The author mainly covers the following areas like sponsorship, viewership, increasing price bid of players in the auction, challenges for league and performance of Indian Badminton players. The information of the study is collected from various sources like internet, books, journals, newspapers and interviews. The conclusion of this research paper is that premier badminton league is growing the interest of people and corporate world toward badminton.
Keywords: Badminton, Promotion, Viewership and Sponsorship.

INTRODUCTION
The Premier Badminton League (PBL) is one of the top badminton leagues in India. This league becomes one of the most popular leagues just after Indian Premier League (IPL). Other than top Indian players, most of the International top players, including Olympic Medal Winners participate in different teams. Besides showcasing the best of international and Indian talent, the tournament has also been successful in widening the base of the game.

The league comprises of franchises from Delhi, Mumbai, Lucknow, Bengaluru, Chennai, Hyderabad, Ahmedabad and Guwahati. Indian badminton has a strong legacy from the past with players like Prakash Padukone and Pullela Gopichand who have put India on the global badminton map. Season one of the Premier Badminton League attracted more than 6 crore badminton fans in India through various social media and other platforms. Over the past few years, Indian players like Saina Nehwal, P.V Sindhu, Kidambi Srikanth and many others have performed commendably internationally. There is no doubt that the sport is continuously growing and gaining popularity all over the country. The exceptional fan following received during PBL, proves that the Indian audiences want more badminton action.

MAIN CONTENT
SESSION 1st Vodafone was the title sponsor of Indian Badminton League and other sponsors were Pepsi, pvp, dlf my town, jagran engage etc. The costliest players this year were Malaysia's Lee Chong Wei (Hyderabad Hunters) and India's Saina Nehwal at Rs 66.71 lakh (Awadhe Warriors) and P V Sindhu at Rs 63 lakh (Chennai Smashers).ESPN and Star Sports 2 broad casted the IBL. Indian Badminton League (IBL) was able to attracted21.7 million viewers on Star Sports during the tournament.

SESSION 2nd Again vodafone comes on board as title sponsors of Premier Badminton League 2. Other key sponsors were Amazon Exclusive, Bajaj Electricals, Gioneeand LIC, while the tournament will be powered by Maruti Suzuki and Star Sports the official broadcast partners. PBL Season 2 was broadcasted LIVE on Star Sports 1, Star Sports 3, Star Sports HD1 and Star Sports HD3, It was also streamed online on Hotstar33.8 million unique viewers watched the league, while the total viewership was at 77.74 million. PBL sold 23,500 tickets worth Rs 1.2 crore.

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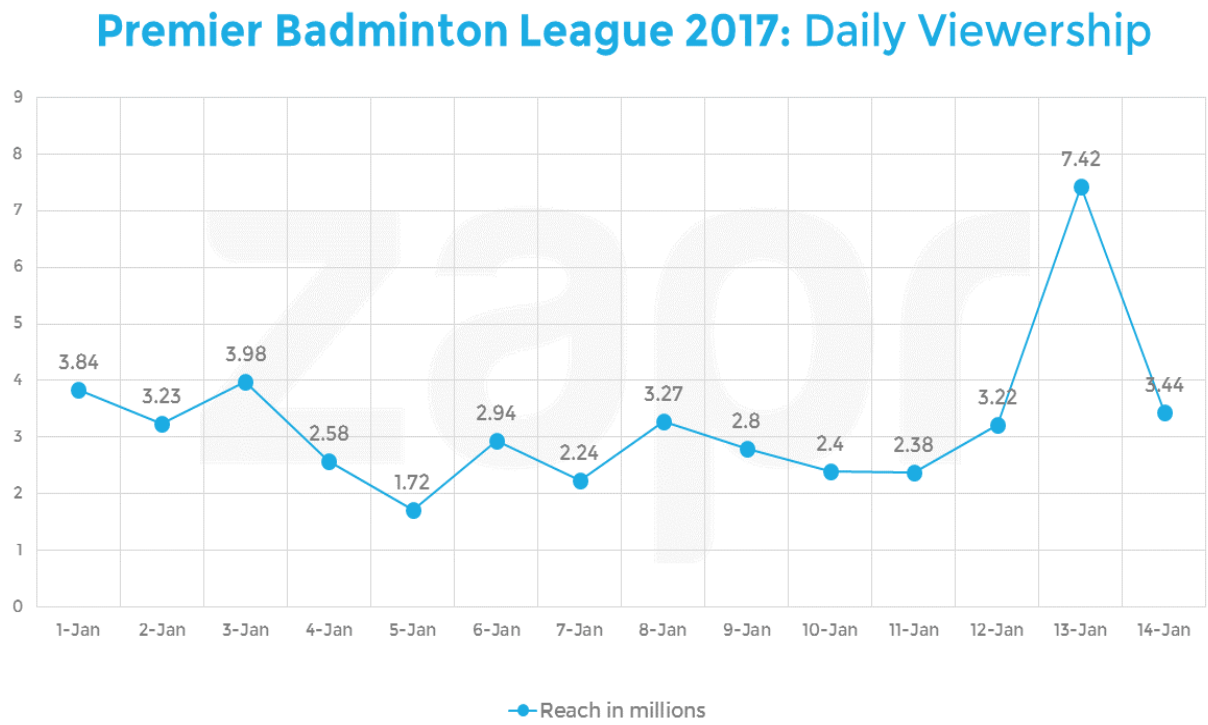
Olympic gold medallist, Carolina Marin, was the star at the auction as she went for the highest fee of Rs 61.5 lakhs to the Hyderabad Hunters.



SESSION 3rd Vodafone as title sponsor of the PBL 3rd. WhileServo of Indian Oil was the co-sponsor. Bajaj Electricals, mera hoarding.com Bisleri and radio partner radio mirchi 98.3 FM have also been signed as sponsors. There will be 11 players in each franchise with a maximum of five foreign players and minimum of three women players and each team need to spend minimum of Rs 2.12crore.HS Prannoy'highest-paid' player tag at Ahmedabad Smash Masters.The viewership of this session was quite low around 17 million.
Importance of Premier Badminton League.

1. CHANCE FOR YOUNGSTERS TO PLAY WITH SENIOR INDIAN STARS

Each of the PBL teams consists of 10 players that include some very well-known Indian as well as overseas professionals. Also, in the mix will be a few upcoming Indian players, and the competition provides some of them with a great opportunity to play alongside the greats. For someone like Vrushaliummadi, who represented the Chennai Smashers, to be in the same team as P.V.Sindhu , would be a dream come true, and she will look to gain as much as she can from the Olympic silver medalist. Similarly, it would be an awesome experience for 17-year-old Harshit Agarwal to train with Parrupalli kashyap and KidambiSrikanth whileplaying for the Awadhe Warrior.

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2. Chance for the established players to learn from the international stars

Not only do youngsters like HarshitAgarwal and VrushaliGummadi have a chance to gain out of the league, but even their seniors have an excellent opportunity to learn from some of the established global stars.SubhankarDey, who can imbibe knowledge from the likes of Victor Axelsen of Denmark and Chong Wei Feng of Malaysia. 2018 is a key year for several Indian shuttlers, with the countdown to make the cut fortokyo2020 . So it would be great for some of them to enter into the global events with a few more tricks up their sleeve.

3. Opportunity to increase the badminton fan base

Over the last few years, the fan base for badminton has increased significantly with the increasing number of outstanding performances by India's shuttlers on the world stage. The likes of Saina Nehwal, PV Sindhu and KidambiSrikanth have done very well for India over the course of the last six years, as a result of which people have started to follow the sport more consciously.

4. Opportunity for Indians to test themselves against the best

The PBL have some of the most well-known international stars in action as everyone knows. That would provide the Indian players a chance to observe their tremendous skills from a very close range, in the process improving the technical aspects of their own game.This feature of the league could prove to be true for someone like Sameer Verma, who has had his struggles with smashescould perhaps study Victor Axelsen, who will also play for the Bengaluru Blasters, and learn how to execute the shot with a lot more precision.

5. Opportunity to promote India as a venue and stage so that more tournaments here in the future.

The PBL provides the country and its administrators with a fantastic opportunity to display the facilities here and make the governing body consider bringing more tournaments to the country.With the PBL spread over five cities, the organization of the event could further develop a positive image of the infrastructure on offer in the country, in turn leading to India possibly becoming a badminton hub in the future.

Challenges for PBL

Competition with the league like IPL, PRO- KABADDI, PRO-WRESTLING, HIL and ISL.

To increase the viewership in the future sessions.

To bring more sponsors for the league promotion.

To keep the interest of the franchises to keep the ownership for long time.

To generate the revenue to avoid thefinacial loss in future.

Summary

With the help of PBL Indian badminton players are engraving their names across the world, the Premier Badminton League will bring together India's top badminton players along with international players on the same platform.withthis the country is slowly becoming super power in badminton. There is no doubt that the badminton sport is continuously growing and gaining popularity all over the country with the huge fan following during the PBL.

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TWO DIMENSIONAL ANALYSIS OF JAVELIN THROW WITH THEIR PERFORMANCE

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ABSTRACT
The motive of the study is to find the most significant effect of selected kinematic variables on the performance of javelin throwers. Total five [N=5], male university level players of Lakshmibai National Institute of Physical Education, Gwalior, who had the good proficiency on the javelin throw. The mean age was 20.4 years. Videography technique was used in order to check the performance of the subjects in performing javelin throw. The Nikon D-3100 camera was used which has frequency of 30 frames per second. The video was taken in the sagittal plane. Three trials were given out of three best performance was selected and the selected phases were taken out from the video by using Kinovea 8.23 software. Through the software, angle of release, angle of wrist joint, angle of elbow joint, angle of shoulder joint, angle of hip joint, angle of knee joint, angle of ankle joint and height of center of gravity, is found out from the photographic sequence. The best performance in javelin throw was used as the criterion measure for the study. The data was analyzed by using multiple regressions to find out the effect of the selected kinematic variables with the performance of javelin throw. Data were taken during the releasing phase of javelin throws.
Key words: javelin throws sagittal plane, kinematic variables, center of gravity, releasing angle, kinovea.

INTRODUCTION
Javelin throw is one of the Track & Field event. And it comes under the throwing event. It is throwing of a spear from the distance. It is basically a field event where an athlete runs down from a narrow runaway than the athlete tosses a long, spear like object to as far as he can to the marked area. Sports Biomechanics help javelin to travel more distance and it is one of the aerodynamic equipment which is highly depends on the air and the angular. Sports Biomechanics is one of the help provided to the javelin thrower to reach the new records and achieve maximum range of distance. Due to the introduction of the sports biomechanics in the field of javelin. Javelin throw has achieved one of the best technique, angle, accuracy etc.

METHODOLOGY
The purpose of the study is to find the most significant effect of selected kinematic variables on the performance of javelin throwers. Five male Javelin throwers, of 18-25 age groups were selected. Three trials were given, out of three best performances was analyzed. Subjects were selected from the students of Lakshmibai National Institute of Physical Education, Gwalior. Six independent variables (ankle joint ,knee joint, hip joint, shoulder joint, elbow joint, and wrist joint) and performance as a dependent variable were used in the study. Video is recorded with Nikon D 3100 camera with frequency set at 30 frames per second. KINOVEA is used to get the magnitude of the data from the videos. Multiple regressions is applied to examine the desired hypothesis.

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FINDINGS AND RESULTS

Table 1
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.960[a]	.922	.896	1.49915	.922	35.608	1	3	.009

Predictors: (Constant), ankle angle

Table 2
ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	80.026	1	80.026	35.608	.009[a]
	Residual	6.742	3	2.247		
	Total	86.769	4			

a. Predictors: (Constant), ankle angle

b. Dependent Variable: performance

The regression model generated by SPSS has been presented in Table 1. In the model, the value of R^2 is 0.922, and this model shall be used to develop the regression equation. It can be seen from Table 1 that the dependent variable, ankle angle have been identified, and therefore, the regression shall be developed using this variable. The R^2 value for this model is 0.922, and, therefore, this independent variable explains 92.2% variation in performance in the LNIPE university javelin thrower. Thus, this model can be considered as appropriate to develop the regression equation. In the Table 2, F-value for the model has been shown 35.608, since P-value ($P<0.05$) for the model is significant, it may be concluded that the model selected is efficient also.

CONCLUSION

The study shows that the entire focus is on the ankle joint in comparison to the other joints and it has been found that in this study the five male javelin throwers major joint is ankle for throwing

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SELF-CONCEPT BETWEEN MALE AND FEMALE INTERNATIONAL WEIGHTLIFTERS OF 12TH SOUTH ASIAN GAMES : A COMPARATIVE STUDY

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ABSTRACT
The purpose of the study was comparison of self-concept between male and female Weightlifters. The subject for this study was 12th South Asian Games 2016, which was organised by India in Guwahati (Assam). Total42 (fourty two) India, Bangladesh, Nepal Weightlifters, 21 players of male and 21 player of Female were (19-30 years of age) selected. The selected variable was self-concept. The obtained data were analyzed by applying independent't' test in order to compare self-concept differential between male and female Weightlifters. The level of significant was set at 0.05. The self-concept Questionnaire developed by Robson(1989) was selected for this study. There was no significant difference found between male and female Weightlifters because the calculated value 1.705 is less than the table value 2.021at 0.05 level of significance.

Keywords: Self-concept, Male and Female Weightlifters.

INTRODUCTION
Self-esteem can be defined as the sense of contentment and self-acceptance that results from a person's appraisal of one's own worth, attractiveness, competence, and ability to satisfy one's aspirations (Robson, 1989). Self-concept has been referred by Lowe (1961) as ones attitude towards self, and by, Paderson (1965) as an organized configuration, of perceptions, beliefs, feelings, attitudes and values which the individual views as part or characteristicsof himself. The self, which maintains a distinct characteristic individuality oridentity of a person, is the foundation for the formation of personality, achievement motivation and functioning of creativity. The self-concept, which refers to the cluster of the most personal meanings a person alludes to his \her 'self' is not afinished product at birth. It is not an actualized reality at birth but an open book ofinnumerable potentialities. It is something, which develops, and how it developsand what its constituent attitudes depend upon the family and the psychologicalenvironment where the individual is borne and brought up. (Gells 1974). The self is the totality of our impressions, thoughts and feelings such that we have a continuing conscious sense of being. Rogers defines the self as an organized, consistent, concept gestalt composed of perceptions of the characteristics of the 'I' or 'Me' and the perceptions of the relationships of the 'I' or 'Me' to others and to various aspects of life, together with the values attached to these perceptions. Self-concept is the sum total of all an individual can call his own, including both physical and mental data. It is a composite of ideas, feelings and attitudes a person has about himself. It includes ones self-esteem sense of personal worth, and one's sense of who or what one would like to be or one's ideal self.

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METHODOLOGY

Total 42 (India, Bangladesh, Nepal) male and femaleWeightlifters (19-30 years of age) selected from South Asian Games-2016 which was organized by India in Guwahati (Assam).The selected variable was Mental Toughness, self-esteem. After obtaining approval for the human subjects protocol from the tournament organizer, prospective team coaches were contacted about taken the data. Self-Concept Questionnaire (SCQ) was used. The SCQ is a self-report scale measuring self-esteem (Robson, 1989). It consists of 30 items (e.g., "I have control over my life," "I feel emotionally mature," "I can like myself even if others don't"). The items are based on seven components of self-esteem, according to theoretical and empirical information reviewed by Robson (1988). The scoring is performed on an eight-point scale, ranging from completely disagree to completely agree. It was hypothesized that there may be significant difference in self-concept between male and female Weight lifters. The obtained data were analyzed by applying independent 't' test in order to comparison of Mental Toughness differential between male and female Weightlifters. The level of significant was set at 0.05.

FINDINGS AND RESULTS

Table-1

Significance of difference between male and female Weightlifterson self-concept in numbers

Team	N	Min	Max	Mean	SD	't'
Male (Weightlifters)	21	89	141	118.2857	14.03974	1.705
Female (Weightlifters)	21	65	146	110.0000	17.29162	

$'t'_{(2.40)} = 2.021$

From the above table-1,It is revealed that there was no significant difference in case of self-concept test as calculated 't'value[1.705] was less than tabulated 't'value[2.00] at 0.05 level of significance. Thus it may be concluded that there was no significant difference between male and female Weightlifters related to self-concept test, in which mean self-concept test is significantly higher for male and female Weightlifters at 0.05 level of significance. The insignificant difference in self-concept between male and female Weightlifter may be due to the reason that the players were almost of the same level of fitness level, or having a equal amount of training and experience which must have been a probable cause for this.

CONCLUSION

There is no significant difference in case of self-concept between male and female Weightlifters of 12^{th} South Asian Games.

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COMPARISON OF MOOD SWING ON VARIOUS AGE GROUPS DURING MENSTRUAL CYCLE

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ABSTRACT
The purpose of the study is to assess the 6 factors of Brunel Mood Scale on various age groups during menstrual cycle. The subject of this study was (n=10) girls of age 11, (n=10) girls of age 15 from kendriya vidyalaya no' 1 Gwalior and (n=10) girls of age 19 from L.N.I.P.E Gwalior. The Brunel Mood Scale is used for quick assessment of mood states for adolescents and adults that describes anger, confusion, depression, fatigue, tension and vigour. The study shows the comparison of the gradually changing in mood during menstruation period from menarche to adult. Analysis the data was done by using One Way ANOVA. The level of significant was set by 0.05. By assuming the 6 factor scale in 11 year age group will be higher in compare to 15 year age group and 19 year age group. From the result it was concluded thatconfusion stage was found to be significant ($p < 0.05$) and on the other hand all age groups were insignificant in anger, depression, fatigue, tension and vigour ($p > 0.05$).

Keywords: Brunel Mood Scale, Menstrual cycle, Menarche.

INTRODUCTION
Mood swings during menstruation are common. From feeling irritable, to angry, to crying your eyes out, to fatigue, to confusion you often have to deal with a rollercoaster of emotions in a short period of time. Many of us admit we get a little more, unstable, at a certain time of the month. It is commonly known that we can become a little more temperamental and it's expected that we get away with it while increase in age. Common symptoms include tender breasts, bloating, feeling tired, irritability and mood changes. These symptoms interfere with normal life and therefore qualify as premenstrual syndrome in 20 to 30% of women. In 3 to 8%, they are severe. The first period usually begins between eleven and fifteen years of age, a point in time known as menarche. They may occasionally start as early as eight, and this onset may still be normal. The typical length of time between the first day of one period and the first day of the next is 21 to 45 days in young women and 21 to 35 days in adults (an average of 28 days). The most prevalent physical symptoms of the menstrual cycle include breast tenderness, diarrhea, back pain, vomiting and fluid retention. The menstrual period has a notable role on the academic performance of students. Moreover, dysmenorrhea is one of the commonest gynecological problems among female adolescents and is the leading cause of short-term school absenteeism. The academic performance of women varies during their menstrual cycle, in a way that the mental status is decreased during and several days before the period. There is some feelings that a girls experiences during her period can range from depression to anger to rage. The Brunel Mood Scale (BRUMS; Terry et al., 1999, 2003) was developed to provide a quick assessment of mood states for adolescents and adults. The BRUMS is derived from the Profile of Mood States. It is a 24-item questionnaire of simple mood descriptors such as angry, nervous, unhappy, and energetic. The BRUMS has 6 subscales, with each of the subscales containing 4 mood descriptors. The subscales are anger, confusion, depression, fatigue, tension, and vigour. The

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standard reference timeframe used is 'how you feel right now' although a variety of other reference time periods can be used. The BRUMS has been shown to be t a valid and reliable measure of mood in several scientific studies.

METHODOLOGY

The study was conducted on 30 girl's students. In which 20 girls were from kendriya vidyalaya no'1 Gwalior and 10 girls were from LNIPE Gwalior, within the age group of 11, 15 and 19 year. For measuring their mood swing the Brunel mood Scale questionnaire is used, developed by Mc Nair, Dropplemen and Lorr (1971). The questionnaire have 24 questions and their experiences are subscale in ' Not at all', ' A little', ' Moderate', ' Quite a bit', and 'Extremely'. The questionnaire is divided in 6 variables – anger, confusion, depression, fatigue, tension, and vigour. The data was analyzed with the help of One Way ANOVA test to compare the mean of three groups.Points:'Not at all' = 0, 'A little' = 1, 'Moderately' = 2, ' Quite a bit'= 3 and 'Extremely'= 4

Findings And Result

Table 1
Descriptives

		N	Mean	Std. Deviation	Std. Error
Anger	12 year	10	82.0000	15.59202	4.93063
	15 year	10	76.5000	15.72154	4.97159
	19 year	10	62.8000	12.17283	3.84939
	Total	30	73.7667	16.29615	2.97526
Confusion	12 year	10	66.6000	10.49021	3.31729
	15 year	10	73.8000	9.53124	3.01404
	19 year	10	53.0000	10.61446	3.35659
	Total	30	64.4667	13.20066	
depresion	12 year	10	72.7000	15.36988	4.86038
	15 year	10	72.8000	12.44365	3.93503
	19 year	10	55.3000	10.95496	3.46426
	Total	30	66.9333	15.12006	2.76053
fatigue	12 year	10	57.2000	10.08629	3.18957
	15 year	10	60.9000	11.71371	3.70420
	19 year	10	50.7000	12.25697	3.87599
	Total	30	56.2667	11.79694	2.15382
tension	12 year	10	56.8000	13.48085	4.26302
	15 year	10	69.8000	10.41153	3.29242
	19 year	10	56.1000	15.31484	4.84298
	Total	30	60.9000	14.27887	2.60695
vigours	12 year	10	50.7000	13.96066	4.41475
	15 year	10	47.8000	8.27043	2.61534
	19 year	10	49.7000	11.01565	3.48345
	Total	30	49.4000	10.99404	2.00723

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Table 2
ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
anger	Between Groups	1955.267	2	977.633	4.594	.019
	Within Groups	5746.100	27	212.819		
	Total	7701.367	29			
confusion	Between Groups	2231.467	2	1115.733	10.675	.000
	Within Groups	2822.000	27	104.519		
	Total	5053.467	29			
depression	Between Groups	2030.067	2	1015.033	5.958	.007
	Within Groups	4599.800	27	170.363		
	Total	6629.867	29			
fatigue	Between Groups	533.267	2	266.633	2.055	.148
	Within Groups	3502.600	27	129.726		
	Total	4035.867	29			
tension	Between Groups	1190.600	2	595.300	3.404	.048
	Within Groups	4722.100	27	174.893		
	Total	5912.700	29			
vigours	Between Groups	43.400	2	21.700	.169	.845
	Within Groups	3461.800	27	128.215		
	Total	3505.200	29			

Table 3:POST HOC
TUKEY HSD

Groups	N	Confusion Subset for alpha = 0.05	
		1	2
19 year	10	53.0000	
12 year	10		66.6000
15 year	10		73.8000
Sig.		1.000	.274

The mood swing during menstrual cycle between 3 different age group is been leveled by (BRUMS) Brunel Mood Scale Questionnaire. The total score of each 6 subscale described in ONE-WAY ANOVA test. The mean and standard deviation of subscale is given in Table 2. There is no significant result found in 5 of subscale Anger, Depression, Fatigue, Tension, Vigour. The single significant result was found among 6 subscales which was Confusion as the

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value is lesser than the value of 0.005. The graphical results are also describing the mean of study.Where most of subscales in the age group of 15 year was higher as compared to other age group. This was possible due to the most sensitive age group were all psychological changes, physiological changes and many more changes includes in large degree. As it was seen that the 15 years age group have more clear vision about menstruation cycle. Some study of Lorraine Dennerstein, M.B.John Randolph, M.D. June 29, 2001 founds that in early to late menopausal transition, that the percentage mood scores did not change significant.

CONCLUSION

It is generally accepted that mood swings are largely trigged by physical causes especially in relation to menstruation. Hormone induced mood swings. The sensation occurs just before period a reduction in estrogen and progesterone. The above study was focused on the menstrual cycle over the age 11 to 12 do not understand how menstrual cycle actually works and what kind of impact it can have on thinking, mood, and even behavior. It is important that the girls and women should be educated about their body's biochemistry and for that the education should lead them to power and in this case the power to take change of our emotional wellbeing. In this study as the scholars concluded that only in the fifteen years age group the confusion aspect is significant but the other one were insignificant because of society, environment and surrounding. The other age groups are suffering from not been aware and tremendous pressure about life so the other factors were insignificant in nature.

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COMPARISON OF EMOTIONAL INTELLIGENCE AMONG MALE AND FEMALE ON THE BASIS OF THEIR PARTICIPATION IN SPORTS

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ABSTRACT

The main purpose of the study was to compare Emotional Intelligence among male and female on the basis of their participation in sports. The study was conducted on 400 subjects in which 200 males & 200 females selected as a sample. All the selected subjects were studying in different schools of Himachal Pradesh State. The age of the sample ranged from 13-18 years and all the samples were selected from random basis. To assess Emotional Intelligence of selected subjects, Emotional Intelligence Inventory is developed by S.K. Mangal & Shubhra Mangal (1995) was used and this inventory is highly reliable & valid to assess emotional intelligence of selected subjects. The scoring was done according to the rule led down the authors. The ANOVA test was used to find out the significant difference among various study groups. Results found that male players have shown greater magnitude of emotional intelligence followed by female players and male non players & female non players have shown least amount of emotional intelligence.

Keywords: Emotional Intelligence, Male, Female (Players & Non Players) etc.

INTRODUCTION

Emotional intelligence (EI) is a relatively new and growing area of behavioral investigation, having matured recently with the aid of lavish international media attention. Emotional Intelligence (EI), often measured as an Emotional Intelligence Quotient (EQ), describes an ability, capacity, or skill to perceive, assess, and manage the emotions of one's self, of others, and of groups.. The definition of EI is constantly changing. The most distant roots of Emotional intelligence can be traced back to Darwin's early work on the importance of emotional expression for survival and adaptation. In the 1900's, even though traditional definitions of intelligence emphasized cognitive aspects such as memory and problem-solving, several influential researchers in the intelligence field of study had begun to recognize the importance of the non-cognitive aspects. For instance, as early as 1920, E. L. Thorndike at Columbia University used the term social intelligence to describe the skill of understanding and managing other people. Similarly, in 1940 David Wechsler described the influence of non-intellective factors on intelligent behavior, and further argued that our models of intelligence would not be complete until we can adequately describe these factors. In 1975, Howard Gardner's Frames of Mind: The Theory of Multiple Intelligences introduced the idea of Multiple Intelligences which included both Interpersonal intelligence (the capacity to understand

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the intentions, motivations and desires of other people) and Intrapersonal intelligence (the capacity to understand oneself, to appreciate one's feelings, fears and motivations). In Gardner's view, traditional type's intelligence, such as IQ, fail to fully explain cognitive ability. Thus, even though the names given to the concept varied, there was a common belief that traditional definitions of intelligence are lacking in ability to fully explain performance outcomes. The first use of the term "Emotional Intelligence" is usually attributed to Wayne Payne's doctoral thesis, A study of emotion: Developing emotional intelligence from 1985. However, prior to this, the term "emotional intelligence" had appeared in Leuner (1966). Greenspan (1989) also put forward an EI model, followed by Salovey and Mayer (1990) and Goleman (1995). As a result of the growing acknowledgement of professionals for the importance and relevance of emotions to work outcomes, the research on the topic continued to gain momentum, but it wasn't until the publication of Daniel Goleman's best seller Emotional Intelligence: Why It Can Matter More Than IQ that the term became widely popularized. Nancy Gibbs' 1995 Time magazine article highlighted Goleman's book and was the first in a string of mainstream media interest in EI. Thereafter, articles on EI began to appear with increasing frequency across a wide range of academic and popular outlets.

METHODOLOGY

The study was designed with a main objective to compare Emotional Intelligence of selected male and female belonging to different areas of Himachal Pradesh State. Four hundred subjects (n = 400) in which 200 males & 200 Females were randomly selected as samples from different schools of Himachal Pradesh State. The age of subjects ranged between 13-18 years. To assess Emotional Intelligence of selected subjects, Emotional Intelligence Inventory is developed by S.K. Mangal & Shubhra Mangal was preferred & this inventory is highly reliable & valid to assess emotional intelligence of selected subjects. The scoring was done according to the rule led down the authors. After the collection of relevant data, it was processed and analyzed with descriptive statistics. To compare Emotional Intelligence among male and female of the selected subjects, Mean, standard deviation and ANOVA test was employed. To test the hypothesis the significance level was set at 0.01 percent.

FINDINGS AND RESULTS

Table No: 1

Descriptive Statistics Showing Mean and S.D. of Emotional Intelligence of Selected Male and Female on the basis of their participation in Sports (N=400)

Study Groups	Mean	S.D.
Female Players (N=100)	63.18	10.25
Non Player Females (N=100)	59.69	13.48
Male Players (N=100)	67.98	11.12
Non Player Males (N=100)	62.17	14.05

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Summary of One Way ANOVA

Comparison of Emotional Intelligence among Various Study Groups

Source	df	Sum of Squares	Mean Squares	F	Sig.
Between Groups	3	3621.7700	1207.2567	7.93	.01
Within Groups	396	60236.2200	152.1117		
Total	399	63857.9900			

From table no. 1, results revealed that, the 'F' of 7.93 reported in above mentioned ANOVA summary have been found to be statistically significant beyond .01 level. After the observation of above mentioned table it was found that male players have shown greater magnitude of emotional intelligence followed by female players and male non players and female non players have shown least amount of emotional intelligence.

CONCLUSIONS

It is concluded that male players have shown better Emotional Intelligence as compare to female players while on the other hand male non players and female non players have shown least amount of emotional intelligence.

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SURVEY ON THE PREVAILING DISEASES AMONG THE L.N.I.P.E STUDENTS

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ABSTRACT
The aim of the study was to find out the prevailing diseases among the student of Lakshmibai National Institute of Physical Education Gwalior, M.P. Under this survey study tenure of 1yr.was taken as time period .A random sample of 100 male and 100 female from total population were selected for the study. Data was collected from the health cards of students from the institute's health centre .Diseases were categorized under Urine Infection, Viral Fever, Conjunctivitis, Diarrhea,& Skin Allergy. Survey revealed that in females out of 100, 80 cases were found unhealthy, and in males out of 100, 76 cases were found unhealthy. This study concluded that female population was more prone to urine infection, viral fever, and where as in the males prone to diarrheal, conjunctivitis ,& skin allergy.

INTRODUCTION
Health is a common theme in most cultures. Health is considered to be the state of excellent functioning of body and mind, unhindered by disease. The term itself means 'wholeness' and derives from the old English word health, meaning 'whole'. According to WHO health can be defined as "Health is a state of complete physical, mental, and social well-being and not merely an absence of disease or infirmity". Health is that quality of life that enables an individual to live most and serve best. According to swami Vivekananda has said, "A weak person who has weak body or weak mind can never be master of a strong soul". Now a days health and its maintenance is being considered as a major social investment and it is being felt that health involves individual, state and international responsibility. A disease is a sickness that occur when there is an upset or breakdown in the way the body usually functions. Websterdefines disease as "a condition in which body health is impaired, a departure from a state of health, an alteration of human body interrupting the performance of vital functions".The Oxford English Dictionary defines disease as "a condition of the body or some part of organ of the body in which its functions are disrupted and deranged". A disease is an abnormal condition of an organism or part, especially as a result of infection, inherent weakness or environmental stress that disturb the normal physiological functioning of the organism.

METHODOLOGY
The subjects selected forthis study were male and female of Lakshmibai national institute of physical education Gwalior. A total of **200** (100 male and100 female) subjects were selected for this study. The data for this study were collected from the last 1years medical records from health centre of L.N.I.P.E Gwalior. This data was collected under the guidance of health center staff.

Firstly the researcher personally visited to physician of health center and requested him to issued the medical report cards of last 1 year of L.N.I.P.E students. The researcher separated all the medical reports according to the sex(male & female).The researcher randomly selected 200

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cards and then read the cards carefully and noted down that how many were suffered from diseased condition.

STATISTICAL ANALYSIS

To determine whether which of the diseases were most prevailing among selected sample of students of L.N.I.P.E. ,thepercentage analysis was employed.

RESULTS

Table 1 shows the no.of cases of each diseases in both the sex category.

TABLE 1

DISEASES	FEMALE	MALE
Urine Infection	10	2
Viral fever	36	30
Conjunctivitis	5	7
Diarrhea	23	27
Skin Allergy	6	10

Table 2 shows the percentage of various diseases in males & females.

TABLE 2

DISEASE	Female	Male	Sum(F+M)	%F	%M	Sum%(F+M)
Urine Infection	10	2	12	12.5	2.631578947	15.13157895
Viral fever	36	30	66	45	39.47368421	84.47368421
Conjunctivitis	5	7	12	6.25	9.210526316	15.46052632
Diarrhea	23	27	50	28.75	35.52631579	64.27631579
Skin Allergy	6	10	16	7.5	13.15789474	20.65789474
TOTAL	80	76	156	100	100	200

DISCUSSION AND CONCLUSION

The findings of the study relating to the survey revealed that following percent of disease were prevailing among the students of both sexes in last 1 year.

It is found that:-Maximum no. of diseased cases were in females & in males cases were comparatively less than females.

a) In females 80% of the cases were unhealthy.

b) In males 76% of the cases were found unhealthy.

c) Maximum no.of percent of disease (45%) in females is of viral fever.

d) Maximum no. of percent of disease (40%) in males is of diarrhea &vial fever.

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This may be because most viral infections are spread by inhalation of aerosolized particles, by intake of contaminated water or food, or by direct contact. Infection then spreads locally and thereafter into the blood stream or lymph channels. In residential institutions children sharing same bed & sometime use same items which may lead to spread of this virus.

Diarrhea may be very common in residential institution because of low quality of food & hygienic condition. It travels easily from unwashed hand to unwashed hand. Shared drinks, utensils, and contaminated food also provide passage into our unsuspecting stomach.

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INDIAN PREMIER LEAGUE IPL AND GOVERNANCE

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Indian Premier League IPL Indian professional Twenty20 (T20) cricket league established in 2008. The league, which is based on a round-robin group and knockout format, has teams in major Indian cities. The brainchild of the Board of Control for Cricket in India (BCCI), the IPL has developed into the most lucrative and most popular outlet for the game of cricket. The ones with the least to lose are the gentlemen at the BCCI. Legally, the IPL is a sub-committee of the BCCI, and it has already guaranteed itself close to $1.75 billion in television rights and franchise sales figures. BCCI outflow: Apart from the revenues generated from the bidding of franchises, almost all other revenues are shared with the franchises in different proportions .Finally, proceeds from stadium tickets; merchandise sales etc. complete the list of major sources of revenues for IPL. Title sponsorships (DLF, Coca Cola etc.) form another big chunk of the revenues. BCCI inflow: The biggest source of revenue for the BCCI so far has been the proceeds from franchise bids amounting to a total of $1.42bn. Another major source of revenue is media rights that were awarded to Sony for $1bn for a period of 10 years and starting from IPL-3, an undisclosed amount for media streaming rights awarded to YouTube. RETURNS Unlike its counterparts such as EPL or NBA, the major source of revenue for IPL is not stadium ticket sales but media rights. Other sources of revenue for IPL are title sponsorship, the sale of franchises and licensed merchandise and products. A part of the revenues so raised are retained by the BCCI, a part distributed as prize money and the remaining is divided equally among the franchises based on a pre agreed model. The title sponsorship for the inaugural IPL tournament, and the commission from the player auctions - each of the eight franchise teams can "buy" up to four foreign cricketers through IPL - will earn it more. Of course, two-thirds (64 per cent, to be precise) of the central rights money television and title sponsorship, for example - will have to be shared with the franchisees/clubs. Even so, by the simple expedient of sanctioning a new product, Twenty20 cricket, the BCCI/IPL has earned the cheapest billion in Indian history.

EFFECT IN INDIAN ECONOMY

Effect of IPL in Indian economy is long term. During this short span of time we can not see much more effect in Indian economy. But there are definitely some effects in our economy. It creates a good impression in the mind of the people from all over the world that india can also organise such a big event and its economy is also very stable. It definitely increases the amount of foreign investment in india. Now many foreign companies want to invest in the Indian market. Foreign investors want to invest their money in Indian stock exchange. It reflects in the stock exchange. we can see that amount of foreign investment increases day by day. Another effect of IPL in Indian economy is that people from all over the world come to know about india after IPL. Earlier people from all over the world only knows some of the places like Mumbai, Bangalore, or Delhi. But after IPL, many places like Hyderabad, Cuttack etc are known to the world now. This gives them an opportunity to know about this cities and it increases the development in these areas also. IPL may have an effect in our tourism industry also. To see the IPL matches many foreigner comes to india. This definitely increases the no. Of tourist visit

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india. From them india can earn much more foreign currencies which effects Indian economy. Earliar people from other countries only know some of the cities of india. But after IPL they came to know about different beutifull places of india. After seeing this in television they eager to come to india to visit those places. 67

CONCLUSION

IPL's ability to sustain and grow its popularity in the long-term depends on the ability of individual franchises to break out and become large media properties on their own. Franchisees may also have to increase their marketing and promotional spends to effectively monetize their fan base and build brands out of their respective teams. Apart from finding more team sponsors, franchisees may try to increase the mix of premium seating in their home stadiums. At the moment a bit might be too different if we look IPL and ICL. In the recent format advantage can be taken by organizing matches between this two winners that is more matches can be played between the two leagues. In the coming year more innovation is expected we might be able to see 10- 10 or a 5-5 over format of cricket. The whopping success of IPL has not only ensured that teams like Jaipur, Kolkata and Mohali are likely to break even in the first year itself, but also transformed the fortunes of its telecaster Sony Set Max. The biggest gainer, though, is arguably BCCI – which is projected to rake in a profit of Rs 350 crore from IPL in the first year itself. This would be more than BCCI's profit of Rs 235 crore for all of 2007. In all, IPL will bring revenue of Rs 1,200 crore a year into cricket, more than double the government's entire sports budget of Rs 490 crore. The Set Max channel's revenue marketshare has risen from a pre-IPL level of 5.7% to 28.8%. Its share of prime time has gone up to 29%, higher than the cumulative marketshare of the top nine Hindi general entertainment channels. From next year, Sony is projected to gross about Rs 650 crore in advertising revenue for about 45 days of IPL, which would be 7% of the entire estimated TV ad revenue of around Rs 9,000 crore for the whole year. Ad rates for 10-second spots, which were at Rs 2 lakh per 10 seconds at the start of the tournament, have climbed rapidly to Rs 5 lakh and look set to rise further to Rs 10 lakh for the final, says the report. This would be even more than the Rs 8 lakh per 10 second rate for the nailbiting T20 World Cup final between India and Pakistan last year. IPL's success has also rubbed off on the franchisees. According to the report, teams like Jaipur, Kolkata and Mohali, which have not spent much on franchisee fees, are likely to break even in the first year itself. From this we can conclude that IPL is now a global event and it has taken cricket to the next level. Some of the critics criticise IPL. They say that players are not playing only for money and when players playing in IPL matches they don't feel that they are playing for the country. In spite of having some negative point of IPL, there are many advantages. So looking at positive side we can say that IPL is becoming a global event. Now Indian economy is growing at a rapid pace, so much that people from all over the world are now looking towards India.

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A STUDY ON SELF ESTEEM AMONG VARIOUS SOCIETAL GROUPS: A COMPARATIVE APPROACH

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ABSTRACT
The purpose of this study was to investigate the self esteem among the various societal groups where the sample of the study consisted the subjects (female) in the age category of 17 to 23 years with mean & SD 18.81+ 3.25 from different sections of Haryana i.e. Physical educationist, Sports Professionals, Fitness group, and college going students, who were performing moderate to vigorous physical exercises as well as sports. Rosenberg's self-esteem scale (1965) was used in the study. Descriptive statistics and analysis of variance were used to analyze the data. After applying the statistical techniques the study reveals that sports professionals posses higher self esteem than rest of the three groups, on the other hand, the second most observed group with high self esteem was physical educationist group, which is attributed to the fact that self esteem is major life adjustment variable associated with exercise (Robert j. Sonstreom, 2006).Whereas another reason could be the many researchers found that the athlete healthy self esteem is 17% higher than the non-athletes (Ward, ToniM, 2010).

Key words: Self-Esteem, Physical Educationist, Sports Professionals

INTRODUCTION
Self-esteem—a quality that most profoundly affects both the lives of individuals and the life of our society. A primary factor affecting how well or how poorly an individual functions in society is self-esteem. Our self-esteemis determined by many factors, including how well we view our own performance and appearance, and how satisfied we are with our relationships with other people (Tafarodi& Swann, 1995).When we have succeeded at an important task, when we have done something that we think is useful or important, or when we feel that we are accepted and valued by others, our self-concept will contain many positive thoughts and we will therefore have high self-esteem.While self-esteem is most strongly developed at a young age, individuals and society continue to affect and influence self-esteem throughout our lives. It is never too late to alter one's perspective and encourage positive self-worth. We feel positive self worth through the recognition that we receive from family and friends and the social relationships that develop as a result of our involvement in sport and physical activity. Portray sport, active living and physical education as co-operative, inclusive activities that encourage young women to develop a positive, active self-image.

MATERIALS AND METHODS:
The purpose of this study was to investigate the self esteem among the various societal groups(Physical educationist, Sports Professionals, Fitness group, and college going students). The sample of the study consists of 120 subjects (female) selected on the basis of purposive sampling from different sections of Haryana, India. Their age ranged between 17-23 years with a mean and SD of 18.81$\pm$ 3.25.

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TOOLS:
Rosenberg's self-esteem scale (1965) psychological assessment tool was used for measuring self-esteem. To compare the self-esteem among all the four groups ANOVA was applied.

RESULT:
In order to see the response patterns of all the four groups, descriptive statistics was applied with mean graph.

Table.1 Descriptive statistics of societal groups on self esteem score

	N	Mean	SD	SE
Physical educationist	30	21.57	3.22	.589
Sports Professionals	30	**22.53**	2.76	.504
Fitness group	30	20.57	3.51	.641
college going students	30	19.43	3.87	.707
Total	120	21.02	3.52	.321

After applying descriptive statistics, we found that mean score of sports professionals is higher than other three groups. This shows that, sports professionals possess higher self-esteem than the other three groups.

One-Way ANOVA is used to compare the means of more than two independent groups; here, we compared the psychological factor self-esteem among the four groups i.e. Physical educationist, Sports Professionals, Fitness group, and college going students. The values of different sums of squares are shown in table 2.

Table.2 One Way ANOVA for the data on self esteem among societal groups

	SS	df	MS	F	Sig.
Between Groups	159.358	3	53.119	4.684	.004*
Within Groups	1315.567	116	11.341		
Total	1474.925	119			

*Significant at 0.05 level

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Table 2 gives the value of calculated *F* of self-esteem in which F- value for self-esteem was found to be significant as their corresponding p valuewas less than .05 level of significance, thus the null hypothesis of no difference among the groups was rejected.

The post hoc test was used to compare the means in different pairs; the TuckeyHSD test was chosen to compare the means in different pairs. Table 3 provides such comparison.

Table.3 Post Hoc comparison among societal groups for the data on self esteem

(I) Societal Groups	(J) Societal Groups	MD (I-J)	SE	Sig.
Physical educationist	Sports Professionals	-.97	.87	.68
	Fitness group	1.00	.87	.66
	college going students	2.13	.87	.07
Sports Professionals	Physical educationist	.97	.87	.68
	Fitness group	1.97	.87	.11
	college going students	3.10*	.87	.01*
Fitness group	Physical educationist	-1.00	.87	.66
	Sports Professionals	-1.97	.87	.11
	college going students	1.13	.87	.56
college going students	Physical educationist	-2.13	.87	.07
	Sports Professionals	-3.10*	.87	.01*
	Fitness group	-1.13	.87	.56

*Significant at 0.05 level

It can be seen from the Table 3 that scores on sports professionals differs significantly at 5% level among the groups.

This mean plot reveals that the participants form sports professionals' group posses' higher self-esteem than rest of the three societal groups that is Physical educationist, Fitness group, and college going students. On the other hand, the second most observed group with high self esteem was physical educationist group.

DISCUSSION AND FINDINGS:

The purpose of the study was to compare the self-esteem among the four societal groups' i.e. Physical educationist, Sports Professionals, Fitness group, and College going students, who were performing moderate to vigorous physical exercises as well as sports.

After applying the statistical techniques the study reveals that sports professionals posses higher self esteem than rest of the three groups, on the other hand, the second most observed group with high self esteem was physical educationist group, which is attributed to the fact that self esteem is major life adjustment variable associated with exercise (Robert j. Sonstreom, 2006).Whereas another reason could be the many researchers found that the athlete healthy self esteem is 17% higher than the non-athletes (Ward, ToniM, 2010).

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A COMPARATIVE STUDY ON SKINFOLD THICKNESS OVER ACTIVE AND INACTIVE MUSCLES

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ABSTRACT

The objective of the study was to compare in subcutaneous fat of biceps and triceps of athletes engaged in games which unevenly involve dominant side and non dominant side and the games which do not. Subjects were purposively selected from under graduation I semester and divided into two groups O and B according to the game they had been playing ,at least 5 days a week, for at least three years. Group O comprised games in which athlete use one arm actively than the other during practice and playtime (badminton, tennis, volleyball or throws in track and field) . Group B consisted of games which have relatively less difference in use of both arms (running , football, yoga, weight lifting and power lifting). Skinfold measures were taken from biceps and triceps of dominant and non dominantarms . Standard protocol of Harpenden Skinfold Caliper handbook were followed to mark the sites of skinfold measurement (Harpenden Skinfold Caliper Handbook 2018). Initially 25 male students were taken from each group O and B but after removing outliers 21 in each remained . To analyse the data paired t-test was used at 0.05 level of significance, for both the groups. The outcome of the study concluded that there is no significant difference between skinfold thicknesses of dominant and non-dominant arm biceps and triceps of Group B, there is no significant fat difference between dominant and non-dominant arm triceps of O group but there is significant difference between dominant and non-dominant biceps of O group and value of skin fold measures were found more in non dominant arm biceps than dominant arm biceps.

INTRODUCTION

The fat content of human body has physiological and medical importance. It may influence health and disease, effectiveness of many drugs and anaesthetics depends on it, and it may affect the ability to withstand exposure to cold and starvation (Durbin and Womersley, 1973).A study on caucasian male suggested that an exclusive sit-up exercise protocol can not affect fat layer thickness more in the abdominal region than on the back and butt of the participant (Katch et al.,1983) . A study on Southern Illinois University Edwardsville (SIUE)students also concluded that there is no significant abdominal fat loss in abdominal exercising group than non-exercising control group (Vispute et al., 2011).Even a leg press exercise program causes decrease in fat thickness of trunk and arms first, keeping leg tissue composition unchanged (Ramirez-Campillo et al., 2013). Findings of thses studies are against the spot reduction. But there are some studies which support spot reduction.

METHODOLOGY

The games played in L.N.I.P.E., Gwalior were divided in two groups namely group O and group B. Group O consist games in which athlete use one arm more powerfully and repeatedly then the other arm during practice and play time(badminton, tennis, volleyball or throws in track and field). Group B consist games which are having relatively less bilateral difference in use during practice and play time in terms of powerful use of arms and its repetition (running, football, yoga, weight lifting and power lifting). Subjects were purposively selected from B.P.Ed. I

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semester and divided into two groups O and B according to the game they had been playing. Then 25 male subjects from each group were taken who had been playing their respective game from 3 or more years and after removing outliers 21 in each group remained. All removed subjects were from track and field throwing event, weight lifting and power lifting. All but 1 was right handed inremaining 21 subjects of O group and all but 4were right handed in remaining subjects of B group. The mean age of the subjects were 18.94 years with SD 1.11 years .Skin fold measures were taken from biceps and triceps of dominant arm and non dominant arm of each subject .Skinfold thicknesses were measured at the dominant and non-dominant arms to the nearest of 0.1 mm with Harpenden Skinfold Caliper, at the following sites:(1) Biceps, the anterior surface of the biceps midway between the anterior auxiliary fold and the antecubitalfossa and directly above the centre of the antecubital fossa (2) Triceps: The elbow kept extended and the arm relaxed . The tips of the acromial process and the olecranon process were taken, and a point halfway between marked on the skin. The skinfold is picked up over the posterior surface of the triceps muscle on a vertical line passing upwards from the olecranon in the axis of the limb, and the calliper jaws are applied at the marked level. Good care had taken to locate the site right on the back of the arm, truly above the olecranon, for different values are obtained halfway round the arm. Three measurement were taken from each site on a gap of at least 15 minute in between and median was taken as final score. Statistical analyses were done with SPSS (Statistical Package for the Social Sciences, 20.0, USA). Mean and standard deviation was calculated as a descriptive statistics and paired t-test was used to analyse the mean differences in biceps and triceps in dominant and non-dominant arms. The level of significance for paired t-test was kept 0.05. The assumptions for applying the paired t-test were also taken into consideration before applying the test.

Table 1: Test of Normality

Name of Variables	Statistic	df	Sig.
OBND(O group Biceps Non Dominating)	.96	21	.49
OBD (O group Biceps Dominating)	.91	21	.05
OTND(O group Triceps Non Dominating)	.96	21	.46
OTD(O group Triceps Dominating)	.93	21	.13
BBND(B group Biceps Non Dominating)	.94	21	.20
BBD(B group Biceps Dominating)	.92	21	.07
BTND(B group Triceps Non Dominating)	.91	21	.05
BTD(B group Triceps Dominating)	.92	21	.07

So, it follows the assumption of paired t-test, which was used for further analysis of data.

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Table 2: The Descriptive Statistics on Selected Variable of O and B Group

Name of Variables	N	Mean	Std. Deviation
OBND	21	3.47	.70
OBD	21	3.21	.53
OTND	21	8.11	2.25
OTD	21	8.16	2.45
BBND	21	2.82	.41
BBD	21	2.79	.40
BTND	21	6.49	1.63
BTD	21	6.50	1.82

Table 3: The Result of Paired t- test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	OBND - OBD	.2571	.3828	.0835	.0829	.4314	3.078	20	.006*
Pair 2	OTND - OTD	-.0571	1.0656	.2325	-.5422	.4279	-.246	20	.808
Pair 3	BBND - BBD	.0286	.1419	.0310	-.0360	.0932	.923	20	.367
Pair 4	BTND - BTD	-.0095	.3548	.0774	-.1710	.1520	-.123	20	.903

Table 3 represents that there was significant difference between dominating and non-dominating hand of O group in Biceps.

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DISCUSSION AND CONCLUSION

As result revealed that there is a no difference in both biceps and both triceps skin fold measures of B group this result is supported by Gupta,(1980)and there is no difference in both triceps of O group these findingsbut there is significant difference between skinfold thickness of biceps of O group which was supported by Kostek, Matthew A. et al.(2007). The training and conditioning program of subjects was found to had regular push-up exercises , at least three day, a week but there is lack of regular biceps exercise in the program, especially which they gone through in school and clubs in last three years, this may be the reason that difference in between both the triceps were not significant but difference in the biceps were significant .

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SURVEY OF SPORTS PERSONNEL IN COLLEGES OF MADHYA PRADESH

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ABSTRACT

Physical education personnel are the architect of the future sportsman and backbone of physical education programme in educational institutions. Therefore, the purpose of this study was to survey the sports personnel in colleges of Madhya Pradesh state of India. The data was collected through a carefully compiled Questionnaire, supplemented visits and interviews. The data was received from 34 out of 76 Private (Govt.Aided) and 93 out of 387 Government Colleges, but 26 Private and 80 Government colleges have replied correctly and these were considered as sample for the present study. The responses obtained from them were converted into simple percentage (%) for the purpose of analyses and interpretation of data. The major findings revealed that the state government should appoint a full time sports officer who apart from fulfilling the minimum eligibility qualifications should also be a sports person of repute.

Key Words: physical education personnel, eligibility, sports officer.

INTRODUCTION

All 'Personnel' who assume professional responsibility for physical education and sport must have appropriate qualification and training. They must be carefully selected in sufficient numbers and given preliminary as well as further training to ensure that they reach adequate levels of specialization.Voluntary personnel give appropriate training and supervision , can make an invaluable contribution to the comprehensive development of sports and encourage the participation of the population in the practice and organization of physical and sports activities.The role of physical education personnel in the society is important. Physical education personnel are the architect of the future sportsman and backbone of physical education programme in educational institutions. They can make the physical education programme successful and effective by their leadership qualities. Physical education personnel's plan and direct the programme for effective implementation. Students show interest when they work under competent Physical education personnel.Arslan(2010) conducted a research for recommendation to improve sports facilities in the University. He found that there were very little sports facilities in the University. There was a lack of proper sports facilities, well trained coaches, separate place for female sports and sports budget etc.Report of the All India Seminar on Problems of Physical Education and Sports (1981) for school going and non-school going youth 40 advocated that there is an absence of touchable programme, lack of facilities, equipment and properly trained personnel to implement the programme of physical education and sports in educational institutions. Therefore, the present study was conducted to survey the sports personnel in colleges of Madhya Pradesh.

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METHODOLOGY

Selection of subjects: Initially the researcher had sent the questionnaire to all the 76 Private (Govt. Aided) and 387 Government colleges of Madhya Pradesh. However, 34 Private and 93 Government colleges had responded the Questionnaire through E-mailed, Regestered post and on personal visits of scholar. From the above received responses 26 Private and 80 Government colleges had responded correctly all the questions of questionnaire and hence were included in the study. Construction and Development of Questionnaire: For the construction of questionnaire the researcher studied literatures, magazines, periodicals and completed research work in the area of physical education and sports. The suggestions and consultations of experts in this area were taken for framing questions in a logical manner and to get maximum worthwhile and meaningful responses from the subjects. Administration of Questionnaire : The copies of questionnaire with governing letter and self attested stamped envelope were posted and e-mailed to the concerned Principals/Sports Officers of all the Government and Private (Govt. Aided) colleges of Madhya Pradesh state, with the request that they produce correct and accurate responses and return the completely answered questionnaire to the researcher as early as possible.**Statistical Procedure:** The responses obtained from different colleges for the survey study method regarding Physical Education Programmes were converted into simple percentage for the purpose of analyses and interpretation of findings which were further illustrated by means of simple Bar Diagrams.

RESULTS

Table: Sports Personnel

S. No	QUESTIONS		Responses	Private Colleges 26		Govt. Colleges 80	
				Frequency	%	Frequency	%
1.	Is the post of sports officer sanctioned in the college?		Yes	26	100	72	90
2.	In the post of sports officer already exist in the college?		Yes	9	34.62	53	73.62
3.	Is there regular sports officer posted in the college?		Yes	17	65.38	19	26.38
4.	The Professional / Academic qualifications of posted sport officer.	(i) M.P.Ed	Yes	12	70.59	13	68.42
		(ii) M.Phil		00	00	1	5.26
		(iii) Ph. D		2	11.76	4	21.06
		(iv)Any other		3	17.65	1	5.26
5.	Does Sports officer placed in U.G.C recommended pay scales.		Yes	14	82.35	18	94.74

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6.	Does Sports officer satisfied from his salary.	Yes	2	11.76	18	94.73
7.	Does Sports officer satisfied from assigned duties/ job.	Yes	16	94.11	19	100
8.	Is there any provision of Special Incentives to sports officer for their remarkable contribution in the field of physical education and sports?	Yes	00	00	00	00
9.	Is there any Provision of time based Promotion for Sports officer?	Yes	00	00	1	5.26
10.	Is there any regular Grounds-man provided by the Authorities for maintenance fields?	Yes	4	15.38	8	10

Discussion of Findings:It is evident from the data that 14(82.35%) out of 17 private and 18(94.74%) out of 19 government colleges regular sports officer have placed in University Grant Commission recommended pay scales. The regularly posted sports officer's satisfaction from their salary percentage is as follows 2(11.76%) out of 17 private and 18(94.73%) out of 19 government colleges. The sports officers of private colleges found to be unsatisfied with their remunerations.

Majority of the regular sports officers were found satisfied from assigned duties and job, the percentage of their satisfaction was 16(94.11%) out of 17 private and government college sports officers have the provision of special incentives for their remarkable contribution in the field of games and sports.

The study revealed that none of the private college and only 1(5.26%) out of 19 government college regular sports officer have the provision of time based promotion but after getting requisite qualification as laid down by the Department of Higher Education, Government of Madhya Pradesh.

From received data it indicated that 15.38%, of private and 10% of government colleges have regular Grounds-man for maintenance of play fields by the management and authorities.

CONCLUSION

There is requirement of sports officers more in government sector and also ground-man for maintenance of play fields. There is no provision of time based promotion in private sector and only negligible percentage was shown in government sector.

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MACRO-NUTRIENT PROFILE OF NATIONAL LEVEL TABLE TENNIS ATHLETE OF INDIA

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ABSTRACT:
Good health, growth and maturation depend mainly in a proper diet. It can have a significant effect in the ability of Table Tennis athletes to train and perform well during competition. Maintaining proper dietary habits plays an important role in establishing a healthy life style and will drive the Table Tennis athletes to better performance and also enhancing recovery. This purpose of the study was to assess the nutritional intake of table tennis athletes. The number of sample in this research was 13 table tennis athletes (8 men and 5 women). The research was started by filling out the questionnaire and about the athletes' identity and food recall form. After that, the athletes were required to measure their height and weight. Mean weight of the males and females was 63.3±7.4 kg and 58.4±6.7 kg respectively .To find out the energy and nutrition intake quantitatively, the descriptive analysis was conducted. The results revealed that around 62.5 % males and 60 % of females were consuming low amount of carbohydrates. Frequency of high protein intake was higher in males (62.5 %) and females (60 %). A high percentage of both males (75 % high and 25 % very high) and females (80%) were found to consuming fats more than recommended amounts. In males total energy intake (3231±570 kcal), protein (2.3±0.5 gm./kg weight) and fat (35±4 % of total energy intake) intake in were slightly higher than females (energy 2673± 407 kcal ,protein 1.9±0.5 gm./kg weight ,fat 32±5% of total energy intake) though, not statistically significant. Consuming a low carbohydrate diet along with high fat intake can affect the glycogen stores of the table tennis players as well as their body composition and health on the long run. Therefore, there is a need to change the dietary pattern and habits of the athletes to achieve maximum output from the training.

Key words: Table Tennis, 24 hour dietary recall, macro nutrient intake, Height, weight

INTRODUCTION

Table Tennis is fast, high tech sport. It is essential for athletes to have balance of entire body and speed of reaction time with judgment and concentration as well as necessary for table tennis. Table Tennis is mainly an aerobic sport with short bursts of high intensity. Energy requirements for Table Tennis players differ greatly depending on the standard of play. Overall, the training diet for a Table Tennis player necessities to be based on nutrient-rich sources of carbohydrate with moderate levels of protein and smaller amounts of fat. Eating well all the time is important. The correct diet won't make an average Table Tennis player elite but a poor diet can make an elite Table Tennis player average. Timing of food intake is very important, focusing on what you players eating before a big game.(Goes *et al.*, 1998)Carbohydrate has fairly received a great deal of attention in sports. Carbohydrate ingestion during exercise can increase exercise capacity and improve exercise performance. The body can store little amount of glycogen only so, it is important eat required amount of carbohydrate every day.Protein is essential for growth and repair all body tissues and muscles. Dietary protein interrelates with exercise, providing both a trigger and a substrate for the synthesis of contractile and metabolic proteins as well as

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enhancing structural changes in non-muscle tissues such as tendons and bones. Protein also provided energy if glycogen stores in muscles and the liver is low.Fat is a necessary component of a healthy diet, providing energy, essential elements of cell membranes and facilitation of the absorption of fatsoluble vitamins. Fat has over twice the energy value of carbohydrate or protein. It is a concentrated form of energy(G Campbell et al, 2004).Dietary strategies to enhance performance include optimizing intakes of macronutrients, micronutrients, and fluids, including their composition and spacing throughout the day(Beck *et al.*,2015). In line with the above review, the primary aim of the study to assess the nutritional intake of table tennis athletes and determine the macro nutrient intake of the table tennis athletes.

METHODOLOGY

This is a cross sectional research. Total thirteen (MALE = 8, FEMALE = 5) national level table tennis athletes were recruited.

The research was started by filling out the questionnaire by the respondent such as name, gender, age, weight, height, and dietary habits lifestyle and every detail on athlete's background. After that, the athletes were required to measure their height and weight.The weight was measured using weighing scale. The height was measured by anthropometric rod. After that athletes underwent nutritional assessment by filling out the 24 hour dietary recall form.

The data collected was statistically analyzed. Mean and SD value were calculated for determine the Energy and Macro nutrient values. The athletes' nutritional status was assessed by comparing the data of athlete's weight and height with the BMI standard in according to their age and gender. Energy and Macro nutrient calculations were done from 24 hour dietary recall. Athlete's daily intake value was compared with recommended value. The daily intake of energy was compared with recommended NIN guidelines 2007. The daily macro nutrient intake was compared with American college of sports medicine guidelines 2016.

RESULTS AND DISCUSSION

The mean weight of Table Tennis players, in maleswere 63.3±7.4 kg and in females were 58.4±6.7 kg respectively. In males average BMI was 21.9±2.5 kg/m^2 and in females was 23.0±1.7kg/m^2. In males, average energy intake was 3231±570 kcal, protein intake was 2.3±0.5 gm per kg weight and fat intake was 35±4% of total energy intake. In females energyintake was 2673±407 kcal,protein intake was1.9±0.5 gm per kg weight,fat intake was 32±5% of total energy intake.

GENDER		N	MEAN	STD. DEVIATION
Weight (kg)	Female	5	58.4	6.7
	Male	8	63.3	7.4
BMI	Female	5	23.0	1.7
	Male	8	21.9	2.5
Energy Intake (K.cal)	Female	5	2673	407.6
	Male	8	3231	570.6

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CHO intake (g/kg body weight)	Female	5	6.0	2.4
	Male	8	5.9	1.1
Protein (g/kg body weight)	Female	5	1.9	0.5
	Male	8	2.3	0.5
Fat % of total energy	Female	5	32.1	5.5
	Male	8	35.1	4.5

Table 1: Mean and SD values of weight, energy and macronutrient of Table Tennis players

The results revealed that only 32.7% of the males were consuming optimum energy required for their sports. Females showed better pattern of energy consumption, with 60% of them meeting the requirement. Around 62.5 % males and 60 % of Females were consuming low amount of carbohydratesin comparison to recommended amount. Frequency of high protein intake was higher in males 62.5 % and females 60 %. A high percentage of both males (75 % high and 25 % very high) and females (80%high) were found to consuming fats more than recommended amounts.The major finding of the study was that energy intake was found to be low among a significant percent of both males and females players.(Blake, 2015) reported similar results in a study performed on 23 elite gymnasts. He reported a negative energy balance of 1053 Kcal (± 438Kcal) on average during the training days. In males the mean of BMI was in normal range but in females slightly towards higher range. In a recent international study ontable tennis players the average BMI in males (n=45) was 23.4 ± 2.3 kg/m^2, whereas in females (n=19)it was 21.6 ± 2.6 kg/m^2(Zagatto *et al.,* 2016).The present study revealed that the carbohydrate intake was low in both the gendersin comparison to the recommended levels. Therelated research done on 20 table tennis players the result showed that the average carbohydrate intake was 370.9±49.5 grams per day in table tennis player. The research indicated that 25.0% of athletes were consuming enough carbohydrate (>100.0%), however, 75.0% others still consumed below recommendations (Goes *et al.*, 1998). Protein intake was quite high in both males and females table tennis players in the present study. However another study (Goes *et al.*, 1998)reporting the protein intake of table tennis players showed dissimilar results with only 5% of the subjects consuming enough amount of proteins (average protein intake 77.6 ± 21.1 grams).Similarly fat intake was also high among most of the players in the present study whereas Goes et al (1998) reported low intake of fats (47.2 ± 12.1 gram per day) with only 51.8% fulfilling from that of needed by an athlete.There is a very few literature available till now on nutrition of table tennis players therefore there is a need of in-depth studies on dietary pattern, amount, timing and frequency of nutrient intake of table tennis players.Limitation of this study was thatnumber of subject in some group was less. The study was delimited to certain selected nutrients only i.e. carbohydrate, fat and protein. The study was confined to national level table tennis athletes practicing at SAI NSNIS Patiala.

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CONCLUSION

The study was aimed to determine the energy intake and macro nutrient intake of the Table Tennis athlete. Consuming a low carbohydrate diet along with high fat intake can affect the glycogen stores of the table tennis players as well as their body composition and health on the long run. Athletes need to consume energy that is adequate in amount and timing of intake during periods of high-intensity and/or long duration training to maintain health and maximize training results. Low energy can result in unwanted loss of muscle mass; menstrual dysfunction and hormonal disturbances; suboptimal bone density; an increased risk of fatigue, injury, and illness; impaired adaptation and a prolonged recovery process. Therefore, there is a need to change the dietary pattern and habits of the athletes to achieve maximum output from the training.

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EFFECT OF CIRCUIT TRAINING ON CARDIOVASCULAR ENDURANCE AND RESTING PULSE RATE AMONG PONDICHERRY UNIVERSITY FOOTBALL PLAYERS

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INTRODUCTION

Football is the most popular sport in world. All over the globe, people are attached to this game in deep and passionate cultural ways today soccer is front and center in the lives of many families. . It is the most widely played team game in the world and the most popular spectator sport.Today, football remains the fastest growing team sport and inconsequence of this popularity, attracted many young players all over the world. Though top teams participate in national and international levels, the popularity of the game is reflected by millions who participate in soccer at all level of play that include school, district and state level as well. They may play football routinely as recreational activity on streets and country side. Perception of tactics in soccer or in other sports is unique for each player.

STATEMENT OF THE PROBLEM: The purpose of the study was to investigate the effect of circuit training on cardio- vascular endurance of soccer players. **SIGNIFICANCE OF THE STUDY** : 1. Based on the results of the study a suitable exercise programme could be designed and implemented for the benefits of the college soccer players. 2. It is the guideline for the college soccer players to improve efficiency in their play. 3. This study may be useful for physical educationists and coaches to decide the training load during the period. 4. This study would help the physical educators to conduct further research in this area **HYPOTHESIS** :It was hypothesized that there would be a significant changes due to the effect of circuit training on cardio- vascular endurance of soccer players. **DELIMITATION** 1. The study was restricted to 30 college male soccer players. 2. The subject's age ranged from 20 to 25 years as per the college record. 3. The training was given three days a week for six weeks. 4. The study was delimited for the following exercises:**a**. Shuttle run**b.** Plyometric box exercise **c.** Push-ups**d.** Medicine ball throw **LIMITATIONS** : 1. Subjects included in the study were not controlled with regard to their life style, diet and habits which may have influenced their performance. 2. The subjects have engaged themselves in different type of games and the effect of those activities on their playing ability could not be controlled. 3. Subject's body types and the economic status of the college soccer players were not taken into consideration. 4. Variation in the meteorologogal conditions like temperature, humidity and atmospheric pressure during the training and testing period were recognized as limitations. **METHODOLOGY :** This investigator selected 30 male subjects from the Pondicherry university and their age ranged from 20 to 25 years. 15 subjects were assigned to an experimental group and 15 subjects to control group. Prior to the administration of test the investigator held a series of meetings with the subjects and were made clear about the objectives and purposes of the test. The testing procedure was explained to them in detail. They were requested to co-operate and participate actively as subjects for this study. One group was exposed to experimental treatment and other group was kept as control group. The experimental group was assigned the circuit training program. The

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other group acted as the control group and no training program was given except their day to day activities. **VARIABLES:** 1) Cardio vascular endurance2) Resting pulse rate

TABLE -IV

DIFFERENCE IN MEAN OF EXPERIMENTAL AND CONTROL GROUP IN 12 MINUTES RUN/WALK MEANS IN METRES

Groups	No.	Initial Mean	Final Mean	Mean Difference	'T' Ratio
EXP.	**15**	2572.66	2907	325.33	5.38
CONTROL	**15**	2559.33	2580.66	20.33	.34

Significant at 0.05 level of confidence.

't' value needed for significance at 0.05 level with 14 degrees of freedom was 2.145.

Table IV showed that the initial and the final mean for the experimental group in 12 minutes run/walk were 2572.66 and 2902 and for the control group was 2559.33, and 2580.66 respectively. The calculated't' value for the experimental group in coppers 12 minutes run/walk tests was 5.38 which was higher than the table value at 0.05 level. In the case of control group the calculated value for't' ratio was 0.34 which was lower than the table value. This indicates that there was a significant difference in the experimental group following a training programme for a period of six weeks.

TABLE V

DIFFERENCE IN MEAN OF EXPERIMENTAL AND CONTROL GROUP IN RESTING PULSE RATE (MEANS IN NUMBERS)

Groups	No	Initial Mean	Final Mean	Mean Difference	'T' Ratio
EXP	**15**	71.06	67.2	3.83	5.75
CONTROL	**15**	71.2	70.6	0.64	0.82

** Significant at 0.05 level of confidence.

't' value needed for significance at 0.05 level with 14 degrees of freedom was 2.145.Table V shows that the initial and the final mean for the experimental group was 71.06 and 67.2, and for the control group was 71.06 and 70.6 respectively the calculated t value for the experimental

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group was 5.75 which was higher than the required table value at 0.05 level. In the case of control group the calculated value for't' ratio was 0.82 which was lower than the table value. This indicates that there was a significant difference in the experimental group following a training schedule for a period of six weeks.

CONCLUSION

The result of the study permits the following conclusion:Participation in 6 weeks circuit training result in significant changes on Cardiovascular endurance. Participation in 6 weeks circuit training resulted in significant changes on Resting Pulse Rate.

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COLLATERAL TEMPORAL KINEMATIC AT PLANTER ASPECT OF FOOT OF WALKING GAIT OF MALE SPORTSPERSONS

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**Principal, IGIPESS, University of Delhi

ABSTRACT
Over the past few years, there has been an increasing interest in the subject of bio-mechanics, particularly among practitioners and students of physical therapy, Physical education, sports science, bioengineering and several branches of medicine including orthopedics, rheumatology, neurology and rehabilitation. Gait analysis is the systematic study of human walking using the eye and the brain of observers, augmented by instrumentation for measuring body movement, body mechanics and the activity of the muscles. It is often helpful in the medical management of those diseases which affect the locomotor system. Gait analysis helps us to understand Kinematic analysis, temporal analysis, angular kinematic analysis, muscular activity, force analysis, pressure distribution analysis, joint dot analysis etc. There is negligible study on kinematic analysis on Indian sportspersons, hence a research gap was evident and a group of research scholars from Indira Gandhi Institute of Physical Education and Sports Sciences, (University of Delhi) are motivated to investigate of foot pressure dominance of contralateral aspect considering the morphological and functional asymmetricity of right and left lateral foot of male sportsperson. Ideally it is hypothesized that such findings will generate a new dimension of analogy of gait analysis and thereby their implication in the field of biomechanics and kinesiology. For this purpose twenty seven (48) male sportspersons, who has at least participated at state level competition (age 17 to 25 years) were given a walking gait test to compare between left and right foot pressure distribution. The parameters were measured by using the portable pressure measurement system from Zebris.Inc,Germany(40x30cm), supported with WinFDM-S software, (Germany). Dynamic test for left and right foot was measured in step phases to determine the foot pressure distribution. The selected variables were Left Gait Line Length (LGLL), Right Gait Line Length (RGLL), Left Dynamic Test (LDT) and Right Dynamic Test (RDT).Collected data was computed using SPSS software for Mean, Standard deviation and t-test. The pressure distribution in regard to selected variables was found to be different between right foot and left foot. It was concluded that the male walking gait are different in right foot and left foot.

Keywords: Collateral Pressure Distribution, Pressure Plate, Walking Gait, Male sportspersons

INTRODUCTION
Everyone's walking style is unique, and it has been shown that both humans and computers are very good at recognizing known gait patterns. It is therefore unsurprising those dynamic foot pressure patterns, which indirectly reflect the accelerations of all body parts, are also unique (1).The feet are considered as an important part of our body. It supports not only the whole body weight but also bears several times of body weight when we are running or sprinting. Different morphological foot characteristics are associated with different functions (1). The normal foot

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with twenty six (26) bones and associated muscles ensures the foot's static and dynamic functions and contributes to the overall features of the foot, but the shape and morphology differs from individuals (2). The knowledge of exact functions of different feet morphology plays a crucial role in preventing injuries and providing information about sport performance (3). Highly competitive and recreational athletes are at risk of incurring a wide range of injuries, typically hyperkeratosis lesions like corns and calluses, or stress induced injuries. Different foot morphology has become a focus in order to reduce injury when designing shoes. When it comes to anthropometry of human feet, indexes like length, width and girth or circumference of specific feet regions have been collected and utilized in footwear design since the introduction of traditional anthropometric methods (4,5). Many studies have been conducted to confirm the reliability and reproducibility of foot type or morphology measurement systems compared with traditional methods both under static and dynamic conditions (3-7).

Gait analysis is the systematic study of human walking. It is often helpful in the medical management of those diseases which affect the locomotor system. Over the past few years, there has been an increasing interest in the subject, particularly among practitioners and students of physical therapy, Physical education, sports sciences, bioengineering and several branches of medicine including orthopedics, rheumatology, neurology and rehabilitation. Gait analysis helps us to understand Kinematic analysis, temporal analysis, angular kinematic analysis, muscular activity, force analysis, pressure distribution analysis, joint dot analysis etc. A study involved analysis of ground reaction force and various spatial and temporal parameters associated with dynamic gait for normal individuals. It was observed that although increase in gait speed reduces the gait cycle time, the ratio of different gait phases is comparable for normal and slow speed (10).Another recent study showed the influence of anthropometric data on kinetic and kinematic gait parameters. The comparison between univariate and multivariate showed that while univariate studies provide fits good between data, the multivariate fits generate a highly significant correlation (11). There is negligible study on kinematic analysis on Indian sportspersons, hence a research gap was evident and a group of research scholars from Indira Gandhi Institute of Physical Education and Sports Sciences, (University of Delhi) are motivated to investigate the foot pressure dominance of contralateral aspect considering the morphological and functional asymmetricity of right and left lateral foot of male sportsperson. Ideally it is hypothesized that such findings will generate a new dimension of analogy of gait analysis and thereby their implication in the field of biomechanics and kinesiology.

METHODOLOGY

The purpose of the research was explained to all the subjects and the subjects were motivated to put their best as per their consent. Based upon the literature, expert advices and feasibility following sample and collateral pressure distribution variables were selected for identifying the samples and for the purpose of the proposed study namely Age (years), Weight (Kilograms), Height (meters), Body Mass Index (BMI), Left Gait line Length(LGLL), Right Gait Line Length (RGLL),Dynamic Test Left (DTL) and Dynamic Test Right (DTR). For this purpose forty eight (48) male sportspersons, who has at least participated at state level competition (age 17 to 25 years) were given a walking gait test to compare between left and right foot pressure distribution.Age was determined from date of birth (DOB), weight was measured using electronic weighing machine (GVC Iron Analog Weighing scale), and height was measured using anthropometry by adopting standard protocol. BMI was calculated by using the formula,

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BMI = weight (kg)/ height^2 (m^2). Rest of the variables were measured using the foot pressure system protocol. Data was collected using the portable pressure measurement plat from ZebrisInc;Germany (40x30 cm),supported withWinFDM-S software (Germany). Dynamic test for left and right foot was measured in step phases to determine the foot pressure distribution.Data was computed with descriptive statistics (mean and standard deviation) and 't' test. Hypothesis was tested at 0.05 level of significance.

FINDINGS OF THE STUDY

Table-1
Walking Gait Variables with Abbreviations

S.No	Name of variable	Foot	Abbreviation
1	Gait Line Length(mm)	Left	GLLL
2	Gait Line Length(mm)	Right	GLLR
3	Dynamic Test ,Contact Time (1-30)*	Left	CTL
4	Dynamic Test,Contact Time (1-30)**	Right	CTR

Note :*The total contact time of right foot were divided into 30 variables or fractions with autogeneration.The 30 foot contact time of right foot abbreviated as CTR1, CTR2, CTR3, CTR4,CTR5,CTR6,CTR7,CTR8,CTR9,CTR10,CTR11,CTR12,CTR13,CTR14,CTR15,CTR16, CTR17,
CTR18,CTR19,CTR20,CTR21,CTR22,CTR23,CTR24,CTR25,CTR26,CTR27,CTR28,CTR29 and CTR30.

** The total contact time of left foot were divided into 30 variables or fractions with autogeneration.The 30 foot contact time of left foot abbreviated as CTL1, CTL2, CTL3, CTL4,CTL5,CTL6,CTL7,CTL8,CTL9,CTL10,CTL11,CTL12,CTL13,CTL14,CTL15,CTL16, CTL17,
CTL18,CTL19,CTL20,CTL21,CTL22,CTL23,CTL24,CTL25,CTL26,CTL27,CTL28,CTL29 and CTL30.

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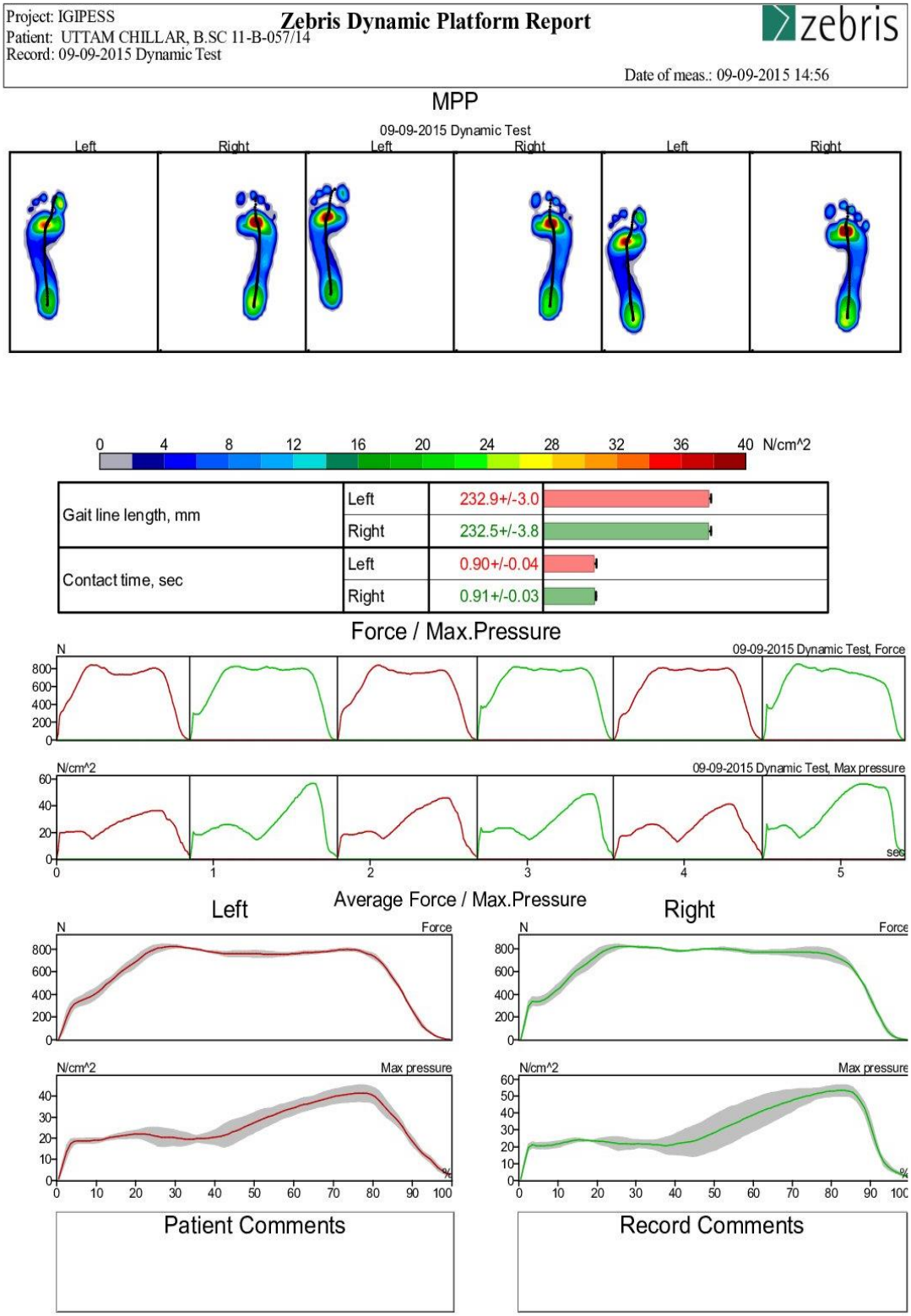
Table-2 (Sample)



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Patient: UTTAM CHILLAR, B.SC 11-B-057/14
Record: 09-09-2015 Dynamic Test

Zebris Dynamic Platform Report

zebris

Date of meas.: 09-09-2015 14:56

Step Phases

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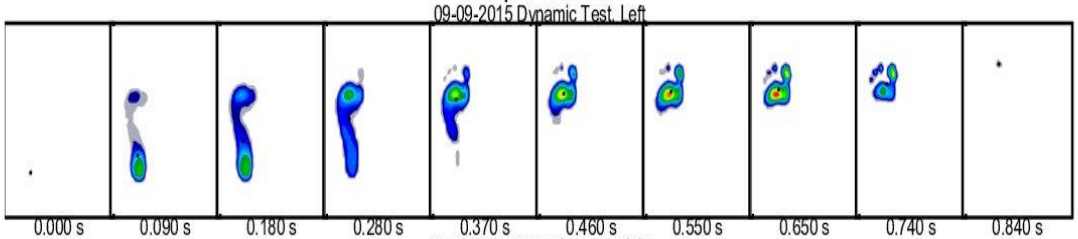

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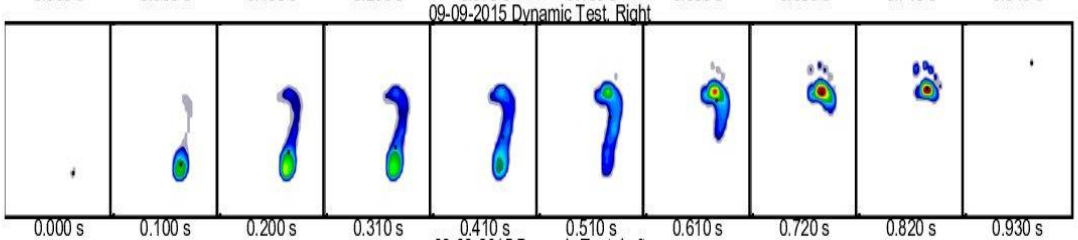

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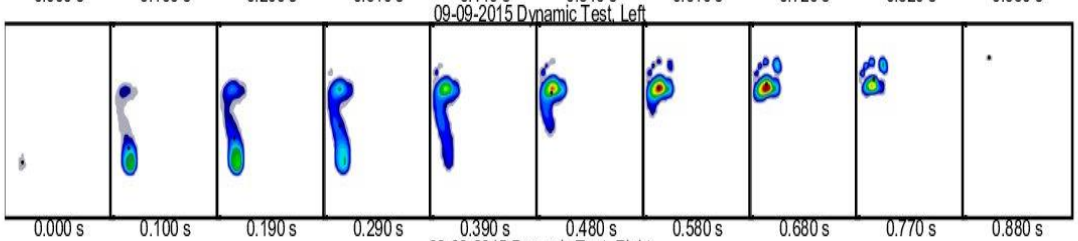
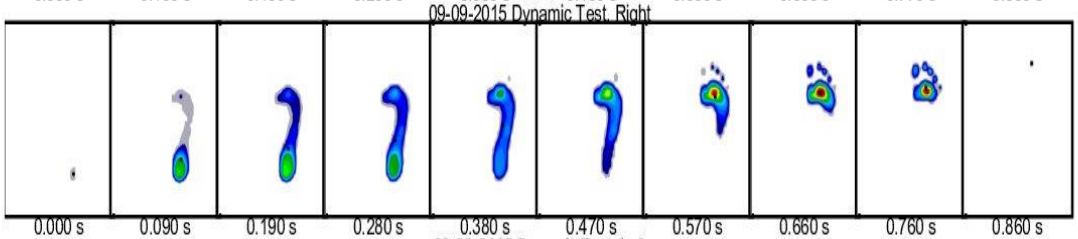


09-09-2015 Dynamic Test, Right



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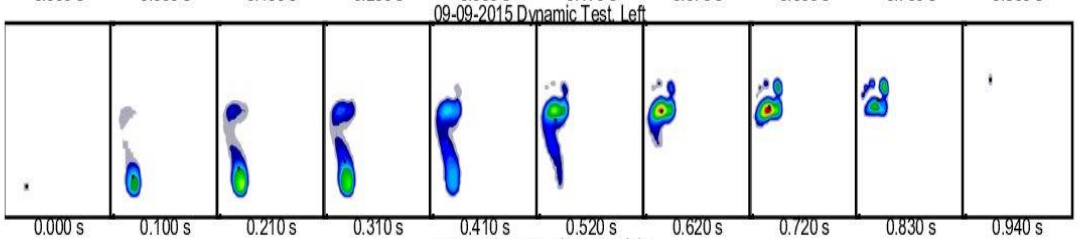
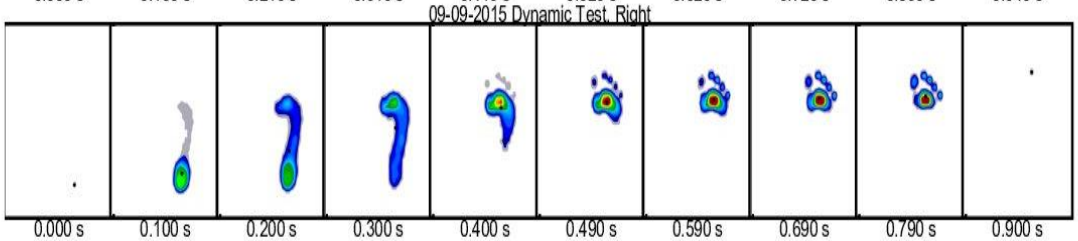


09-09-2015 Dynamic Test, Right



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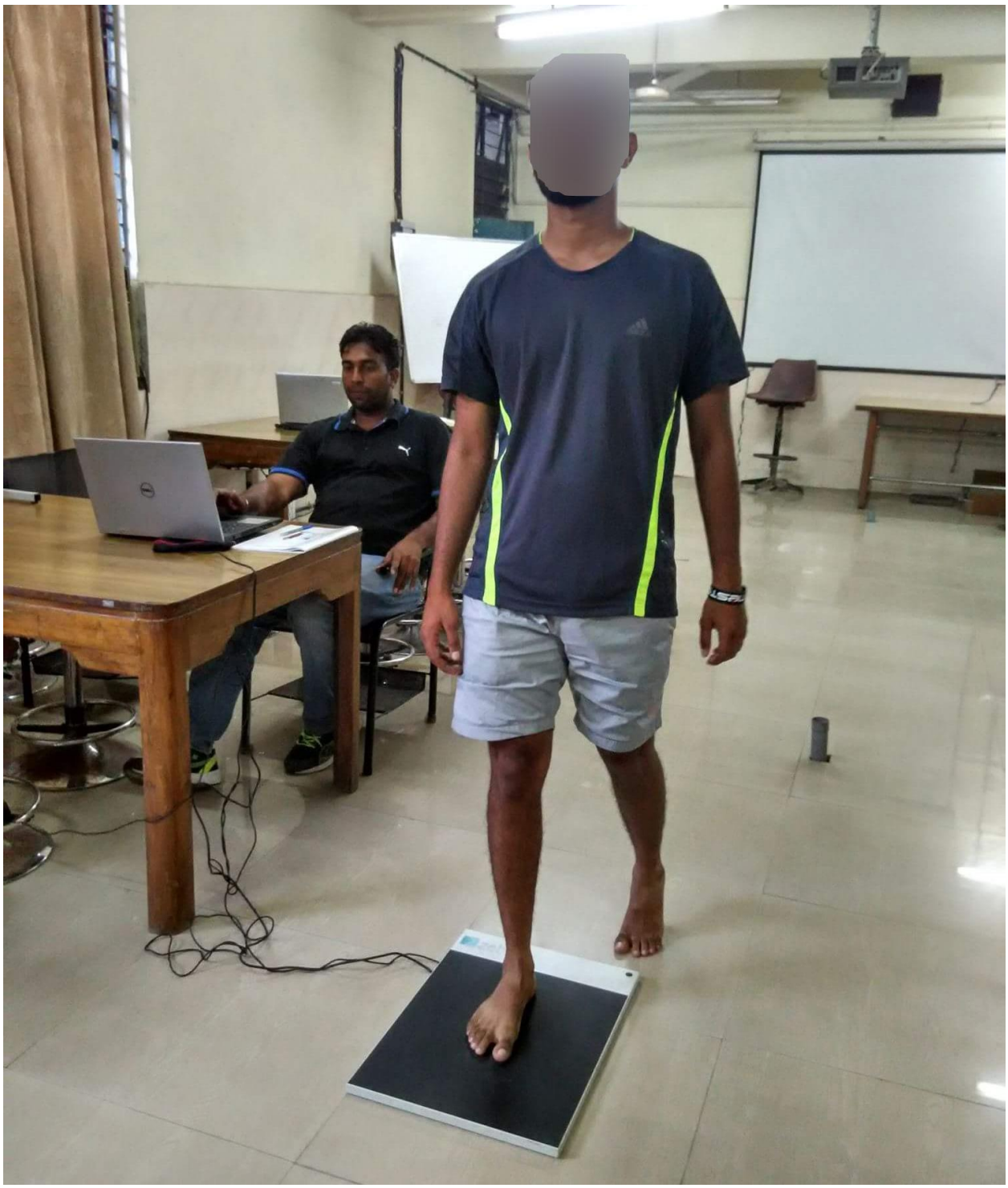

Figure 2: Picture of a Subject While Rolling Over the Pressure Plate During the Collection of Data

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Table 3
Descriptive Statistics of Selected Left Foot and Right Foot Temporal Kinematic Variables While Walking Gait of Male Sportsperson

S. No	Variables	Foot	Mean	SD
1.	LGLL (mm)	Left	224.460	17.5181
2.	RGLL (mm)	Right	235.694	51.2960
3.	CT1 (Sec)	Left	.0000	.00000
4.	CT1 (Sec)	Right	.0000	.00000
5.	CT2 (Sec)	Left	.0986	.01893
6.	CT2 (Sec)	Right	.0904	.01594
7.	CT3 (Sec)	Left	.1963	.03801
8.	CT3 (Sec)	Right	.1808	.03187
9.	CT4 (Sec)	Left	.2959	.05813
10.	CT4 (Sec)	Right	.2755	.04861
11.	CT5 (Sec)	Left	.3941	.07861
12.	CT5 (Sec)	Right	.3659	.06442
13.	CT6 (Sec)	Left	.4927	.09351
14.	CT6 (Sec)	Right	.4567	.07975
15.	CT7 (Sec)	Left	.5908	.11405
16.	CT7 (Sec)	Right	.5471	.09563
17.	CT8 (Sec)	Left	.6904	.13416
18.	CT8 (Sec)	Right	.6418	.11247
19.	CT9 (Sec)	Left	.7878	.15303
20.	CT9 (Sec)	Right	.7322	.12829
21.	CT10 (Sec)	Left	.8967	.17205
22.	CT10 (Sec)	Right	.8327	.14415
23.	CT11 (Sec)	Left	.0000	.00000
24.	CT11 (Sec)	Right	.0029	.01399
25.	CT12 (Sec)	Left	.0941	.02111
26.	CT12 (Sec)	Right	.0892	.01644
27.	CT13 (Sec)	Left	.1884	.03412
28.	CT13 (Sec)	Right	.1780	.02549

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29.	CT14 (Sec)	Left	.2792	.04924
30.	CT14 (Sec)	Right	.2649	.03652
31.	CT15 (Sec)	Left	.3722	.06514
32.	CT15 (Sec)	Right	.3527	.04881
33.	CT16 (Sec)	Left	.4653	.08254
34.	CT16 (Sec)	Right	.4388	.06237
35.	CT17 (Sec)	Left	.5580	.09876
36.	CT17 (Sec)	Right	.5269	.07512
37.	CT18 (Sec)	Left	.6488	.11470
38.	CT18 (Sec)	Right	.6139	.08734
39.	CT19 (Sec)	Left	.7439	.13181
40.	CT19 (Sec)	Right	.7031	.09975
41.	CT20 (Sec)	Left	.8120	.22447
42.	CT20 (Sec)	Right	.7704	.19504
43.	CT21 (Sec)	Left	.0029	.01399
44.	CT21 (Sec)	Right	.0029	.01399
45.	CT22 (Sec)	Left	.0904	.01683
46.	CT22 (Sec)	Right	.0882	.01642
47.	CT23 (Sec)	Left	.1780	.02483
48.	CT23 (Sec)	Right	.1737	.02489
49.	CT24 (Sec)	Left	.2647	.03565
50.	CT24 (Sec)	Right	.2610	.03454
51.	CT25 (Sec)	Left	.3522	.04674
52.	CT25 (Sec)	Right	.3457	.04655
53.	CT26 (Sec)	Left	.4371	.06021
54.	CT26 (Sec)	Right	.4273	.05862
55.	CT27 (Sec)	Left	.5247	.07188
56.	CT27 (Sec)	Right	.5120	.07092
57.	CT28 (Sec)	Left	.6114	.08352
58.	CT28 (Sec)	Right	.5994	.08199
59.	CT29 (Sec)	Left	.6994	.09580

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60.	CT29 (Sec)	Right	.6763	.08020
61.	CT30 (Sec)	Left	.7655	.19189
62.	CT30 (Sec)	Right	.7818	.10539

The Table-3,the Mean and standard deviation (M ± SD) in regard to variables namely LGLL, RGLL, LDT, RDT, CT1, CT2, CT3, CT4, CT5, CT5, CT6, CT7, CT8, CT9, CT10, CT11, CT12, CT13, CT14, CT15, CT16, CT17, CT18, CT19, CT20, CT21, CT22, CT23, CT24, CT25, CT26, CT27, CT28, CT29 and CT30 have been documented. The above findings have been graphically illustrated in figures 3 and 4.

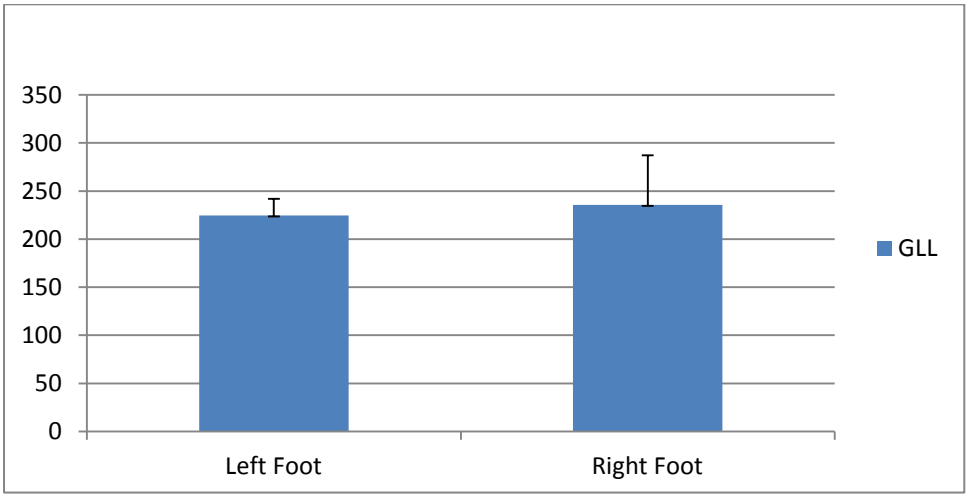

Figure 3: Difference Between Right And LeftGait Line Length

According to Figure 3, the right foot having higher means values than the left foot in regard to variable gait line length, which were statistically found to be insignificant at 0.05 levels.

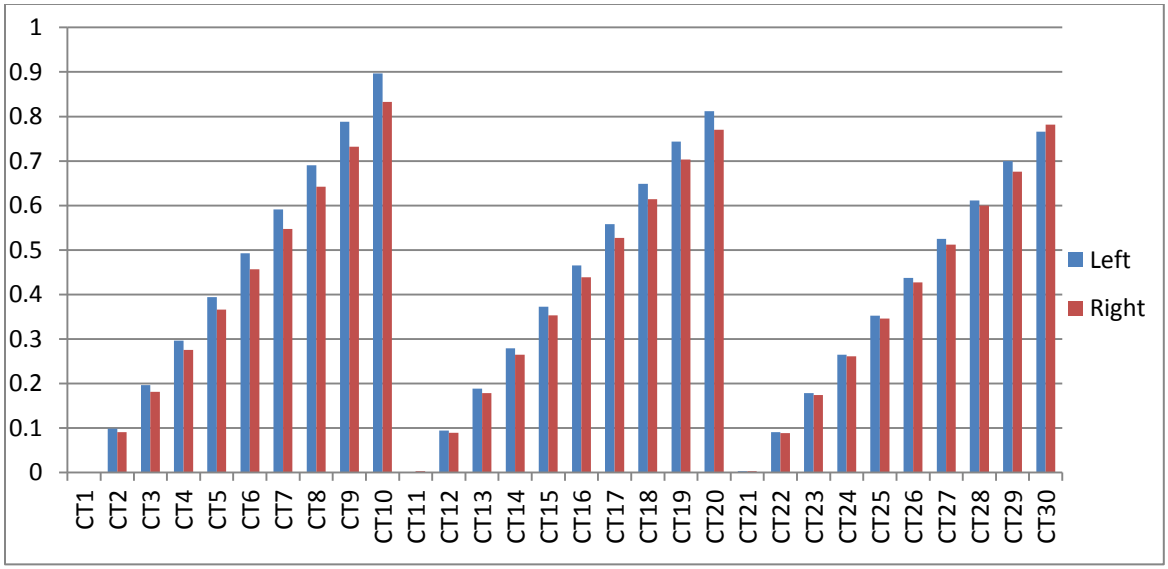

Figure 4: Difference Between Right And Left Contact Time

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According to Table 4 the left foot having higher means values for CT1,CT2,CT3,CT4,CT5,CT6,CT7,CT8,CT9,CT10,CT11,CT12,CT13,CT14,CT15,CT16,CT17, CT18,CT19,CT20,CT21,CT22,CT23,CT24,CT25, CT26,CT27,CT28 and CT29 than that of right foot than that of left foot, which were statistically found to be significant at CT1,CT2,CT3,CT5,CT6,CT7,CT8,CT9,CT10 and CT13, and insignificant at CT4,CT11,CT12,CT14,CT15,CT16,CT17,CT18,CT19,CT20,CT21,CT22,CT23,CT24,CT25, CT26,CT27,CT28 and CT29 of the contact time variables at 0.05 level of significance whereas the right foot having higher mean values for CT30 and then that of left foot which were statistically found insignificant at 0.05 level.

Table 4

Comparison Between Right and Left collateral Temporal Kinematic Variables Of Walking Gait of Male Sportspersons

S. No.	Variables	Mean Difference	Std. Error Difference	'T' Value
1	Gait Line Length	-6.2934	5.2953	0.342 (NS)
2	Contact Time 1	0.00751	0.00306	2.212*
3	Contact Time 2	0.00816	0.00354	2.309*
4	Contact Time 3	0.01551	0.00709	2.189*
5	Contact Time 4	0.02041	0.01082	1.885 (NS)
6	Contact Time 5	0.02816	0.01452	1.904*
7	Contact Time 6	0.03592	0.1756	2.045*
8	Contact Time 7	0.04367	0.02126	2.054*
9	Contact Time 8	0.04857	0.02510	1.942*
10	Contact Time 9	0.05551	0.0853	1.946*
11	Contact Time 10	.06408	0.03206	1.998*
12	Contact Time 11	-0.00286	0.00200	-1.429
13	Contact Time 12	0.00490	0.00382	1.282 (NS)
14	Contact Time 13	0.01041	0.00608	1.711*
15	Contact Time 14	0.01429	0.00876	1.631 (NS)
16	Contact Time 15	0.01959	0.01163	1.685 (NS)
17	Contact Time 16	0.02653	0.01478	1.795 (NS)
18	Contact Time 17	0.03102	0.01773	1.750 (NS)
19	Contact Time 18	0.03490	0.02060	1.694 (NS)
20	Contact Time 19	0.04082	0.02361	1.728 (NS)
21	Contact Time 20	0.04163	0.04248	0.980 (NS)
22	Contact Time 21	0.00000	0.00283	0.000 (NS)
23	Contact Time 22	0.00224	0.00336	0.668 (NS)
24	Contact Time 23	0.00429	0.00502	0.853 (NS)
25	Contact Time 24	0.00367	0.00709	0.518 (NS)
26	Contact Time 25	0.00653	0.00492	0.693 (NS)
27	Contact Time 26	0.00980	0.01200	0.816 (NS)
28	Contact Time 27	0.01265	0.01443	0.877 (NS)

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29	Contact Time 28	0.01204	0.01672	0.720 (NS)
30	Contact Time 29	0.02306	0.01785	1.292 (NS)
31	Contact Time 30	-0.01633	0.03127	-0.522 (NS)

N= 48, *= significant at 0.05 level of significance

According to table 4, the selected variables namely CT 1(t=2.212) CT2(t=2.309) CT3 (t=2.189), CT5 (t=1.904), CT6 (t=2.045), CT7 (t=2.054), CT8(t=1.942), CT9 (t=1.946), CT10 (t=1.998), CT13 (t=1.711), have been found to be statistically significant at 0.05 level, hence accepted the drawn hypothesis.Whereas the variables namely GLL (0.342) CT4(t=1.885),CT11(t=-1.429),CT12 (t=1.282), CT14(t=1.631) CT15(t=1.685), CT16(t=1.795), CT17(t=1.750), CT18(t=1.694), CT19(t=1.728), CT20(t=0.980), CT21(t=0.000), CT22(t=0.668), CT23(t=0.853), CT24(t=0.518), CT25(t=0.693), CT26(t=0.816), CT27(t=0.877), CT28(t=0.720), CT29(t=1.292) and CT30(t= -0.522) found to be statistically insignificant hence rejected the drawn hypothesis.

CONCLUSION

It was concluded that the collateral temporal kinematic of planter aspect of foot of walking gait of male sports persons are different in right foot and left foot in regard to variables namely CT1,CT2,CT3,CT5,CT6,CT7,CT8,CT9,CT10 and CT13 whereas in regard to all other selected variablesnamely CT4, CT11, CT12, CT14, CT15, CT16, CT17, CT18, CT19, CT20, CT21, CT22,CT23,CT24,CT25, T26,CT27,CT28,CT29 and CT30 are not different in walking gait of male sportspersons.

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A COMPARATIVE STUDY OF SELF ESTEEM OF ALL INDIA INTER UNIVERSITY TAEKWONDO PLAYERS

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ABSTRACT
A study with the objectives to assess and compare the self-esteem of All India Inter university Taekwondo players (men and women) prior to the scheduled competition was conducted. The study was delimited to All India Inter University Taekwondo men and women Players (2016-17) age ranging 17-28 years. Forty women and forty men players of All India Interuniversity Taekwondo Tournament were selected for the study. Subjects were from undergraduate and post graduate courses. The age of the participants ranged between 17-28 years. Rosenberg's Self-esteem scale (1965) developed by Dr. Morris Rosenberg was used to collect the data. The collected data was subjected to the Mean, S.D, and 't' ratio computation. The level of significance was chosen at 0.05 in order to check the significance. The findings of the study shows that the females have greater mean values as compared to their counterparts which reflects that women have higher self esteem as compared to men.

Key words: Self Esteem All India Inter University Taekwondo Players

INTRODUCTION
In psychology and sociology, self-esteem mirrors an individual's overall subjective emotional assessment of his or her own value. It is a verdict of oneself and also an attitude towards oneself. Self-esteem incorporates beliefs about oneself, (for instance, "I am proficient", "I am worthy"), as well as emotional situations, such as success, misery, pride, and embarrassment. Smith and Mackie (2007) defined it by saying "The self-concept is what we think about the self; self-esteem is the positive or negative evaluations of the self, as in how we feel about it."Self-esteem is a social psychological concept because researchers have intellectualized it as a powerful predictor of definite conclusions, such as academic accomplishment, happiness, satisfaction in the marriage and relationships, and criminal conduct.Psychologists generally favour self-esteem as a lasting personality characteristic ("feature" self-esteem), though normal and temporary variations ("state" self-esteem) also exist. Synonyms of self-esteem comprise: self-worth, self-respect, self-integrity and self-regard. According to one definition , Branden(1998) "Self Esteem at work" there are three key components of self-esteem:1. Self-esteem is an indispensable human necessity that is important for existence and normal, healthy growth.2. Self-esteem rises automatically from inside based on an individual's beliefs and perception.3. Self-esteem occurs in combination with a being's thoughts, feelings, behaviours and actions.In 1960s, Morris Rosenberg stated that self-esteem is a feeling of self-worth and produced the Rosenberg self-esteem scale (RSES), which developed into one of the most-commonly used scale internationally to evaluate self-esteem.Self esteem plays an important role in sports and especially just before any competition it can play a decisive role.Does the self esteem is affected by the gender especially in player of Taekwondo? To answer this question a study with the objectives to assess and compare the self-esteem of All India Inter university Taekwondo players (men and women)

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prior to the scheduled competition was conducted. The study was delimited to All India Inter University Taekwondo men and women Players (2016-17) age ranging 17-28 years.

METHODOLOGY:

Forty women and forty men players of All India Interuniversity Taekwondo Tournament were selected for the study. Subjects were from undergraduate and post graduate courses. The age of the participants ranged between 17-28 years.

Rosenberg's Self-esteem scale (1965) developed by Dr. Morris Rosenberg was used to collect the data. The participants filled the questionnaire three hours before the scheduled competition.The subjects were assembled in a group. The purpose of study was clearly explained.Necessary directions required before answering the questionnaire were explained.The Rosenberg's Self Esteem test was administered three hours prior to the competition. After making sure that the subjects understood the instructions the questionnaire were distributed to the group. Enough time was given to answer the questionnaire. The questionnaire was taken back after it was duly completed.Thorough screening was done to check that no question was left unanswered.

The Rosenberg's Self Esteem Scale Test is a ten(10) -item Likert-type scale with items responded on a four-point scale— strongly agree, agree, Disagree, and Strongly disagree. First five of the questionnaire has positive worded statements and last five have contrarily worded ones. It uses a scale ranging from 0-30 where, and a score less than that of 15 may specify a problematical low self-esteem. The scores ranging under 15 to 25 are within the normal range.(from the questionnaire).Items 2, 5, 6, 8, 9 on the questionnaire are opposite scored. The points should be awarded in this setting "Strongly Disagree" -1 point, "Disagree"- 2 points, "Agree"- 3 points, and "Strongly Agree"- 4 points. Total scores for all of the ten items. Keep scores on a persistent scale. Higher scores signify higher self-esteem . The collected data was subjected to the Mean, S.D, and 't' ratio computation. The level of significance was chosen at 0.05 in order to check the significance.

ANALYSIS OF DATA

Table-1

Descriptive Statisticsof " Rosenberg's Self-Esteem Scale" for Male and Female

S. No	Category	N	M	SD	t-value
1.	Male	40	16.727	3.8159	10.17*
2.	Female	40	18.126	4.2061	

*Significant at 0.05 levelN= No. of subjectsM= Mean SD = Standard deviation

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According to the table the mean and the standard deviation for male is 16.454±3.6085 and for women is 18.875±3.8370. The 't'value for the scores between male and female is 10.17 which depicts that the value is significant at 0.05 level.

Table 2
Descriptive Statistics of " Rosenberg's Self-Esteem Scale "for North Zone Male and Female

S.no	Subject	N	SD	M	't' Value
1.	Male	10	3.6085	16.454	9.37*
2.	Female	10	3.8370	18.875	

*Significant at 0.05 levelN= No. of subjectsM= Mean SD = Standard deviation

Table 3
Descriptive Statistics of " Rosenberg's Self-Esteem Scale" for South Zone Male and Female

S.no	Subject	N	SD	M	't' Value
1	Male	10	3.3115	19.166	9.37*
2	Female	10	5.6862	20.666	

*Significant at 0.05 levelN= No. of subjectsM= Mean SD = Standard deviation

Table 4
Descriptive Statistics of " Rosenberg's Self-Esteem Scale"for East Zone Male and Female

S.no	Subject	N	SD	M	t value
1	Male	10	2.1213	18.5	10.27*
2	Female	10	2.8284	18	

*Significant at 0.05 levelN= No. of subjectsM= Mean SD = Standard deviation

Table 5
Descriptive statistics of " Rosenberg's Self-Esteem Scale"for West Zone Male and Female

S.no	Subject	N	SD	M	t value
1	Male	10	4.6619	16.8	10.25*
2	Female	10	3.5355	25.5	

*Significant at 0.05 levelN= No. of subjectsM= Mean SD = Standard deviation

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CONCLUSION

The findings of the study shows that thefemales have greater mean values as compared to their counterparts which reflects that women have higher self-esteem as compared to men.

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EFFECTS OF INTEGRATIVE NEUROMUSCULAR TRAINING ON REACTION TIME OF YOUNG CRICKETERS

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ABSTRACT

Exercise is sports medicine in youth. Integrative neuromuscular training to optimize motor development. The purpose of the study was to investigate the effect of 8- weeks integrative neuromuscular training (INT) on reaction time of young cricketers. A total of 20 male (10 players in each group) cricket players age ranged from 12-15 years with mean & SD 14.23±1.67 years, from LNIPE cricket nursery, Gwalior selected as subjects for the study. The purposive sampling technique was used to attain the objectives of the study. Vienna test system (VTS), a leading computerized psychological assessment tool was used for measuring reaction time. The Vienna Test System SPORT is perfectly designed for sports psychology assessment. The psychometrically valid tool for profile analysis, talent assessment and development of training plans gives players and athletes a clear picture of their sports psychology profile – in terms of both skills and personality (Vienna Test System sports, 2017). Researcher analyzed the reaction time (RT) with sub factors of mean motor time (RT_MMT) & mean reaction time (RT_MRT) in which how consistently in term of the same latent ability dimension is assessed in all respondents Pre test post test control group design was adopted for this study. The training programme was carried out for a total duration of eight weeks. All subject, after having been informed objective of the study, gave their consent and volunteered to participate in this study. The training was carried out thrice a week on alternate days of the week for each group. ANCOVA was applied as statistical technique to analyze the effect of 8- weeks integrative neuromuscular training (INT) on reaction time, the alpha level was set at 0.05. Statistical analysis of the data revealed there is significant difference in RT_MMT as the f value found significant ($p<0.05$), and also significant difference in RT_MRT as the f value found significant ($p<0.05$), Hence it may be inferred that 8- weeks integrative neuromuscular training (INT) is effective for improving reaction time of young cricketers..

KEYWORDS: Integrative neuromuscular training, Vienna test system, Reaction time, Mean motor time, Mean reaction time

INTRODUCTION

Strength training the mind plays a vital role in the development of skills and reaction speed capabilities necessary for athletes to maintain a competitive advantage over the opposing team and players ("7 Sports That Need Quick Reaction Times", 2016). Reaction time, defined as being the time between the application of a stimulus and the beginning of an organism's response to it, has been shown to be a valid indicator of the central nervous system's ability to receive and synchronize movement expressed through the peripheral nervous system (Garg et al., 2013).The training becomes essential to achieve perfection in the specific task, thus providing appropriate

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extrinsic feedback (Kisner and Colby, 2002). The training in conjunction with the motor learning principles assists the process of muscle reactivation and motor skill reacquisition (Ellenbecker, 1995/The programs accomplish this goal by using a number of different exercises to train both the body of the individual as well as their conscious mind. (Balogh, 2015).Neuromuscular training has been defined as multi-intervention programs that combine balance, strength, plyometrics, agility, and sport-specific exercises (Coughlan and Caulfield, 2007)

MATERIALS AND METHODS

Selection of Subjects: To systematize the study, subjects were divided into two groups (experimental group and control group). A total of 20 male (10 players in each group) cricket players age ranged from 12-15 with mean & SD 14.23±1.67 years, from LNIPE cricket nursery, Gwalior selected as subjects for the study. The purpose of the research was explained to all the subjects and subjects were motivated to put their best during each trial

SELECTION OF VARIABLES

- Independent Variable
- 8- Weeks Integrative neuromuscular training (INT)
- Dependent variable
- Reaction time-1. Mean motor time(MMT) 2. Mean reaction time(MRT)

Criterion Measures: Reaction time was measured through Vienna Test System (VTS). The Vienna test system is leading computerized psychological assessment tool. VTS ensures the highest possible level of objectivity and precision, including aspects that cannot be measured by traditional paper-and-pencil tests. The scoring of test results is fast and accurate.The research scholar went through the available literature pertaining to Integrative neuromuscular training (INT) and also after having discussion with the experts, the following exercises were chosen.
1. Jumping jacks2. One leg balancing3.Box jumps4.Carioca5.Skipping

Experimental Design: Pre test post test control group design was adopted for this study. Further the subjects are divided into two groups experimental and control group .The experimental group participated in training program. No treatment was given to control group. The training programme was carried out for a total duration of eight weeks.

Administration of Training Programme: The training schedule prescribed by the researcher was applied to experimental group and training was personally supervised by the researcher. The training was carried out for a period of eight weeks, three days a week excluding the time consumed for conducting per-test and post test. The scholar demonstrated the training for experimental group. Each subject of the experimental group performed their respective training. Sufficient and required recovery was provided between the tests. The scholar demonstrated each exercise with its movement structure. The control group was not allowed to undergo the training program. From the first week to the eighth week, the volume of training load and training increased gradually for the experimental group.

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Table 2
Exercise Protocol

Exercise	Week 1 and 2	Week 3 and 4	Week 5 and 6	Additional progression	Week 7 and 8
Warming up(in min)	3	3	3		3
Jumping jacks	30	2x20	2x30		3x20
One leg balancing(in sec)	30 sec	45 sec	60 sec		80 sec
Box jumps	20	2x15	2x20	With single leg	2x25
carioca	30	2x25	3x30		2x40
skipping	30	50	70	variation	90
Cool down (in min)	3	3	3		3

Administration of test
Purpose: To measure the reaction time

Test form: S4 (Choice reaction yellow/red)

Testing duration: 4 minutes

The response panel is used as the input device .The RT consists of an instruction and practice phase and the test phase itself. The instructions begin by explaining what is to be measured and describing how the black and gold keys on the response panel are to be used when relevant stimuli appear. It is important for the respondent to return his finger immediately to the gold-coloured key after a reaction (that is, after the black button has been pressed). At the end of the instructions the respondent is requested to place the forefinger of the hand with which he writes on the gold-coloured key. In this test form a sequence of yellow and red lights, a tone and combinations of these stimuli is presented. The critical combination, to which the subject is instructed to respond, consists of two visual stimuli (yellow and red lights simultaneously). Incorrect reactions are therefore possible. A minimum of nine practice stimuli are presented. In the test phase 48 stimuli are presented; of which 16 require a reaction. The time required for administration (including instructions) is about nine minutes.

Statistical Technique: The differences in the means of experimental group and a control group for reaction time was tested for significance by applying Analysis of co-variance (ANCOVA), and the level of significance chosen was 0.05.

Results : The main purpose of the study was to see the effects of integrative neuromuscular training (INT) on reaction time of young cricket players. To analyse the effects of INT on reaction time ANCOVA was applied.
In this study effect of INT training was analysed on reaction time. Reaction time was categorized in two sub variables:

a. Mean reaction time (MRT) b. Mean motor time (MMT)

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Different types of descriptive statistics such as mean and standard deviation was computed to describe each variable statistically. The level of significance was set at 0.05. Its results have been depicted in following tables

TABLE 3
Descriptive Statistics of Mean Motor Time (RT_MMT)

GROUP	Mean(in msec)		SD	
	Pre	Post	Pre	Post
EXPERIMENTAL GROUP	185.50	175.40	6.67	8.54
CONTROL GROUP	187.30	191.40	3.19	10.35

Table 3 indicates mean and standard deviation of Mean motor time (RT_MMT) of experimental and control group. Mean and SD of pre test and post test of experimental group is 185.50 ± 6.67 & 175.40 ± 8.54 respectively and Mean and SD of pre test and post test of control group is 187.30 ± 3.19 & 191.40 ± 10.35 respectively.

TABLE 4
Levene's Test of Equality of Error Variances

F	df1	df2	p-value
.446	1	18	.513

To test the equality of variances RT_MMT, Levene's test was used. The F-value was insignificant as the p-value (.513) was more than 0.05. Thus the null hypothesis of equality of variances might be accepted, and it was concluded that the variances of the two groups were equal. The results were presented in Table 4.

TABLE 5
ANCOVA Table for the Data on Mean Motor Time (RT_MMT)

Source	Type III Sum of Squares	df	Mean Square	F	p-value
Pre RT_MMT	16.737	1	16.737	.177	.679
Group	1188.382	1	1188.382	12.595	.002
Error	1604.063	17	94.357		
Corrected Total	2900.800	19			

Table 5 shows the F- value for Pre RT_MMT is insignificant as p-value (0.679) is greater than 0.05. It shows that the initial conditions of both the groups are same.

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The f- value for comparing the adjusted means of the two groups (experimental and control group) during post testing. Since p-value of statistics is 0.02 which is less than 0.05, it is significant. Thus the null hypothesis of no difference among the post means of the data on RT_MMT of both groups may be rejected at 5% level

TABLE 6
Descriptive Statistics of Mean Reaction Time (RT_MRT)

GROUP	Mean(in msec)		SD	
	Pre	Post	Pre	Post
EXPERIMENTAL GROUP	383.70	375.10	5.53	13.44
CONTROL GROUP	380.00	386.70	7.67	8.80

Table 6 indicates mean and standard deviation of mean reaction time (RT_MRT) of experimental and control group. Mean and SD of pre test and post test of experimental group is 383.70 ± 5.53 & 375.10 ± 13.44 respectively and Mean and SD of pre test and post test of control group is 380.30 ± 7.67 & 386.70 ± 8.80 respectively.

TABLE 7
Levene's Test of Equality of Error Variances

F	df1	df2	p-value
1.737	1	18	.204

To test the equality of variances of RT_MRT, Levene's test was used. The F-value was insignificant as the p-value (.204) was more than 0.05. Thus the null hypothesis of equality of variances might be accepted, and it was concluded that the variances of the two groups were equal. The results were presented in Table 7.

TABLE 8
ANCOVA Table for the Data on Mean Reaction Time (RT_MRT)

Source	Type III Sum of Squares	df	Mean Square	F	p-value
Pre RT_MRT	60.754	1	60.754	.456	.509
group	733.503	1	733.503	5.507	.031
Error	2264.246	17	133.191		
Corrected Total	2997.800	19			

Table 8 shows the F- value for Pre RT_MRT is insignificant as p-value(0.509) is greater than 0.05. It shows that the initial conditions of both the groups are same.The f- value for comparing the adjusted means of the two groups (experimental and control group) during post testing. Since p-value of statistics is 0.031 which is less than 0.05, it is significant. Thus the null hypothesis of no difference among the post means of the data on RT_MMT of both groups may be rejected at 5% level

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DISCUSSION AND FINDINGS: From the above results it may be concluded that integrative neuromuscular training (INT) of 8-week is effective to improve reaction time. Both the sub variables MMT &MRT showed significant results. So form this it is inferred that if we provide 8- week INT training to young cricketer than there would be significant improvement in their reaction on both MMT & MRT. Results from several investigations suggested that INT is an effective and time-efficient addition to PE as evidenced by improvements in health- and skill-related fitness measures in children. (Faigenbaum et al., 2011). The 6-week training program significantly reduced reaction time of the peroneus longus muscle in healthy subjects. Neuromuscular training may have a beneficial effect on improving dynamic restraint during activity (Linford et al., 2006). A suitable planned neuromuscular training emphasizes in improving neuromuscular coordination building upon the foundation of range of motion, strengthening and proprioception. Studies have shown that comprehensive neuromuscular training program included the dynamic movement training, plyometrics, core strengthening , balance training, resistance and interval speed training can provide simultaneous improvements in athlete performance and movement mechanics(Myer, Ford, Palumbo & Hewett, 2005).

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ANXIETY AND MENTAL TOUGHNESS BETWEEN HIGH AND LOW ACHIEVER TABLE TENNIS PLAYERS: A COMPARATIVE STUDY

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ABSTRACT
The study was initiated with a purposeto compare anxiety and mental toughness between the high achievers and low achievers men table tennis players of MP. The study was conducted on 64 male table tennis players (48 preliminary round losing players and 16 pre-quarterfinalists) [N=64]who had participated in MP State Table Tennis Championship-2016 held at Lakshmibai Institute of Physical Education, Gwalior.The subject for the study were further categorized in two groups according to their performance level at the competition i.e. High achiever (players who had reached to pre-quarterfinals) and Low achiever (players who had lost in preliminary rounds). Sports Competition Anxiety Test (SCAT)and Psychological Performance Inventory (PPI) developed by Rainer Martens (1990) and James E. (1996) respectively were administered to all the subjects, for the collection of data. For data analysis,independent't' test was employed at a level of significance of .05.The findings of the study revealed that the calculated t-value of SCAT scores was| -2.771| which was greater than tabulated t-value 1.99. Similarly, the calculated t-value of only self confidence (=5.12) variable in PPI was more than the tabulated t-value(=1.99). The result of the study concluded that there was significant difference in anxiety as well as in one of the parameter of mental toughness, i.e. Self Confidence, among the high achiever and low achiever table tennis players.

Key words: Anxiety, Mental toughness, Achievers, Self- confidence.

INTRODUCTION
Today, researchers are much more interested to talk about the sports performances. A Careful study of the performances given by successful athletes and the unsuccessful athletes clearly tells that there is a hairline difference between the two, and that is what we call as psychology. Anxiety and mental toughness are the most common concepts related to sports competitive environment and are widely discussed by the performers and the trainers. Anxiety disrupted the attention and worries about the performance in competitive situation **(Ampofo-Boateng , 2009).**National Institute of health has already said that anxiety also effects the working efficiency of the muscles. Inducing muscle tension is one of the best example that hinders the performance **(Stannard L. ,2013).**Changes in breathing rate can also be experienced by the sportsperson that can be either short or rapid breathing rate. This makes the player feel like choking and grasping for air **(Bouras N, Holt G ,2007)**.

When the going gets tough, the tougher gets going.Sport is all about rising to the challenge whether it is laid down by your own limitations, the prowess of your opposition or the magnitude of the event; to win you have the ability to overcome**(Pinsent,2009:62).**The Paralympians attributed that their consistency to sustain in tough situations is due to their experience of the challenges faced by them because of physical and mental disabilities they have. When considering the behaviors and characteristics of Mental toughness in Paralympians, the

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participants' associated high levels of determination, self confidence and persistence as an enabler for overcoming trauma, challenge and adversity **(Collins and MacNamara, 2012).**

METHODS

To fulfill the purpose of the study, 64male table tennis players (48 preliminary round losing players and 16 pre-quarterfinalists) who had participated in MP State Table Tennis Championship-2016 held at Lakshmibai Institute of Physical Education, Gwalior were selected as the subjects. For the collection of data, Sports Competition Anxiety Test (SCAT) and Psychological Performance Inventory (PPI) were administered. SCAT Questionnaire developed by Rainer Martens (1990) containing 15 items to assess sports competition anxiety was administered one hour prior to the competition. PPI invented by James E. Loehr (1986) containing 42 items scale yields an overall mental toughness on the basis of seven items subscale score: Self confidence, Negative energy control, Attention control, Visualization and imagery control, Motivation, Positive energy, and Attitude control. For analyzing the data, descriptive statistics such as mean and standard deviation and comparative statistics of Independent 't' test were employed at the level of significance set at .05.

RESULTS

To find out the significant difference in anxiety and mental toughness between the high achievers and low achievers men table tennis players of MP, independent 't' test was employed at level of significance of 0.05. The statistical analysis of data of anxiety and mental toughness as given below:

Table-1

Independent sample Test of Sports Competition Anxiety Test between High and Low Achiever table tennis players of MP

GROUP	Mean	S.D	Mean Diff.	t-Value	p-value	F-value	p-value
HIGH ACHIEVER	19.06	2.38	-2.27	-2.771*	.007	1.073	.304
LOW ACHIEVER	**21.33**	2.97					

*significant at 0.05 level, t value (2 62) =1.99

From table -1, it could be seen that t-value was significant as its p-value i.e.0.007 which was less than 0.05. Moreover, the calculated t-value |-2.771| was greater than tabulated t-value at degree of freedom 62 and at the level of significance of 0.05. Hence, it may be concluded that there was a significant difference between High achiever and Low achiever men table tennis players of MP in sports competition anxiety. Further, average sports competition anxiety of high achiever is less than the low achiever group and therefore, it may be concluded that the sports competition anxiety was comparatively less in high achiever than the low achiever.

Independent sample Test of Psychological Performance Inventory between High and Low Achiever table tennis players of MP

Group Statistics

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	GROUP	Mean	S.D.	t-value	p-value	F-value	p-value
SELF CONFIDENCE	HIGH ACHIEVER	18.75	1.69	5.12*	.000	2.458	.122
	LOW ACHIEVER	15.17	2.61				
NEGATIVE ENERGY	HIGH ACHIEVER	19.81	4.56	1.73	.089	3.193	.079
	LOW ACHIEVER	17.96	3.40				
ATTENTION CONTROL	HIGH ACHIEVER	18.81	4.00	1.89	.063	.754	.389
	LOW ACHIEVER	16.92	3.29				
VISUAL/IMAG.CONTROL	HIGH ACHIEVER	14.50	4.73	1.10	.275	3.471	.067
	LOW ACHIEVER	13.29	3.45				
MOTIVATION	HIGH ACHIEVER	14.13	3.93	.22	.824	1.074	.304
	LOW ACHIEVER	13.90	3.43				
POSITIVE ENERGY	HIGH ACHIEVER	13.94	4.55	.95	.344	2.737	.103
	LOW ACHIEVER	12.85	3.71				
ATTITUDE CONTROL	HIGH ACHIEVER	14.50	2.45	1.79	.078	.574	.451
	LOW ACHIEVER	13.04	2.93				

*significant at 0.05 level, t value (2 62) =1.99

The table-4 depicts that in self confidence parameter the calculated t-value (=5.12) was greater than tabulated t- value(=1.99) at 0.05 level of significance with 62 degree of freedom. However, the calculated t-values of all other variables namely negative energy, attention control, visual/ imagination control, motivation, positive energy and attitude control were less than the calculated t-value. Thus it may be concluded that there was a significant difference between high

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and low achiever table tennis players of MP state in mental toughness in terms of Self Confidence but insignificant difference in case of other variables.

DISCUSSION AND CONCLUSIONS

Findings of the study revealed that there were significant difference in sports competition anxiety and mental toughness in terms of self confidence of high achiever and low achiever men table tennis players of Madhya Pradesh. This may be attributed due to the pressure of being observed by the spectators. While playing, athletes' and their skills are constantly being noticed by the spectators, hence performing skills more efficiently as well as not to fail can put more pressure upon an athlete. This condition is also common with athletes who are less trained either in their sport to deal with such situation effectively or we can say, having less psychological preparation **(Kremer and Moran, 2008).** Mostly young and inexperienced players become over anxious during performance that leads them to perform inefficiently **(Kumar et al.,2009).**

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EFFECT OF EIGHT WEEKS STRENGTH TRAINING ON VARIOUS VARIABLES OF BODY COMPOSITION OF FEMALE FOOTBALL PLAYERS

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ABSTRACT
Body size and composition is one of the main fitness components, important for success in many sports. The present study aimed at investigate the effect of strength training on body fat percentage and body mass index(BMI) of female football player. The study was conducted on 20 female soccer players of LNIPE, Gwalior selected randomly,age ranging from 18-22 years with mean and SD of 20±2 (as the scores were normally distributed). The data were collected on the subjects on selected body composition variables ininitial level before training and again after six weeks of strength training. The body fat percentage and body mass index were measured by TANITA body composition analyser SC-330ST at early morning in empty stomach. Paired t-test was employed as statistical analysis to compare the mean at 5% level of significance. No significant difference ($p<0.05$) were shown between pre-training state and post training in body fat percentage and body mass index (BMI). Thus, it can be concluded thatthere was no effect of the given strength training on the body mass index and fat percentage as there was inequality of the age group, more about figure consciousness, influence of eating habits, less duration of training programme.

Key words: strength training, body composition, fat percentage

INTRODUCTION
Body size and composition is one of the main fitness components, important for success in many sports. For many athletes, this is an area that they concentrate on to reach an optimal body shape for their sport. Training can be very effective in changing muscle and fat distribution and proportions within the body, as well as weights and girths, though it is less successful in changing body sizes such as lengths and heights.

One of the reasons that the soccer is so popular worldwide is that the players may not need to have an extraordinary capacity within any of the performance areas, but possess a reasonable level within all areas. Success in soccer depends upon a variety of factors including the physical characteristics and physiological capacities of the players, their level of skill, their degree of motivation, and tactics employed by them against the opposition (Mosher, 1985).

Body composition is the body's relative amount of fat to fat-free mass. The human body is comprised of water, protein, fat, and minerals — but for most purposes, it is the level of fat compared to lean mass that is of interest. Several studies shown that there is effect of different strength training on changing the body composition elements. So, this present study has investigated the effect of strength training on body composition variables of football players.

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METHODOLOGY

Selection of Subjects: Twenty(20) female football players from Lakshmibai national institute of physical education,Gwalior were randomly selected as subjects for the study.**Selection of Variables:** The study was conducted on body fat percentage and body mass index of female football athletes.

Collection of Data:The tests was administered by TANITA SC-330ST Body composition analyzerat the research laboratory of the department of health science and fitness of LNIPE, Gwalior.BMI was measured at Tanita body composition analyser SC-330ST machine.Body fat % of the subjects were also measured at Tanita body composition analyser SC-330ST machine.During each session of the training the subjects were informed of the different Training Schedule. They were oriented & motivated to give their best performance in the training session.The same subjects were tested after the prescribed training of six weeks and the sets and repetitions designed were same for all the subject.

Training protocol :The weekly weight training schedule

Day	Exercises	Repeitition/set	Interval
Monday	Abdominal exercises • Crunches • 30degree raise • Raised hyperextension of back	20 rep x 3 set	30 sec in each set
Wednesday	weight training • Squat (40 kg) • Calf extension (100 kg) • Hip extension (10 kg) • Step up with weight (30 kg)	15 rep x 3 set 20 rep x 3 set 20 rep x 3 set 20 rep x 3 set	30 sec in each set
Friday	Explosive training • Plyometric exercises(box jump)	15 rep x 3 set	30 sec in each set

Statistical Technique:Paired t-test was employed for analysis of data as the same subjects were tested repeatedly before and after the training.

Results

There was no significant difference found between pre and post training of strength training on body fat percentage and body mass ($p>0.05$) with t- value 0.180.

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Table 1
Descriptive analysis of pre-test & post-test on BMI

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	BMI PRE - BMI POST	-.14000	.45003	.10063	-.35062	.07062	-1.391	19	.180

Table 2
Descriptive analysis of pre-test & post-test on Body fat percent

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	FATS % PRE - FATS % POST	.71500	2.58035	.57698	-.49264	1.92264	1.239	19	.230

DISCUSSION OF FINDINGS

From the findings it can be clearly inferred that there was no significant difference in the Body Composition variables i.e. BMI, Body fat percentafter six weeks of strength training on the selected female football players (Chaston, T. B, (2006). The results of the study show that there was no significant difference on the variables of body composition which was attributed to the fact of inequality of the age group, more about figure consciousness, influence of eating habits. It may also be due to small sample size.

CONCLUSION

Body mass index, Percentage of body fat were not significantly improved due to the influence of strength training among the female football players. The study concluded that there was no significant difference on the variables of body composition which was attributed to the fact of inequality of the age group, more about figure consciousness, influence of eating habits. It may also be due to small sample size.

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KINEMATIC ANALYSIS OF LAY - UP SHOT IN BASKETBALL

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Abstract
The purpose of the study was to kinematic analysis of Lay-up shot in basketball The present study was conducted on a sample of ten (N=10) male right handed basketball players of 17 to 24 age group players who participated in interuniversity competitions from Lakshmibai national institute of physical education volunteered to participate in this study were selected by purposive sampling for this study. All the participants were informed about the aim and methodology of the study and they volunteered to participate in this study. None of the selected angular biomechanical(kinematic) variables that is Ankle Joint (Right and Left) , Knee Joint (Right and Left), Shoulder Joint (Right and Left), Elbow Joint (Right and Left) and Wrist (Right and Left), and Hip Joint (Left and Right) has significant relationship with the performance of subjects in lay-up shot.

INTRODUCTION
Basketball is a game of intricate movement combined with great speed and accuracy. The meshing of fundamentally sound players weaving clever patterns of attack and defense develops great teams. The spectator realizes this subconsciously but in many cases cannot recognize it. Shooting which is an evaluation of passing will follow and give the greatest satisfaction in execution. It makes little difference how well a team defends, dribbles, and passes to work the ball into a scoring position if the player cannot shoot.(Berry,1970).

The majority of coaches identify shooting as the most important skill of Basketball. It doesn't deny the importance of other skills- dribbling, passing or foot work- but only assumes that all offensive actions end in shooting. With this level of significance in the game, all fundamentals in the teaching methodology of shooting should be assured by the coaches. Usually it's based on permanent adjustment of theoretical sentences of performance and individual characteristics of the players. Shooting is the first technical content of Basketball that youngsters want to learn. The youngster's feeling of success in the game result from the efficacy of shooting performance (Krausse, 1984). The quality of the shooting learning process is very important in the development of young players. Such a process must be conducted by coaches with care and knowledge. It is reasonable to accept the theory that, "shooters are not born but made" (Newell & Benington, 1962)

MATERIALAND METHODS
Subjects
A sample of Ten (N=10) male Basketball players of 17-24 years age group was selected as subjects for the study. All subjects were right handed shooters. Players who participated in interuniversity competitions from Lakshmibai national institute of physical education volunteered to participate in this study were selected for this study. All the participants were informed about the aim and methodology of the study and they volunteered to participate in this study. The purposive sampling technique was used to select the subjects.

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Selection of Variables

From researcher's own understanding of the problem and on the basis of discussion with experts, gleaned through the literature, the following kinematic variables (linear & angular) were selected:

Linear kinematic variables:

- Height of centre of gravity
- Height of ball release at moment execution phase

Angular kinematic variables:

- Ankle joint (right & left)
- Knee joint (right & left)
- Hip joint (right & left)
- Shoulder joint (right & left)
- Elbow joint (right & left)
- Wrist joint (right & left)

Criterion Measures

The scores of all the subjects in lay-up shot were used as criterion variable in this study

Scores of subjects

Performance of all the subjects were assessed by three judge however elements related to the accuracy of shooting were also added. Five points were given if a basketball converted into the basket (ring) without touching the board, three points if it touched the board and 1 point if the ball did not convert the basket. Lay-up shot started from the centre circle of the court towards the front side of ring.

COLLECTION OF DATA

The data was collected by the help of digital photography, and the scores of the subjects in the lay-up shot.

FILMING PROTOCOL AND ANALYSIS

Videography was employed for the biomechanical analysis of underarm lay-up shot in Basketball. Panasonic full HD 20.4 Mega pixels camera was placed on the sagittal plane. The distance of the camera from the subject was 7.40 meters away and the height of the lens was 1.49 meters from the ground. Only one moment was selected for the analysis i.e. execution (releasing of ball). On the basis of sequence photographs obtained from the videography, the scholar developed stick figures from which selected biomechanical variables were calculated. The stick figures were developed by kinovea software. The subjects performed the technique five times and the best trail was used for the analysis. The centre of gravity of each subject, one moment i.e. moment of release of the ball was located by kinovea software.

Procedure for Location of Center of Gravity and Measuring Selected Angular Kinematics

After video recording, the video was played with the help of computer and final position of each selected phase were obtained on the screen and kept in pause. Further the stick figures of

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moment i.e. releasing of ball, were converted into photographs & recorded and saved for all selected subjects. The center of gravity of each subject's whole body was determined by the

Kinovea software .The selected kinematic variables such as angles at ankle joint, knee joint, hip joint, shoulder joint, elbow joint and wrist joint were obtain by measuring with the help of kinovea software.

Figure – 1

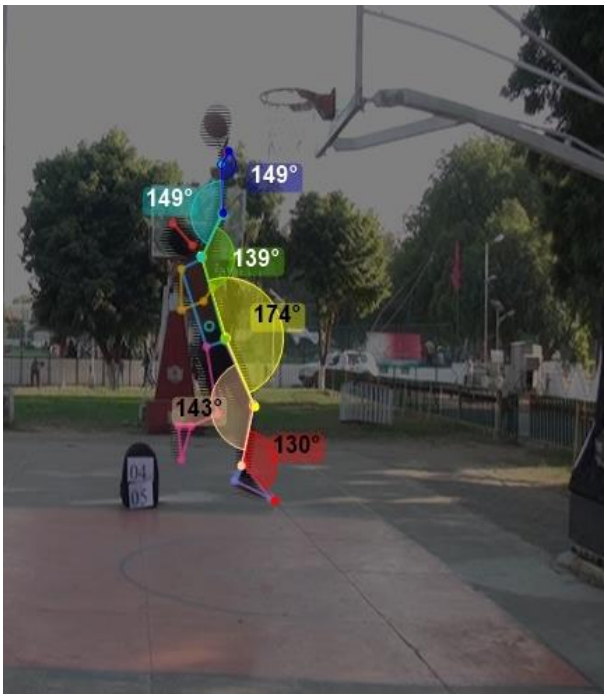
Height of ball release and height of centre of gravity of the subject at moment release in Lay-up shot

(in Meters)

Figure -3

Values of angular kinematic variables of the subject in lay-up shot at moment release

(Right extremity)



STATISTICAL TECHNIQUE

To find out the selected kinematics variables with the performance of lay-up shot, Pearson's Product Moment Correlation analysis was used. For testing the hypothesis the level of significance was set at 0.05.

RESULT

Means and standard deviations of angular kinematic variables with the performance of Lay-up shot.

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TABLE 1
MEAN AND STANDARD DEVIATION OF ANGULAR KINEMATIC VARIABLES OF LAY-UP SHOT

KINEMATIC VARIABLES	MEAN (in degrees)	STD. DEVIATION
Right ankle joint	128.20	16.09
Left ankle joint	155.80	13.40
Right hip joint	143.40	13.60
Left hip joint	168.50	24.81
Right Knee joint	161.20	15.63
Left Knee joint	211.70	40.98
Right Shoulder joint	148.90	8.01
Left Shoulder joint	24.10	14.51
Right Elbow joint	161.00	9.52
Left Elbow joint	131.90	63.10
Right wrist joint	149.00	14.20
Left wrist joint	185.40	24.65

The values of mean and standard deviation for the angular kinematic variables with the performance of Lay-up shot are shown in table-1. These values may be used for further analysis in the study.

Means and standard deviations of linear kinematic variables with the performance of Lay-up shot are presented in table 2.

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TABLE 2
MEAN AND STANDARD DEVIATION OF LINEAR KINEMATIC VARIABLE OF LAP-UP SHOT

KINEMATIC VARIABLES	MEAN (in cm)	STD. DEVIATION
Height of ball release	2.96	.13
Center of gravity	1.66	.09

The values of mean and standard deviation for the all linear kinematic variables with the performance of lay-up shot are shown in table-2. These values may be used for further analysis in the study

Relationship of selected angular kinematic variables with the performance of Lay-up shot. The score of each independent variable of angular and linear biomechanical variable were correlated with the performance of subjects in lay-up shot. The relationship of selected angular biomechanical variables at the moment release with the performance in lay-up shot as presented in table 3.

TABLE 3
RELATIONSHIP OF SELECTED ANGULAR KINEMATICS VARIABLES WITH THE PERFORMANCE OF LAY-UP

S.NO	VARIABLES CORRELATED	COEFFICIENT OF CORRELATION (r)
1	Angle at Right ankle joint	.257
2	Angle at Left ankle joint	.031
3	Angle at Right hip joint	.158
4	Angle at Left hip joint	.120
5	Angle at Right Knee joint	.053
6	Angle at Left Knee joint	.286
7	Angle at Right Shoulder joint	-.185
8	Angle at Left Shoulder joint	.458
9	Angle at Right Elbow joint	-.172

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10	Angle at Left Elbow joint	-.517
11	Angle at Right wrist joint	-.504
12	Angle at Left wrist joint	.141

r.05 (8) = 0.632

The results of above table clearly show that the angular kinematic variable does not show any significant relationship at 0.05 level of significance.

As shown in table that the values of coefficient of correlation in case of all the selected kinematic variables were found insignificant at the selected level of significant of 0.05. Since the required value of coefficient of correlation for (n-2) 8 degree of freedom is 0.632 and the obtained values of coefficient of correlation of selected variables less than the required value.
The relationship of selected linear kinematic variables is at the moment release with the performance of subjects in lay-up shot shown in table 4.

TABLE 4
RELATIONSHIP OF LINEAR KINEMATIC VARIABLES WITH THE PERFORMANCE OF LAY- UP SHOT

S.NO	VARIABLES CORRELATED	COEFFICIENT OF CORRELATION (r)
1	Height of ball release	.032
2	Height of C.G. at the moment execution	-.340

r.05 (8) = 0.632

The above results in the table indicate that the linear kinematic variable i.e. height of ball release has shown insignificant positive relationship and C.G at the moment execution has shown insignificant negative relationship with the performance of subjects in lay-up shot.

Discussion of findings

In case of ankle joint (right and left), knee joint(right and left),hip joint(right and left), shoulder joint(right and left), Elbow joint(right and left) and wrist joint(right and left) showed insignificant relationships with the performance of subjects in lay-up shot. This trend does not mean that the angle of different joints at moment release do not play important role while

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executing or performing lay-up shot. Since the researcher has calculated the relationship individually.

The relationship of selected linear kinematic variable i.e. height of ball release has shown in insignificant positive correlation and height of centre of gravity at selected moment release with the performance of subjects in lay-up shot was also found insignificant negative correlation.

As in the study the researcher was only confined to the relationship height of ball release and height of centre of gravity at moment release with the performance in lay-up shot but significant relationship may be obtained by increasing the sample size or by using sophisticated equipments.

On the whole it may be ascertained that low value of coefficient of correlation shown by selected variables does not mean that these variables are not contributing to the performance of subjects in lay-up shot.

Discussion of Hypothesis

As shown by the results of the study that none of the selected biomechanical (Kinematic) variables have shown significant relationship with the performance of subjects in lay-up shot hence the hypothesis as stated earlier that there may not be significant relationship between the selected biomechanical (kinematic) variables with the performance of basketball players in lay-up shot is accepted at the 0.05 level of significance.

Conclusions

Based on the analysis and within the limitations of the present study, following were the conclusions drawn:

1. None of the selected angular biomechanical(kinematic) variables that is Ankle Joint (Right and Left) , Knee Joint (Right and Left), Shoulder Joint (Right and Left), Elbow Joint (Right and Left) and Wrist (Right and Left), and Hip Joint (Left and Right) has significant relationship with the performance of subjects in lay-up shot.
2. In case of linear biomechanical(kinematic) variables that is height of ball release and height of centre of gravity at moment release does not have significant relationship with the performance of subjects in lay-up shot.

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A STUDY OF SELECTED FITNESS VARIABLES AND PHASE RATIOS WITH PERFORMANCE OF MALE TRIPLE JUMPERS.

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ABSTRACT
The purpose of this study was to know the importance of certain fitness variables and Phase Ratios with the Triplejump performance. Sixteen male triple jumpers of National level were selected as subjectsfor this study. Speed tests (30m, 50m), jumping ability tests (standing triple jump & Two hops and Twosteps and jump) and strength tests(Snatch, Bench press and overhead backward throw) wereAdministered to collect the data. Trials were conducted to assess the Triple Jump Performance.The result indicates that there is no relationship of 30meter run (-.382) and 50meter run (-.138)Test performances with Triple jump performance.The "r" values of 0.643 and 0.687 for Standing Triple Jump and 2 Hop- 2 Step Jumprespectively, with triple jump performance are highly significant, at 0.01 levels. Strength parametershave shown significant relationship with Triple jump performance. A highly significant relationshipbetween Snatch and triple jump performance (0.759 at $p<0.01$ level)indicates that snatch is an importantExercise to improve Triple jump performance. The mean value of Phase Ratio of Indian Triple Jumper is36.82%:29.57%:33.61% which indicates that Indians are Hop dominating jumpers.

Keywords: Relationship, ratios, motor abilities, Triple jump.

INTRODUCTION

Triple jump is one of the four jumping events in Track and Field. It is the most Challenging event and demands a well co-ordinate technique with speed, strength, Flexibility; however, the Reactive strength is one of the vital parameters in Triple jump. Such events demand a long time of systematic training for developing technical level of the skill to put it all together in a unified four phased jump .The ratio of hop, step, and jump in relation to Triple Jump performance is called Phase Ratio.

J.B. Conolly (U.S.A.) was the first Olympic winner in 1896 at Athens with a leap of 13.71m. According to "R.C.Quercentani" the first jumper to use the present form of triple jumping was Edwin Bloss (U.S.A.) who in Chicago on September 16th,1883 officially jumped 14.78m. At present the World Record stands at 18.29m in the name Jonathan Edwards of Britain, finally surpassing the 10 years old world record of William Augustus Banks of U.S.A.

Methodology

Sixteen male triple jumpers of National level were selected as subjects for this study. The data was collected in three days. The sequences of the tests for collection of data are as follows: -

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Name of the test	Measuring unit	Aim
30 m sprint	Seconds	Speed
50 m sprint	Seconds	Speed
Standing triple jump	Meters	Explosive, Leg strength
Two hop, two step and jump	Meters	Rebound strength
Snatch	Kg	Whole body strength/ explosive strength
Bench press	Kg	Arms strength
Overhead backward throw (4kg)	Meters	Upper body / arm strength

Correlation between motor abilities and phase ratios were computed to find out the relationship between selected motor abilities and phase ratios.

Results

Table -1. The Mean, S.D. and correlation (r) values of speed variable with Triple jumpperformance

Tests	Mean	S.D.	Correlation(R)
30M standing start	3.7	0.173	-.382
50M standing start	5.57	0.234	-.138

From the results of the above table it has been found that a result of 30m and 50m does not show significant relationship with performance. Negative correlation between 30m and Triple jump performance indicate that there is difference between control speed during approach run and pure speed.Though 30m shows better relationship with performance when compared with 50m test results.

TABLE -2The Mean, S.D. and correlation among jumping ability parameters with performance in Triple jump-(N-16)

Test	Mean	S.D.	Correlation(R)
Standing triple jump	9.58	0.445	0.643
2 Hop-2STEP jump	17.00	1.638	0.687

*correlation is significant at the $p<0.01$ level

Table-3. The mean, s.d. and correlation among strength parameters with triple jump performance.

Test	Mean	S.D.	Correlation(R)
Snatch	68.75	8.139	0.759**
Bench press	75.625	6.708	0.538*
Overhead backward(4kg) shot throw	19.47	1.906	0.546*

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*Correlation is significant at the p<0.05 level.
**Correlation is significant at the p<0.01 level.

Results and discussion

The different motor –abilities tests are an excellent tool for measuring the progress in training for Triple jump at all levels.The result of the study indicated that all the variables which were statistically calculated are significantly correlated with the Triple jump performance. Except 30m, 50m, and phase ratios. . The achieved values are less than the required table value .482 at p<0.05 level and .606 at p<0.01 level. Correlation between 30m and Triple jump performance indicate that there is difference between control speed during approach run and pure speed .The 30m shows better relationship with performance (.382) in comparison to 50 m run (.138)

Training implications

- On the basis of the present study the following training implications are suggested for improving the performance of Indian male triple jumpers:-
- It is suggested that a special attention should be given in yearly training programme for the development of speed and phase ratio.
- The knowledge and importance regarding Phase ratio should be passed on to students from early stages.
- The training of phase ratio should be practically implemented at early stage to the athletes.
- The present trend regarding the ratio should be taken in to consideration to achieve high level of performance.
- It is suggested that to get proper phase ratio the training should be imparted through control ratios.
- It is suggested that a systematic training programme should be made to develop the specific strength parameters and technical aspect of jumper.

Conclusion

The result of this study shows that:

- Thestanding Triple jump and 2 hop 2 step jump have shown significant correlation with
- Triple jump performance.
- Snatch ,Bench Press and overhead backward throw show significant correlation to the
    - Triple jump performance.
- 30mts, 50mts, and hop, step, jump ratios have not shown significant correlation, and it may be due to difference in training years.
- The result proves that Indian Male Triple jumpers fall in the Hop dominating ratio.

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DEVELOPMENT OF NORMS OF MAXIMAL OXYGEN UPTAKE (VO_2MAX.) AS AN INDICATOR OF AEROBIC FITNESS OF MALE YOUTH OF DELHI

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ABSTRACT

The aim of the study was to develop norms in regard to the Maximal Oxygen Uptake (VO_2Max.)of male youth of Delhi. The study was conducted on seventy five healthy male youth of Delhi(attitude: 744feet/127 meters). The age of the subjects ranged from 17 to 25 years. The youth were administered with submaximal bench step test (American College of Sports Medicine Protocol) to estimate the VO_2 max.by plotting HR-workload combinations calculated by Karvonen heart rate reserve method. Data was collected using Cardio-Sport heart rate monitor and step test protocol. The selected variables were Age in years, Body weight in kilograms (B.Wt.), Height in centimeters (Ht.), Resting Heart Rate (HRrest), Target Heart Rate (THR), Maximal Heart Rate (HRmax.), Heart Rate at Two minutes of step testing with cadence 15 steps/min (ExHR2), Heart Rate at Four minutes of step testing with cadence 20 steps/min (ExHR4) and Heart Rate at Six minutes of step testing with cadence 30 steps/min (ExHR6),(As per the formula advocated by American College of Sports Medicine). The collected data was computed with mean, standard deviation,six sigma scale and chi square usingSPSS.The study concluded that the developed scale is good normative in reference to Delhi youth in regard to their VO_2 max.(Aerobicfitness).

Keywords: - Maximal Oxygen Consumption (VO_2 max.), Heart Rate, Step testing, Aerobic Fitness

INTRODUCTION

VO_2 max. also known as maximal oxygen consumption/maximal oxygen uptake/peak oxygen uptake or maximal aerobic capacity is the maximum rate of oxygen consumption as measured during incremental exercise, most typically on a motorized treadmill or on a bench step test (Dlugosz 2013).VO_2 max is expressed either as an absolute rate in (for example) liters of oxygen per minute (L/min) or as a relative rate in (for example) milliliters of oxygen per kilogram of body mass per minute (e.g., ml//kg/min). The latter expression is often used to compare the performance of endurance sports athletes. However, VO_2 max generally does not vary linearly with body mass.(Wikipedia,July 2017).

VO_2max.is the very important determinant of cardio-respiratory fitness and aerobic performance.VO_2 max (ml/min/kg) is a measure of the maximum amount of oxygen that one use during intense physical activity. This measurement determines fitness level by calculating how efficiently cells use oxygen for energy (Tipton,1977). There are several methods one can use to

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measure VO_2 max, but many require sophisticated equipment such as a treadmill or a specially calibrated exercise cycle withcalorimetry/spirometery/gas analyzer.The step test with heart rate recordings is quickest, easiest and safest as well as feasible way to measure one's VO_2 max taking in consideration the Karvonen formula for a step testing protocol and sub maximal exercise heart rate(Practical Math for Health Fitness Professionals, 1996).

The requirement or adaptation of VO2 Max. for different games and sports or physical activity are different.The following tables (table 1 and table 2) show the value and the norms for VO2 max. for different games, sports or physical activity respectively.

Table 1

VO2 Max. Values for Males and Females for Different Games and Sports

S.No	Game/Sports/Physical Activity	Age Category	Male (VO2 max.)	Female (VO2 max.)
1	Baseball/Softball	18-30	40-56	52-57
2	Basket ball	18-30	40-60	43-60
3	Bicycling	18-30	62-74	47-57
4	Football	20-35	42-60	-
5	Hockey	20-35	50-60	46-60
6	Swimming	10-25	50-70	40-60
7	Track and Field	18-30	60-85	50-75
8	Volley Ball	18-25	40-52	40-56
9	Cricket	18-30	40-54	46-52
10	Weight lifting	18-30	38-52	-

Source:VO2 max.norms were adopted from Astrand:ACTA Physiol Scand.49(Suppl):169,1960

Table 2

VO2 Max. Norms Chart

AGE	Women	Low	Fair	Avg.	Good	High	Athletic	Olympic
	20-29	<20	29-34	35-43	44-48	49-53	54-59	60+
	30-39	<27	28-33	34-41	42-47	48-52	53-58	59+
	40-49	<25	26-31	32-40	41-45	46-50	51-56	57+
	50-65	<21	22-28	29-36	37-41	42-45	46-49	50+
	Men							
AGE	20-29	<38	39-43	44-51	52-56	57-62	63-69	70+
	30-39	<34	35-39	40-47	48-51	52-57	58-64	65+
	40-49	<30	31-35	36-43	44-47	48-53	54-60	61+
	50-59	<25	26-31	32-39	40-43	44-48	49-55	56+
	60-65	<21	22-26	27-35	36-39	40-44	45-49	50+

Note: VO2 is expressed as milliliters of oxygen per kilogram of body weight per minute
Source:VO2 max.norms were adopted from Astrand:ACTA Physiol Scand.49(Suppl):169,1960

Recent research revealed that the Queens College step test provides a valid estimate of VO2max. Steptest performance at 3800 meters was reduced by 11% compared to sea level, whereas no change wasobserved at 2040 meters. These data corroborate previous findings that indicate a threshold at whichaltitude adversely affects aerobic capacity (Tiaira Bates,2015).

Healthy high altitude dwellers show excellent adaptation to their environment. These adaptations are likely to be associated with altered gene expression as the expression of genes associated with vascular control and reactions to hypoxia have been found to be high in altitude dwellers

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(Appenzeller 2006).Blood volumes are larger in high altitude dwellers. This is due to a large packed cell volume whereas at sea levels plasma volume was found to be large. Probably as the result of the large blood volumes, tolerance to orthostatic stress was greater than that in sea-level residents (Claydon, 2005).

It is summarized that at altitudes over 5000 feet (1524 meters), the ability to perform physical work is decreased due to hypoxia (lowered PO_2). However, physical performance at moderate altitude may sometimes be improved with continued stay at altitude due to the acclimatization process. This involves: (1) increased pulmonary ventilation (hyper ventilation), (2) increased red blood cells and hemoglobin concentrations, (3) elimination of bicarbonate (HCO_3) in the urine and (4) in those chronically exposed to altitude, tissue level changes. Increased physical fitness does not alone acclimatize the individual to altitude (Houmard,1991).

METHODOLOGY

The study was conducted on seventy five healthy male subjects of delhi(altitude: 744feet/1850 meters). The age of the subjects ranged from 17 to 25 years. The youth were administered submaximal bench step test to determine the VO2 max. by plotting HR-workload combinations calculated by Karvonen heart rate reserve method. The following physical variables and supportingcardio-circulatory variables were selected for measurement of VO2Max:Age in years, Body weight in kilograms (B.Wt.), Height in centimeters (Ht.), Resting Heart Rate (HRrest), Target Heart Rate (THR), Maximal Heart Rate (HRmax.), Heart Rate at Two minutes of step testing with cadence 15 steps/min (ExHR2), Heart Rate at Four minutes of step testing with cadence 20 steps/min (ExHR4) andHeart Rate at Six minutes of step testing with cadence 30 steps/min (ExHR6),(As per the formula advocated by American College of Sports Medicine).

Findings and Results

The statistical analysis was descriptive statistics (Mean and standard deviation), 6 sigma scale and chi-square using SPSS.

Table-3
Descriptive Statistics of Physical Data of the Subjects of Delhi Male Youth

Age (Yrs)*	Weight(Kg)*	Height(cm)*
19.97±2.04	64.04±10.31	171.66±8.18

N=75 * the numbers are expressed as mean±SD

Table-4
Descriptive Statistics of Maximal Oxygen Uptake (VO2 max.) of Delhi Male Youth

Variables	Gender	Mean	SD
VO2max.*	Male	50.76	4.12

N=75, * VO2 is expressed as milliliters of oxygen per kilogram of body weight per minute (ml/kg/min).

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Six Sigma Scale of Maximal Oxygen Uptake (VO_2 max.) of DelhiMale Youth

Six Sigma Scale	VO2max	Six Sigma Scale	VO2 max	Six Sigma Scale	VO2 max	Six Sigma Scale	VO2 max
100	62.76	75	56.76	50	50.76	25	44.76
99	62.52	74	56.52	49	50.52	24	44.52
98	62.28	73	56.28	48	50.28	23	44.28
97	62.04	72	56.04	47	50.04	22	44.04
96	61.8	71	55.8	46	49.8	21	43.8
95	61.56	70	55.56	45	49.56	20	43.56
94	61.32	69	55.32	44	49.32	19	43.32
93	61.08	68	55.08	43	49.08	18	43.08
92	60.84	67	54.84	42	48.84	17	42.84
91	60.6	66	54.6	41	48.6	16	42.6
90	60.36	65	54.36	40	48.36	15	42.36
89	60.12	64	54.12	39	48.12	14	42.12
88	59.88	63	53.88	38	47.88	13	41.88
87	59.64	62	53.64	37	47.64	12	41.64
86	59.4	61	53.4	36	47.4	11	41.4
85	59.16	60	53.16	35	47.16	10	41.16
84	58.92	59	52.92	34	46.92	9	40.92
83	58.68	58	52.68	33	46.68	8	40.68
82	58.44	57	52.44	32	46.44	7	40.44
81	58.2	56	52.2	31	46.2	6	40.2
80	57.96	55	51.96	30	45.96	5	39.96
79	57.72	54	51.72	29	45.72	4	39.72
78	57.48	53	51.48	28	45.48	3	39.48
77	57.24	52	51.24	27	45.24	2	39.24
76	57	51	51	26	45	1	39

N= 75

According to table-5,the 100 point of six sigma scale documented 62.76 ml of oxygen/kg/min, the 90 point documented 60.36 ml/kg/min, the 80 point documented 57.96 ml/kg/min, the 70 point documented 55.56 ml/kg/min, the 60 point documented 53.13 ml/kg/min, the 50 point documented 50.76 ml/kg/min, the 40 point documented 48.36 ml/kg/min, the 30 point documented 45.96 ml/kg/min, the 20 point documented 43.56

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ml/kg/min, the 10 point documented 41.16 ml/kg/min and the 01 point documented39.00ml/kg/min.

Table-6
Grading of Maximal Oxygen Uptake (VO_2 max.) in Six Sigma of Delhi Male Youth

Grade (N=75)	Minimum Value	Maximum Value	Frequency Distribution	Chi-square
Excellent	57.6	62.5	3	9.60*
Above Average	52.6	57.5	23	4.26*
Average	47.6	52.5	28	11.26*
Below Average	42.6	47.5	19	1.06*
Poor	38.6	42.5	2	11.26*

According to table-6,a subject score VO_2max. between 62.5 and 57.6 will be considered as Excellent, a subject score VO_2max. between 57.5 and 52.6 will be considered as above average, a subject score VO_2max. between 52.5 and 47.6 will be considered as Average, a subject score VO_2max. between 47.5 and 42.6 will be considered as Below average and a subject score VO_2max. between 38.6 and 42.5 will be considered as poor. The chi-square demonstrated asymmetric distribution among the grades, descending towards both sides thus supporting normal distribution. Highest frequency w2as observed at average grade followed by above average, below average,excellent and poor. The findings have been graphically illustrated in figure-1 below:

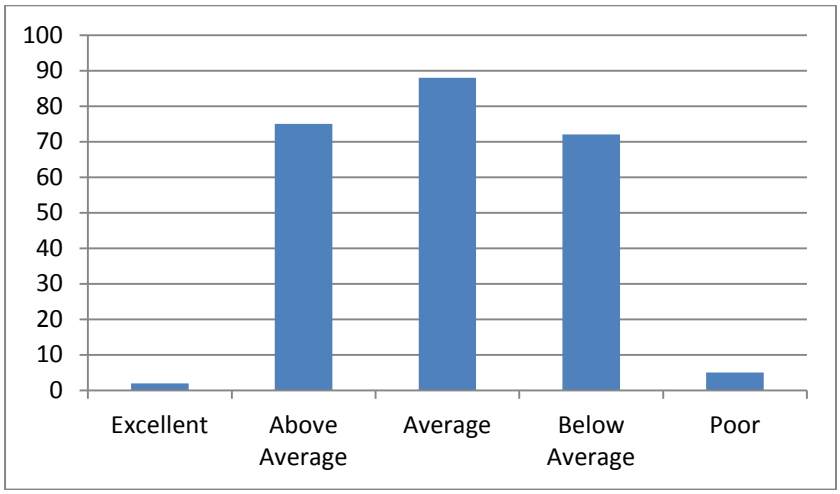

Figure 1:Plotting ofFrequency in Selected Grades

CONCLUSIONS

- A 100 point 6 sigma scale has been developed in reference to VO_2max for habitat of Delhi youth for aerobic fitness evaluation.
- A grade scale with grades as Excellent, Above Average, Average, Below Average and Poor has been developed for Delhi youth in reference to their VO_2max. for aerobic fitness grading.

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- The developed scale/ norms/grades are good normative reference for Delhi youth in regard to their VO_2 max (Aerobic fitness).

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PSYCHOLOGICAL PROFILES ICE HOCKEY PLAYERS OF JAMMU AND KASHMIR: A DESCRIPTIVE STUDY

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ABSTRACT:-
The purpose of the Psychological Profiles Ice Hockey Players of Jammu and Kashmir: Total number of 100 senior & Junior national level male ice hockey player were selected as subject. To compare the psychological profile of Senior & Junior national level players the subject were the teams members of Jammu & Kashmir state of India who participated in Senior & Junior national level ice hockey tournament 2010-2012 Helsd in loach (kargil & Leh). For the collection of data scholar requested the coaches and the team managers of participating teams of ice hockey clubs. Study was undertaken to assess the relationship between the psychological profiles of ice hockey players. The subjects were the range of 16-28 years of ages as a result no difficulty were in countered in administering the psychological inventories & Questionnaires as all were relevant to the 15+ ages groups. For the purpose of the study, the subjects were consider is as the true representative of the entire male Senior & junior ice hockey tournament the psychological variables were selected to prepare the psychological profile of senior & junior national level ice hockey players the purpose of the study. To proper psychological profile of senior & junior national ice hockey players following questionnaires / apparatus were used.

Keyword:- Psychological profile of SCAT, Achievement motivation, personality, Visual perception of ice hockey players of J & K.

INTRODUCTION

Ice Hockey is that is gaining popularity in India. Ice hockey is played mostly in place like shamila , ladakh and Kashmir in the north of the India. Were cold weather occurs and the game can be played outdoors. There are few artificial indoor ice skating rings in the rest of the country. Sports are a psycho-social activity. In has a both psychological and social dimension, besides physical, psychological and technical aspects. In this modern era of competition, the psychological preparation of a team is as much important as teaching the different skills of a game on the scientific line the teams are prepared not only to play the games, but to win the games. High achievement sports have developed internationally into economically significant phenomenon. The study of effect of anxiety on sports performances has become a major topic interest to sports psychologists in recent years. The degree of perceived anxiety is an important variable to be considered in the performance of an individual. The psychological principles to the improvement of performance in sports have received greater attention in these days. There are certain excepted psychological principals which have to be applied so that the athletes and players are able to show their best in their performances.

METHODOLOGY

A total number of 100 professionals male ice hockey players of national level players from Ladakh of Leh & Kargil were selected as the subjects for the study. All the participants were informed verbally and in written about the nature and demand of the study. They were informed that they could withdraw from the study at any time even after given their concern in the overall study all the subjects were informed primly before talking the data. The entire subjects reported

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at 9am in the examination area. They were fully relaxed motivational technique was given to the subjects. Some of the psychological profile test of this study describe as under.

HYPOTHESIS;-

1. There will be no significance difference of sports competitive anxiety senior & junior national level ice hockey players.
2. There will be no significance level correlations between Rio achievement motivation in national level senior & junior national ice hockey players.
3. There will be no significance correlation between visual perception in senior & junior national level ice hockey players.

Procedure: The study was selected the sample of 100 senior & junior ice hockey national level players describe the selection of subject, selection of variable procedure of collecting data, reliability of data, instrument reliability, subject reliability, administration/ test and statically analysis are presented. **Tools:-** (SCAT) anxiety constructed by Marten (1997) Rio motivation constructed by Dr.D.Gopal Rao (1974), Eysenck's Personality constructed by Maudsley (1953), visual perception constructed by Muller lyer (1989),

Results and Conclusion;- the data in the present study is categorized and analyzed statically with the view to crystallize the psychological profile of junior national level male ice hockey players as well to compare psychological profile of senior national of male ice hockey players. Data pertaining to male junior national level is discussed and secondly psychological status of the senior national ice hockey players has been compared with the randomly selected sample of national players and group profile are prepared spritely. To prepare the psychological profile of junior national Ice hockey players Mean and standard deviation were calculate.

Table 1
Mean and SD of Jr. National Level Ice Hockey Players on Selected Psychological Variable

No of Subjects	Variables	Mean	Standard Deviation
100	1 Anxiety	24.82	+ _ 6.28
	2 Personality (A) Psychoticism (B) Extraversion (C) Neuroticism (D) Lie Scale 3 Achievement Motivation	 6.04 11.29 11.68 11.13 37.71	 + _ 3.34 2.52 + _ 3.43 3.17 + 5.96
	4 Visual Perception	53.45	+ _ 1.15

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Table 2

Mean score and Standardized Interval of All Test for Jr. Ice Hockey National Level Players

	SCA	P	E	N	L	AM	VP
Very High	30	11	16	17	16	43	58
High	29	10	15	16	15	42	57
Medium High	27	8	13	14	13	40	55
Mean	25	6	11	12	11	38	53
0.5 SD	2	2	2	2	2	2	2
Medium Low	23	4	9	10	9	36	51
Low	21	2	7	8	7	34	49
Very Low	20	1	6	7	8	33	48

The same procedure was also applied in this study in order to standardized the interval for all test mean score an SDs in respect of the total sample of 100 Ice Hockey players were computed and by adding .5SD to the rounded of mean in each case the discussion of two group profiles are done strictly with the reference to these standardized intervals rather than the norms given by various researchers for their respective testes each of the profile group had been prepared carefully after analyzing the relative level of strength on particular test ranging from very high to very low.

Table 3

Psychological profile of Senior National level Ice Hockey Players

SCA	P	E	N	L	AM	VP
25	5	11	11	11	38	54
Ave	Low	Ave	Ave	Ave	Ave	Ave

The mean of various selected psychological profile of senior National level Ice Hockey players of present study average on sports competitive anxiety, personality dimensions players such as psychoticism was moderately low the senior player were average in extroversion, neuroticism and also on lie scale. This sugestes that low anxiety and neuriticism are pre requisites foe success in Ice Hockey player. They tend to be average in extroversion which indicates the sense of confidence and ability of maintaining and consolidating inter personal relations with team mates and friends.

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Table 4

Psychological profile of Junior national level Ice Hockey Players

SCA	P	E	N	L	AM	VP
25	6	11	12	11	38	53
Ave	Low	Ave	Ave	Ave	Ave	Ave

The mean of various selected psychological profile of Junior national level Ice Hockey players of the present study the personality dimensions of junior national Ice Hockey players such as psychoticism was moderately low in personality characteristics such as a group the national players were average in extroversion, neuroticism and also on lie scale. This suggests that low anxiety and neuroticism are pre-requisite for success in junior level Ice Hockey players. The junior national level Ice Hockey players as a group was average in sports competitive anxiety & achievement Motivation, suggesting higher level of self-confidence, lower relaxation usage and greater imagery and self talk uses.

Table 5

Comparison of selected psychological Variables between Senior & Junior National Level Ice Hockey Players

VARIABLES	MEAN		STANDARD DEVIATION		T-ratio
	SENIOR (10	JUNIOR (10)	SENIOR (10)	JUNIOR (10)	
SCA	2.66	2.66	7.4	8.37	0.88
P	5.33	5.00	3.05	3.24	0.79
N	11.5	11.58	2.57	2.19	0.93
E	10.66	10.00	3.05	5.54	0.56
L	10.83	10.33	3.48	4.54	0.76
AM	38.08	31.00	7.36	7.78	0.03
VP	54.14	53.86	1.82	2.63	0.76

Finally from the above finding and discussion, it may be concluded that the remarkable feature of both senior & junior national level Ice Hockey Players have moderate to average level of sports competition anxiety. They both are low on psychoticism and average in extroversion and neuroticism as for as personality characteristics are considered. Both senior & junior national level ice hockey players possess average level of achievement motivation and are also average in visual perception. Based on the above facts it may be established that junior ice hockey players are moderately extrovert with average in sports competitive anxiety and moderate achievement motivation which lead to success in ice hockey.

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CONCLUSION

Within the limits and limitation of the present study and on the bases of results of the study the following conclusion may be drawn

1. The mean score of junior national ice hockey players on sports competitive anxiety was 24.82 with standard deviation of 6.26.
2. The mean scores of difference dimension of personality (E,P,N,L) were 6.06, 11.29,11.68, 11.13 and standard deviation were 3.34, 2.52, 3.43, and 3.17 respectively.
3. The mean score of achievement motivation was 37.7, with standard deviation of 5.96.
4. The mean score of visual perception was 53.45 with standard deviation of 1.15
5. The junior national level ice hockey players were found to be average on sports competitive anxiety.
6. The personality dimension of junior national ice hockey players such psychoticism was found to be low, extraversion was found to be average, neuroticism was found to be average and on lie scale it was found to be average
7. The achievement motivation of junior national ice hockey players was found to be average
8. The visual perception of junior national ice hockey players was found to be average
9. No statistical significance difference were found between senior & junior national level ice hockey players for the selected psychological profile as the obtained 't' value for anxiety (0.88), psychoticism (0.79), extroversion (0.93), neuroticism (0.56) lie (0.76]) achievement motivation (0.03) and visual perception (0.76) were below the tabulated 't' value of 2.074

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