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International Journal of Health, Physical Education and Computer Science in Sports is multidisciplinary peer reviewed journal, mainly publishes original research articles on Health, Physical Education and Computer Science in Sports, including applied papers on sports sciences and sports engineering, computer and information, health managements, sports medicine etc. The International Journal of Health, Physical Education and Computer Science in sports is an open access and print international journal devoted to the promotion of health, fitness, physical Education and computer sciences involved in sports. It also provides an International forum for the communication and evaluation of data, methods and findings in health, physical education and computer science in sports. The Journal publishes original research papers and all manuscripts are peer review. . Index Journal of Directory of Research Journal Indexing.The Indian Federation of Computer Science in Sports has been set up the objectives of Dissemination of scientific knowledge concerning computer science in sport and Physical Education.Providing a forum for the exchange of ideas among the Physical Educationists,Coaches,Sports Experts Etc.

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Perfectionism and Trait Anxiety: Comparison between Individual and Team Level Athletes

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Abstract
Trait anxiety is an experience of anxiety over a long period of time towards the stressful environments. Research has revealed that the performance of sports person was much affected by anxiety (Esfahani & Soflu, 2010). However, some researchers have recognized adaptive perfectionism as a key characteristic to achieve elite performance in sports (Gould, Dieffenbach, & Moffett, 2002). The purpose of the present study was twofold (i) to compare the trait anxiety and perfectionism between individual (N=150) and team (N=150) athletes of Kolkata and (ii) relationship between trait anxiety and perfectionism. Total mean score for the athletes' ages was 20.51 years, ranging from 18 to 23 years (SD=2.85). To measure trait anxiety "*The State-Trait Anxiety Inventory"* of Speilberger (1970) was considered and for perfectionism "*Sport-multidimensional perfectionism scale"* devised by Dunn, Causgrove Dunn & Syrotuikm (2002) was used. The data was analyzed and compared with the help of standard statistical procedures in which mean, standard deviation, 't' test and Pearson's Product moment Correlation of Coefficient were used. Result of the study revealed no significant difference between individual and team athletes in regard to trait anxiety and perceived parental pressure. Significant difference was found between individual and team athletes with respect to personal standards, concern over mistakes and perceived coach pressure. Significant negative correlation was found between setting personal standard and trait anxiety for individual athletes. Concern over mistakes, perceived parental pressure and perceived coach pressure were positively and significantly related with trait anxiety for both groups.
Key words: Trait Anxiety, Perfectionism, Individual athletes, Team athletes. Perfectionism and Trait Anxiety: Comparison between Individual and Team Level Athletes

Introduction

Anxiety is one of the most critical problems in modern sports psychology (Athan & Sampson, 2013). Anxiety is an unpleasant state of inner turmoil, often accompanied by nervous behavior. Generally, psychologists divide anxiety into two different components such as trait and state component. State Anxiety" is conceptualized as a transitory level of anxiety, which is often determined by situations, and fluctuates with time and circumstances, whereas, "Trait Anxiety" is regarded as a latent predisposition, which is relatively stable and can be triggered by appropriate stimuli. This is considered as basic anxiety level and is also similar to a personality variable (Jarvis, 2006; Wann, 1997).

Research has revealed that the performance of sports person was much affected by anxiety (Esfahani & Soflu, 2010). However, some researchers have recognized adaptive perfectionism as a key characteristic to achieve elite performance in sports (Gould, Dieffenbach, & Moffett, 2002), others identify perfectionism as a maladaptive characteristic that undermines, rather than helps athletic performance and thus represents an obstruction to athletic development (Flett & Hewitt, 2005; Hall, 2006). Perfectionism is a personality trait characterized by striving for flawlessness and setting of excessively high standards for performance accompanied by tendencies for overly critical evaluations of one's behavior (Flett & Hewitt, 2002; Frost, Marten, Lahart, & Rosenblate, 1990). Perfectionism, however, is a multidimensional and multifaceted characteristic (Benson, 2003). Two major dimensions of perfectionism need to be differentiated (Frost et al.,1993; Stoeber & Otto, 2006). The first dimension has been described as positive striving perfectionism (Frost et al., 1993) and captures those facets of perfectionism that relate to perfectionistic striving, having perfectionistic personal standards, and setting exacting standards for one's

performance. The second dimension has been described as self-critical perfectionism (Dunkley, Zuroff, & Blankstein, 2003) and captures those facets of perfectionism that relate to critical self evaluations of one's performance, feelings of discrepancy between expectations and results, perfectionistic concern over mistakes and others' high expectations, and fears that others' acceptance is conditional on one's being perfect. Frost and Henderson (1991) investigated perfectionism and competitive anxiety in female college athletes and results showed that overall perfectionism was positively correlated with competitive anxiety. When facets of perfectionism were inspected, concern over mistakes was positively correlated with anxiety and personal standard was unrelated to anxiety. Hall et al. (1998) investigated perfectionism and competitive anxiety of college athletes and results revealed that overall perfectionism showed positive correlation with competitive anxiety. At the facet level, only concern over mistakes showed only positive correlation with cognitive anxiety. Koivula et al. (2002) showed that positive perfectionists (high on personal standards and low on concern over mistakes) showed lower cognitive and somatic anxiety than both negative perfectionists (low on personal standards and high on concern over mistakes) and overall perfectionists (overall high on perfectionism). It has also been found that, competing as individual or team sports moderate the anxiety levels when the competition approaches. Previous literatures reported that state anxiety were higher in individual sport compared to team sport participants (Craft, Magyar, Becker, & Feltz, 2003; Han et al., 2006; Martens et al., 1990; Martin & Hall, 1997; Simon & Martens, 1979; Zeng, 2003). In individual sports, athletes depend on their abilities and spend more time alone in practicing while in group sports, performance depends on teammates' performances and spend more time in practicing with teammates and have more interaction peers. Erdogan, Kolayis & Fonseca (2010) suggested that the trait anxiety is significantly higher among of individual sportswomen as compared to team sportswomen. Consequently, it may be assumed that individual sports athletes are much more concerned about their mistakes and personal standards as compared to group sports athletes. There is currently a lack of research examining the relationship between perfectionism and anxiety in individual and team sport. Keeping in mind the above research gaps, the following objectives are proposed:

To determine the trait anxiety and perfectionism among individual athletes.
To determine the trait anxiety and perfectionism among team athletes.
To compare the trait anxiety and perfectionism of individual and team athletes.
The relationship between trait anxiety and perfectionism.

Methodology

Subjects:The participants of the present research are 300 male athletes (150 team players in volleyball, cricket and football) and (150 individual players in table tennis, badminton, and swimming) who participated in a recognized state and university level championship. Total mean score for the athletes' ages was 20.51 years, ranging from 18 to 23 years (SD=2.85). The method used for sampling is stratified sampling and the stratification was done based on the type of sports i.e. individual or team. 150 subjects were selected randomly from each type of sports.

Tools:

The following tools were used in the present study:

The State-Trait Anxiety Inventory (Speilberger, 1970): The State-Trait Anxiety Inventory is a 40 item questionnaire which provides separate measures of state and trait anxiety with 20 questions each. The trait measure reflects the general tendency for experiencing anxiety, while state anxiety is a measure of the intensity of anxiety, experienced at the time of assessment. For the purpose of the present research, only trait anxiety questions are administered on athletes. The scores range from 20-80, with higher scores indicating higher level of anxiety. Cronbach alpha was 0.69 for trait anxiety.

Sport-multidimensional perfectionism scale (Sport-MPS): This scale was developed by Dunn, Causgrove Dunn & Syrotuikm (2002). The Sport-MPS contains 30 items and 4 subscales. The subscales are labelled Personal Standards (PS: 7 items), Concern Over Mistakes (COM: 8 items, Perceived Parental Pressure (PPP: 9 items), and Perceived Coach Pressure (PCP: 6 items,). The instrument is designed to measure how athletes view certain aspects of their competitive experiences in sport. Athletes rate the extent to which they agree with each of the 30 items using a 5-point Likert-type scale (1 = strongly disagree; 5 =strongly agree). Item scores are averaged within each subscale, with higher scores reflecting higher levels of perfectionism on each dimension. Cronbach alphas were 0.75 for concern over mistakes, 0.70 for personal standards, 0.68 for perceived parental pressure and 0.71 for perceived coach pressure.

Procedure: Following ethics approval from the institutional research ethics board, coaches were contacted to obtain permission to approach their athletes for participation in the study. The athletes' participation was voluntary, written informed consent was obtained from each individual prior to data collection, and the athletes' anonymity was ensured. Participants were asked to complete the *Sport-MPS* and *the State-Trait Anxiety Inventory (STAI).*

Statistical Technique: Mean and standard deviation of different variables were calculated. The data of the selected variables were analyzed through standard Statistical procedure. The mean of different variables were compared by using t- test. Pearson's Product moment correlation coefficient was also used.

Results

Mean and standard deviation scores for perfectionism and trait anxiety of individual and team level athletes were computed and presented in Table 1.

Table 1: Descriptive Statistics of trait anxiety and perfectionism

Variables	Type of sports	Range of scores	Mean	Standard Deviation
Trait anxiety	Individual	20 - 80	52.08	2.08
	Team		51.68	3.89
Personal Standard (PS)	Individual	7 - 35	32.08	3.92
	Team		28.74	3.09
Concern over Mistakes (COM)	Individual	8 - 40	34.78	4.38
	Team		29.89	3.98
Perceived Parental Pressure (PPP)	Individual	9 - 45	26.77	5.26
	Team		26.08	4.83
Perceived Coach Pressure (PCP)	Individual	6-30	23.40	2.67
	Team		20.08	3.56

Table 1 presents means and standard deviations for the variables of trait anxiety, personal standards, concern over mistakes, perceived parental pressure and perceived coach pressure of individual and team athletes. Except in case of perceived parental pressure, mean scores of other variables vary from moderately high to high.

In order to find out the significant difference between individual and team athletes with respect to variables under study, independent t tests were carried. Results reveal that individual athletes are significantly higher on personal standard [$t(298) = 8.20$; $p<0.01$], concern over mistakes [$t(298) = 10.12$; $p<0.01$] and perceived coach pressure [$t(298) = 9.14$; $p<0.01$] than team athletes.

In an effort to determine the relationship between trait anxiety and perfectionism, Pearson's Product moment Correlation of Coefficient was carried out between different dimensions of perfectionism and trait anxiety and the results are presented in table 2.

Table.2: Pearson's Product moment correlation coefficients between scores in dimensions of perfectionism and trait anxiety of individual and team athletes.

Dimensions of perfectionism	Individual (N=150)	Team (N=150)
Personal Standard (PS)	-0.59**	-0.09
Concern over Mistakes (COM)	0.31**	0.13*
Perceived Parental Pressure (PPP)	0.35**	0.12*
Perceived Coach Pressure (PCP)	0.38**	0.14*

Note: * Significant at 0.05 level and ** Significant at 0.01 level

As indicated in Table 2, for individual athletes, there was significant negative correlation between setting personal standard and trait anxiety. As personal standards increased, trait anger decreased. Concern over mistakes, perceived parental pressure and perceived coach pressure were positively related with trait anxiety for both groups. As concern over mistakes, perceived parental pressure and perceived coach pressure, so did the trait anxiety of individual and team athletes.

Discussion

The objective of the study was to examine whether the individual and team athletes differ with respect to trait anxiety and perfectionism and the relationship between trait anxiety and perfectionism. Findings

suggested that trait anxiety was slightly higher among individual athletes compared to team athletes. This may be due to the fact that in individual sports, athletes may become more anxious about their performances and judgments made by others while in team sports their performances are affected by their team members. This finding is partially corroborated by the findings of Erdogan, Kolayis & Fonseca (2010) which suggested that individual athletes were significantly higher on trait anxiety than team athletes. Findings also showed that individual athletes significantly differ in concern over mistakes, perceived parental and coach pressure than their team counterparts. In team sports the accountability of a player is less than an individual sports because spectators will evaluate the performance of a team not a single player and consequently individual athletes as well as their coaches are much more worried about their mistakes than team athletes. The relationships between trait anxiety and concern over mistakes, perceived parental pressure and perceived coach pressure are negative and significant for both the groups. Interesting this negative relationship is more prominent in case of individual athletes. This may suggest that in individual sports, the athlete is more engaged in their own skills and abilities and is always under tremendous pressure of parents and coach so that he/she can perform in perfect way without making any mistakes. This constant pressure from parents and coach is not that much evident in case of team players as they are performing in a team where all players are responsible for success of the team. The relationship between personal standard and trait anxiety is found to be negative and significant only in case of individual athlete where as it is not significant for team athletes. The probable reason is that personal standard, a dimension of positive perfectionism (Ram, 2005), reflects setting standards by an individual which allows individuals to perform sports skills more effectively by keeping their usual anxieties and worries to a controllable point. This explanation is more applicable to individual sports than team sports because in individual sports athletes have to set their personal standards in order to achieve goal while in team sports, goal is achieved through collective effort.

The limitation of the present study is that it is largely co relational and an experimental design would help to determine the direction of any causal relationship that exists. Another limitation of the study is the sample selection which is confined to male athletes of Kolkata. The credibility of the results will be enhanced by selecting both male and female athletes from different parts of the country. In spite of having limitations, the results of the present study have significant implications. Too much concern over mistakes, parental and coach pressure will heighten the level of trait anxiety. Parents and coaches should keep in mind that in order to increase confidence among athletes, structure problem solving strategy should be used which will facilitate their cognitive process of setting reasonable standard. This will also help them to judge success not in absolute terms and decrease their anxiety level. It should be kept in mind that no one is perfect on this world and a person learns from his mistakes.

Conclusion

On the basis of the obtained results from the present study it may be concluded individual athletes differed significantly with respect to personal standard, concern over mistakes and perceived coach pressure from team athletes. The finding also suggests that there was a significant negative correlation between setting personal standard and trait anxiety for individual athletes but not for team athletes. Concern over mistakes, perceived parental pressure and perceived coach pressure were positively related with trait anxiety for both individual and team athletes.

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A Study of Effectiveness of Yoga Training Programme on the Mental Health of the Trainees

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Abstract:
The aim of the present study was to know the effectiveness of yoga training programme on the mental health of the trainees. The sample consisted of 100 trainees of year 2012-2013 from T. N. Rao College of teacher education, Rajkot district. The subjects were selected through purposively sampling method. 50 subjects were assigned to an experimental group and 50 subjects were assigned to control group. There would be hypothesized that, there is no significant difference in the score of mental health of both the groups.The experimental group was administered yoga training programme (6 days in a week) for a period of 8 weeks. There was no practical training given to control group. Before and after training of yoga, mental health was measured by mental health questionnaire. Results show that there was significant difference between experimental group and control group.
Key Words: Yoga, Mental Health

Introduction:
Mental health is a psychological state of someone who is functioning at a satisfactory level of emotional and behavioral adjustment. The mental health can be defined as adjustment of individuals to themselves and the world at large with a maximum effectiveness and socially considerate behavior and ability effacing and accepting the realities of life**.** The problem of mental health is a vital problem of modern world. The main purpose of the present study was to find out effect of yoga on students mental health.

Statement of problem:
The statement of problem was that, "A study of effectiveness of yoga training programme on the mental health of the trainees".

Objectives of the study:
The aim of the study was to examine the effectiveness of yoga training programme on the mental health of the trainees.

Hypothesis:
There is no significant difference in the score of mental health of both the groups.

Population:
In present study, the students of teacher education college of Rajkot city have been included in the population.

Sample:
The sample consisted of 100 trainees of year 2012-2013 from T. N. Rao College of teacher education, Rajkot district. The subjects were selected through purposively sampling method. They were divided equal into two equal groups through randomly sampling method. 50 subjects were assigned to an experimental group and 50 subjects were assigned to control group.

Variables include study:
Yoga training programme was defined as independent variable. Score of mental health of both groups was defined as dependent variable.

Tools:
For measuring mental health, Mental Health Questionnaire by Dr. D.J.Bhatt and Gita R. Gida was used as tool.

Research Methodology:

The present study was conducted by experimental research method. The experimental group was administered yoga training programme (6 days in a week) for a period of 8 weeks. There was no practical training given to control group. Before and after training of yoga, mental health was measured by mental health questionnaire.

Data Collection:

Here in this study researcher tried to know how far yoga affected the mental health of students. To test the concept of study, mental health was tested through Mental Health Questionnaire by Dr. D.J.Bhatt and Gita R. Gida was used for data collection. Before and after training above test was taken by researcher on subjects. After taken test whether the data get is noted by researcher. To find out the effect of yoga training programme on mental health and mean scores obtained on mental health questionnaire by experimental and control group was compare through t test.

Results and Discussion:

Table - 1 comparison of experimental and control group in pre test

Group	N	Mean	S.D.	t	Level of Significant
Experimental	50	144.14	13.15	o.75	Non Significant
Control	50	145.48	13.76		

Table – 1 show that the mean scores of experimental group is 144.14 and that of control group is 145.48. The t value is o.75, which is non significant. So, there is no significant difference between both groups in mental health.

Table - 2 comparison of experimental and control group in post test

Group	N	Mean	S.D.	t	Level of Significant
Experimental	50	162.12	18.69	3.14**	Significant
Control	50	150.56	20.40		

****p<.01**

Table – 2 shows that the mean scores of experimental group is 162.12 and that of control group is 150.56. The t value is 3.14, which is significant at 0.01 level. Thus we can say that there is significant difference in mental health of the subjects of the experimental group and control group. We are not able to say that those students who do yoga can get totally sound mental health, but to some extent we can say that those students who do yoga regularly have better health. So we can say that through practice of yoga we can stay mentally healthy.

Conclusion:

Significant difference found between two groups in post test. From the analyses of results it can be concluded that students seem to be higher in mental health in experimental group than the students of control group.

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Food habits for Sports Persons

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Introduction

Good diet and nutrition can enhance sporting performance. Carbohydrates should form the basis of the sportsperson's diet. For most athletes, a varied healthy diet will provide vitamins and minerals, as well as protein, to promote growth and repair of muscle tissues. Adequate fluid intake is essential to help performance and prevent dehydration.Preparing for the game takes lot of training and discipline. Hard training with teammates, inspirational speeches from the coach and other seniors of the team, and a short prayer are among other important things you don't forget before the game begins. But these are not the only thing that you need for an excellent performance. Maybe you should be asking yourself… what did you eat before the game? What you eat before, and after the game and training sessions are to a larger extent contributing factors to your performance and health as an athlete. Most young athletes tend to ignore how much a good diet can help them perform to their fullest. They're often overwhelmed with thoughts of fame and becoming stars, but they forget the basics… a healthy diet!! They don't really know how to combine food and fitness to reach their potential. An interesting thing about eating for sports is that it's not too complicated. It doesn't require you to change your diet or buy any special food supplements. The same regular meal and snacks can help you reach top form. You'll just need to eat from all food groups for full nutrients package your body needs for superb performance. Have a healthy combination of foods that are rich in protein, carbohydrates, vitamins, minerals and other nutrients to be top of your game.Foods that a sportsperson must eat sparingly. All sports people require a balanced diet with an appropriate intake of carbohydrate, protein,fat, water,minerals &,vitamins etc. Most sportspeople tend to lose focus and interest in their game because of an upset stomach caused by indigestion. There are foods that take longer to digest and may deprive you to be on top of your game. Besides food, eating disorders may cause indigestion here are few causes of indigestion. Food items such as lime, ginger, and fresh coriander must be added to your meal to help digestion.

Carbohydrates :Foods that are rich in carbohydrates are full of energy for all body functions. Your body needs as much carbs as possible for full support of muscle and cell health and proper functioning. Carbs can be grouped into two categories – sugars and starches.

Sugars – these are carbohydrates that your body find easy to digest and include foods like fruits, candy, jelly, cake, soda etc. Excessive intake of these foods may cause health problems. Minimize consumption of these as you combine them with other minerals from other food groups.

Starches – these are complex carbs that take longer to digest and may fill your tummy if too much is consumed. These include foods such as bread, grains, pasta, noodles and vegetables etc.Making better carbohydrate choices

Eat whole-wheat bread instead of white bread

Instead of high in fat and sodium snacks, switch to low-sodium and whole wheat crackers.

Use skimmed milk for baking and for drinking instead of whole milk since it has a higher fat content.

Use applesauce instead of cooking oil.

Splenda is a sweet-testing replacement of pure sugar

Protein: Protein is an important part of a training diet and plays a key role in post-exercise recovery and repair. Protein needs are generally met by following a high-carbohydrate diet, because many foods, especially cereal-based foods, are a combination of carbohydrate and protein.
The amount of protein recommended for sporting people is only slightly higher than that recommended for the general public. For example-

General public and active people – the daily recommended amount of protein is 0.8–1.0 g/kg of body weight (a 60 kg person should eat around 45–60 g of protein daily).

Sports people involved in non-endurance events – people who exercise daily for 45–60 minutes should consume between 1.0–1.2 g/kg of body weight per day.
Sports people involved in endurance events and strength events – people who exercise for longer periods (more than one hour) or who are involved in strength exercise, such as weight lifting, should consume between 1.2–1.7 g/kg of protein of body mass.
Dietary surveys have found that most athletic groups comfortably reach and often exceed their protein requirements by consuming a high-energy diet. Despite this, protein and amino acids (the building blocks of protein) are popular nutritional supplements.
Iron, Vitamin & Minerals: A well-planned and nutritionally adequate diet should meet an athlete's vitamin and mineral needs. Supplements will only be of any benefit if your diet is inadequate or you have a diagnosed deficiency, such as an iron or calcium deficiency. There is no evidence that mega-doses of vitamins improve sporting performance.
Use of vitamin and mineral supplements is potentially dangerous and they should not be taken without the advice of a qualified health professional. Dietary imbalances should be adjusted by analysing and altering the diet, rather than by using a supplement or pill. The trick is to have a balanced diet on all occasions to ensure the proper functioning of the body. Therefore, it necessary to get all the greens stocked on the plate before that big game or workout Vegetables and fruits are high in vitamins and minerals. These are the basic roots of a balanced diet and studies confirm that a high intake of vegetables and fruits could fuel sufficient iron, calcium, carbohydrate and protein into the system. The best thing about vegetables and fruits is that large quantities or consumption does not hinder or affect health and rather helps to work towards building a better lifestyle.
All vegetables, especially the green ones such as spinach, lettuce, leeks, broccoli, asparagus, peas, cabbage and beans, are high in minerals, calcium, iron and other vitamins. These not only ensure proper circulation of oxygen all through the body but also ensures the production of new blood cells, keeping the system healthy overall.
Water: Dehydration can impair athletic performance and, in extreme cases, may lead to collapse and even death. Drinking plenty of fluids before, during and after exercise is very important. Don't wait until you are thirsty. Fluid intake is particularly important for events lasting more than 60 minutes, of high intensity or in warm conditions.
Water is a suitable drink, but sports drinks may be required, especially in endurance events or warm climates. Sports drinks contain some sodium, which helps absorption. A sodium content of 30 mmol/L (millimoles per litre) appears suitable in sports nutrition. Using salt tablets to combat muscle cramps is no longer advised. It is lack of water not sodium that affects the muscle tissue. Persistent muscle cramps might be due to zinc or magnesium deficiencieThings to remember Water is a great choice of fluid for athletes to help performance and prevent dehydration.
Bad diet habits: There are certain diet habits that young athletes adopt that are not good for their career and general health condition as whole:
Fat intake is not bad for athletes.Imbalance of salt and fluid intake. Overeating. Carbo loading. Consumption of reheated foods. Raw or half-cooked meat is dangerous for athletes. Excessive salt intake.Alcohol consumption. Smoking.
Do not drink water immediately after eating, but wait for a minimum of one hour, optimally, two hours.
Do not drink a lot of fluids while eating as this slows the digestive process.Fried foods are difficult to digest and are best avoided.Raw foods are also indigestible. It is also a good idea to eat less, as overeating can result in immediate sickness.Frozen milk is hard on digestion and may cause stomach disorders.Salads and ice creams can be harmful to a sportsperson.Most digestive problems can be cured by short-term fasting. A natural cure for indigestion is to sip water over a period of time.
Don't continue eating until you are full. Let your meal digest totally before eating something else. Eat again after at least four hours. If you want to achieve optimum.

Conclusion

Eating only one type of food can lead to serious nutritional deficiencies in an athlete's body. So, always make sure that your pregame meal is enriched and balanced with vitamins, minerals, proteins and fats to ensure best health and better performance on the field.

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An Assessment Of Haematological And Bio-Chemical Variables Of Sedentary And Working Women

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Abstract:-
The purpose of the present study is based on a sample of 225 sedentary and 225 working women, ranging in age between 35-44 years. The subjects were randomly selected from three districts of North Bengal and they were divided into 6 (Six) equal groups of 75 each as Sed and Work (GN, SC and ST). In respect of haematological variables Hb%, Tc/Dc and only one bio-chemical variable i.e. blood glucose (BG) have been recorded on each subject. For result discussion the answer sheets were collected and recorded by statistical analysis (ANOVA & t-test) are used. On the basis of findings, it was concluded that the Sed-sub group were statistically significant with their corresponding Work-sub groups on Hb%, Tc and BG. It was also revealed that differential counts (Dc) obtained are within normal range of the Bengal-middle-aged women.
Key Words: Hb%= Haemoglobin concentration, Tc= Total count of white blood cell, Dc= Differential count of white blood cell, BG= Blood Glucose

Introduction:-
Haematology is a science that involves the study of blood and blood forming tissues. Dangour et al. (2001) found that a significant curvilinear relationship between hemoglobin concentration and age with the nader of the curve in the 30-40 yrs. age group. Robinson et al. (2003) and Bassett et al. (2006) have reported an increase in the haemoglobin concentration with physical activity. The increase in the haemoglobin concentration with age has been reported to be more in boys than girls (Singal et al.2008).
Tatsukawa et al. (2008) stated that high WBC count is a risk factor for hypertension. They also examined that a significant association between increased neutrophil count and hypertension incidence among women. Neutrophil are the most populous of the circulating white blood cells and they have a key role in the local defense to injury during inflammation by ingesting and killing bacteria (Encyclopedia). Munir and Afzal (2011) reported the increase in monocyte count is an independent predictor of death and prognostic marker of the extent of myocardial damage in patients with acute coronary syndrome.Blood glucose level is the amount of glucose in the blood of a human body .The human body naturally tightly regulates blood glucose levels as a part of metabolic homeostasis. Normally in mammals, the body maintains the blood glucose level at a reference range between about 3.6 and 5.8 mm (mmol/L) or 64.8 and 104.4 mg/dl (Wikipedia, 2011).

Methodology:
This is a descriptive study to assessment of hematological and bio-chemical variables in the sedentary and working women of the three different communities in North Bengal, India.In the present study, stratified random sampling technique (Using Pseudo Number Method) is followed. 225 sedentary women and 225 working women within the range between (35-44) years were selected from three districts namely Cooch Behar, Jalpaiguri and Darjeeling of North Bengal. From each district 150 subjects belonging to GN, SC and ST category were selected. For evaluating the hematological variables hemoglobin concentration, and Tc/Dc and only one bio-chemical variable as blood glucose (PP) were considered. The hemoglobin concentration of subject's blood was recorded by Sahli's haemometer. For estimation of Tc/Dc the blood flip was drawn by the slide method and slides has shown to recognized pathological laboratory at the three different districts.
The blood glucose of the subjects was recorded by Glucometer within two hours after their lunch. For result discussion the Mean and SD of different parameters were computed and to find out statistical significance of the differences among means with the ANOVA and t-test.

Result and Discussions:-

The mean score of all sedentary groups for blood hemoglobin and blood glucose were better than working women which presented in table no.1. It is the evident that total counts (Tc) and differential counts (Dc) of various W.B.Cs have been made as per standard norms. The neutrophil (NP), the largest percentage of W.B.C is normally present among the subjects of the study

Table No.1: Mean and SD of all the parameters of haematological and bio-chemical variable

Groups	Hb	W.B.C	N.P	L.P	M.C	E.P	B.G
	gm/dl	cells/µL	%	%	%	%	mg/dl
GN-Sed	10.83 ±0.83	9172.66 ±878.55	65.10 ±4.97	32.96 ± 4.45	1.97 ±0.77	3.06 ±1.61	123.34 ±33.62
SC-Sed	10.52 ±0.84	9328.66 ±924.01	64.29 ±4.76	34.00 ±5.08	2.01 ±0.91	3.00 ±1.69	115.13 ± 28.34
ST-Sed	10.61 ± 0.79	9295.33 ±992.48	64.61 ±3.69	33.13 ± 3.48	2.10 ± 0.98	3.21 ± 1.44	113.42 ± 18.49
GN-Work	8.90 ± 0.85	8557.93 ±879.37	61.22 ±4.22	32.22 ±4.26	2.10 ± 0.89	3.30 ±1.67	97.40 ± 11.38
SC-Work	8.95 ± 0.81	8108.00 ±1123.91	61.48 ±3.46	32.02 ±3.70	1.98 ± 0.88	3.38 ± 1.84	99.60 ±12.18
ST- Work	9.15 ± 0.87	8153.33 ±998.29	62.64 ±4.58	32.37 ± 4.58	1.72 ±1.06	3.40 ±1.71	99.02 ±11.43

The distribution pattern was between 65% and 61%, highest being GN-Sed and lowest-
Work group. The lymphocyte (LP) distribution was also found within normal range among the subjects. SC-Sed group's subjects had 34%, highest and GN-Work had 32.22% was the lower value. Monocyte (MC) count of the subjects was found slightly lower than the average value. All the groups were around 2% whereas general norms between (3-9) percent. Eosinophil (EP) count was fount between (1.4-1.8) percent. It may be also observed from the table that the mean score of such measurements of all sedentary and working women groups that they are not equal

Table No-2: F-value for Hb%, W.B.C. and blood glucose of sedentary and working groups

Statistical parameters	Blood Haemoglobin		White Blood Cell		Blood Glucose	
	Sed-Gr.	Work-Gr.	Sed-Gr.	Work-Gr.	Sed-Gr.	Work-Gr.
F-value	2.96	1.79	0.58	4.54	2.78	0.71
P-value	0.05	0.17	0.56	0.02	0.06	0.49

Statistics: F-value= 3.04 is significant at 0.05 level

Anova are given in table no.2 and for the blood haemoglobin the obtained F- value was 2.96. From this analysis, it may be concluded that so far the Hb% is concerned GN, SC and ST sub-groups were not equal but differences are statistically not significant. Similarly in the working groups, the mean values of three sub-groups are not equal but the differences are statistically significant as may be evident from lower F- value. The W.B.C score among the three Sed- groups and three Work-groups separately are not equal as their obtained 'F' value was 0.58 and 4.54 respectively. From this table it has been shown that in case of blood glucose the difference among the three Sed-groups were not statistically significant.

Table No-3 t-test: All the groups together

Elements	Statistics	GN-Sed vs SC-Sed	GN-Sed vs ST-Sed	SC-Sed vs ST-Sed	GN-Sed vs GN-Work	SC-Sed vs Sc-Work	ST-Sed vs ST-Work	GN-Work vs SC-Work	GN-Work vs ST-Work	SC-Work vs ST- Work
Hb%	t- stat	2.54	1.76	0.7	13.73	11.67	10.03	-0.41	-1.68	1.44
	P(T>=t) one tail	0.06*	0.04	0.24	2.21*	9.51*	9.84*	0.34	0.04	0.08
W.B.C.	t- stat	-1.09	-0.87	-0.21	4.58	8.37	8.00	3.36	3.14	0.29
	P(T>=t) one tail	0.14	0.19	0.42	9.14*	1.31*	6.46*	0.0006*	0.001*	0.39
B.G.	t- stat	1.51	2.24	-0.42	5.99	4.78	5.78	-1.27	-0.89	-0.29
	P(T>=t) one tail	0.07	0.01*	0.34	3.55*	4.41*	8.26*	0.100	0.19	0.39

St Statistics: t-stat=1.98 is significant at 0.05 level *Significant at 0.05 level

The t- test results are shown in the table no.3. It may be seen GN-Sed group's Hb% was significantly higher than both SC and ST-Sed groups. Further GN-Sed group's Hb% was significantly higher than GN-Work group. Similarly, SC and ST-Sed groups had higher value than their respective working groups. There were no significant differences among the working sub-groups. From the analysis of the results, it may be seen that haemoglobin percentage is relatively higher in sedentary group than their worker counterpart. On the other hand, among the sedentary sub-groups GN-Sed group had the higher value. It may be seen that W.B.C. score of GN-Sed group was not significant with SC and ST sedentary groups. But all the sedentary groups were significantly higher than the corresponding working groups. However, there was almost no difference between SC-Work and ST-Work groups. It was also observed that the W.B.C score GN-Work was statistically higher than the SC-Work and ST-Work groups. The t-test result for blood glucose clearly revealed that out of three sets of paired means of Sed-groups, only one set i.e. GN-Sed group was found significantly higher than the ST-Sed group. Same way, all Sed-groups were matched against their corresponding Work-groups, all the three paired means found significance. It means that three Sed-groups had higher blood glucose level than three Work-groups. It was also observed that none of the paired means in 3-Working groups are significant from each other

Discussion and findings:-

Haemoglobin estimation is an important diagnostic indicator of well-being of an individual. Bandyopadhyay (2007) found that the haemoglobin concentration of sedentary middle aged (35-44 years women in West Bengal was 10.05 gm/dl. Kaur and Kochar (2009) mentioned that the mean blood haemoglobin concentration of urban middle-aged (40-45 years) women was 10.6±1.42 gm/dl and rural middle-aged woman was 10.4 ± 1.36 gm/dl.

All that Work-groups had lower haemoglobin concentration may be attributed to their socio-economic condition and this is not uncommon in our country. Findings of the present study are in close proximity of other leading researchers. Vazarova et al. (2002) found that the W.B.C was 8107± 2.02 cells/ mm^3 in 27± 6 years old non-diabetic Pima Indian Women. In the present study, regarding total count of W.B.C of the all groups were given in normal range i.e. (8108 to 9328.66) cells/mm^3.

Wolach et al. (2000) have indicated the neutrophil from (64 to 39) cells/field, $p<0.02$ of 18-26 years old judoka trained female (n=8) and from (60 to 47) cells/field, $p<0.05$ of the untrained control-group (n=7). Lymphocytes are cells present in the blood and lymphatic tissue.

Bain et al. (1984) found the no ethnic variation in the absolute lymphocyte count. Besides these Kaidashiv et al. (2003) stated the LP apoptosis may have a role in the pathogenesis of allergic disease. Monocyte is also part of the human body in immune system. Henson et al. (2001) found the monocyte's score of teenage (14- 18 years) World class female tennis player was 0.43±0.04 in South Carolina. The eosinophil count varies with age of the patient, time of the day, exercise and environmental stimuli, mainly seasonal allergen exposure (Staikniene and Sakalauskas, 2003). Differential counts of the subjects of the study have clearly revealed that the values obtained are within normal range of the Bengali middle aged women. A number of researchers have measured W.B.C. both Tc/Dc among women subjects and the findings of the present study are in close proximity with leading researchers.

Bandyopadhyay (2007) reported the mean blood sugar level was 104.9±41.22 of 35-44 years old Bengali woman in West Bengal. In the present study blood glucose level of GN-Sed group was marginally high in compared to all worker groups and with that of reports of other researchers.

Conclusions:-

On Haematological variables

Concentration of blood hemoglobin was relatively lower among all the groups and incase of labourer groups, it is less than 10gm%.There was no significant difference among three sedentary groups. Similarly, three labourer groups were statistically identical. However, all the sedentary groups' haemoglobin concentration was significantly higher than their corresponding labourer groups.

W.B.C. counts of the three sedentary groups were almost identical. There was no significant difference among the three Sed- groups. However, within the labourer group significant difference observed among the three groups. W.B.C. count of GN- Lab group was significantly higher than both SC and ST- Lab groups.Differential counts of the subjects of the present study were within normal range of Bengali middle – aged women. Variation within the group is almost negligible. Inter-groups variation was also within physiological limit.

On Biochemical VariableBlood glucose level of all the groups were within normal range. Difference among three sedentary groups was not significant. No significant difference was observed among three labourer groups. Blood group level of three Sed sub- groups was significantly higher than their corresponding Lab- groups.

Recommendations

Considering the various aspects the author recommended that the present study has been confined within the 35-44 years age group. Further study may be conducted taking subjects below 35 years and above 44 years and also the athlete of various team and individual games.

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A Comparative study of Strength among Shot-Putters and Javelin Throwers of Haryana

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Abstract:
The shot is put from a circle and Javelin is thrown from a runway. Throwing Events Primarily depends upon strength, power and speed. The purpose of the present study is to find out the strength among shot-putters and Javelin throwers of Haryana. The sample for the present study consists of 20 male shot-putters and 20 male Javelin throwers of Haryana between the age group of 18-20 years. To assess the Strength Shot-put back throw were given to Shot-putters and Javelin Throwers. This study shows that Shot putters are having more strength than Javelin Throwers. Most shot-putters are relatively strong and strongly built. Their training session include various weight training exercises to develop the strength compare to Javelin Throwers.
Key Words: Strength, Shot-putters, Javelin throwers etc.

Introduction:
In Athletics the throwing events comprise of Javelin throw, discuss Throw, Hammer throw and shot-Put. The differences between the four disciplines include the type of implement that is thrown and the run up or pattern of moment prior to the throw.
Discus Throw: In the Discus throw the athlete stands inside a throwing circle, turns around one and a half times and throws the discus as far as he or she can. A discus is a round plate made of wood and metal. Discus was an event in the ancient Olympic Games.
Hammer Throw: In the hammer throw the athlete stands inside a throwing circle, swings the hammer and at the same time spins his or her body before throwing the hammer as far as he or she can. The hammer is a metal ball on a steel wire with a handle. At the Sydney Olympic Games in 2000, women competed in the hammer throw for the first time.
Javelin Throw: In the Javelin throw, athlete sprint down a runway holding a Javelin then throw the Javelin from over their shoulder. At the end of the runway there is a line and the judge measures the distance from this line to where the Javelin lands. A Javelin is a spear nearly 3 meters long with a steel tip.
Shot Put: In Shot put the athlete stands inside a circle, holding the shot and resting it against his or her shoulder. Then the athlete hops crouches and then jumps up and pushes the shot into the air. The judge measures the distance from the circle to where the shot lands. A shot is a metal ball. Discus, Shot put and Hammer Throw are all thrown from within a circle rather from a runway. All the throwing events rely on strength, power and speed for performance.
The shot put is a track and field event involving “throwing” / “putting”(throwing a pushing motion) a heavy spherical object - the shot- as far as possible. The shot put competition for men has been a part of the modern Olympics since their revival in 1896, and women’s competition began in 1948.
The Javelin Throw is a track and field event where the Javelin, a spear about 2.5m (8ft 2in) in length, is thrown. The Javelin thrower gains momentum by running within a predetermined area. Javelin throwing is an event of both the men’s decathlon and the women’s heptathlon.
Javelin throwers have been selected as a main motif in numerous collectors’ coins. One of the recent samples is the €5 Finnish 10th IAAF World Championships in Athletics Commemorative coin, minted in 2005 to commemorate the 2005 World Championship in athletics. On the obverse of the coin, a Javelin thrower is depicted. On the reverse legs of hurdle runners with the Helsinki Olympic stadium tower in the background can be seen.

Methodology:

The sample for the present study consists of 20 Male Shot putters and 20 Male Javelin Throwers between the age group of 18-20 years and participated in the Haryana Athletics Championship held at C.R.A. College ground, Sonepat. To assess the strength the shot put back throw were conducted on Shot putters and Javelin Throwers.

Shot Put Back Throw:

This test involves throwing an 8 pound shot put for maximum distance. The Bach Throw Test is one of the tests used in the International Physical Fitness Test.

aim: This test measures core body strength and total body power.

equipment: required: 8 lb shot put, tape measure , clear open area for testing.

procedure: The athlete starts with his back to the throwing area, with their heels at the start line, and the shot cradled in both hands between the knees. The subject bends forward and downward before throwing the shot backwards over their head in a two handed throwing action (optimally at about 45 degrees). Several practices may be required to get the best trajectory for maximum distance.

scoring: Measurement is made from the starting line to point of impact of the shot put with the ground. The measurement is recorded in meters and centimeters. The best result of two trials is recorded.

Result and Discussion:

This study shows that Shot putters are having better strength compared with the Javelin throwers.

Table-1

Mean values and Independent Samples Test of shot put back throw between Shot Putters and Javelin Throwers

Variables	Group	Mean	SD	t	P-value
Shot Put Back Throw	Shot Putters	16.11	3.244	1.744	0.097
	Javelin Throwers	14.86	3.552		

Significant at 0.05 level

In Table -1 the Mean value of Pre Test of Shot Putters in Shot put back throw is 16.11 and Javelin thrower is 14.86. The standard Deviation of Shot Putters is 3.244 and Javelin Throwers are 3.552 and t is 1.744 and P-value is 0.097.

Conclusion:

1. It is concluded that Shot putters are having greater strength than Javelin Throwers.
2. It is also concluded that Shot putters requires greater strength to put the shot spherical lead implement compare to Javelin which is a long spear like implement.

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Analysis Of The Emotional/Physical Exhaustion, Reduced Personal Accomplishment, Sports Devaluation And Satisfaction of Filipino Elite Coaches and Athletes : A Basis For Prevention and Intervention Program Proposal

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Abstract
This descriptive-survey study was conducted to find out and analyze the emotional/physical exhaustion, reduced personal accomplishment, sports devaluation and satisfaction of Filipino elite coaches. Thirty five (35) Filipino elite coaches and one hundred ninety seven (197) elite athletes including male and female participated in this study. The participants completed the standardized and self-made instruments: Athlete Satisfaction Questionnaire (ASQ; Reimer & Chelladurai, 1998) and Coaches Satisfaction Questionnaire (Chelladurai,P,& Ogasawara,E. 2003).Emotional/Physical Exhaustion Reduced Personal Accomplishment and Sports Devaluation. All statistical computations in this study are aided by version 16 of the Statistical Program for Social Sciences (SPSS/PC+). The methods of analysis for the three problems are: frequency, percentages for the first problem; mean scores and descriptive mean (mean value) for the second problem; and, Analysis of variance (ANOVA) for three or more independent samples for the third problem.

Introduction
In the world of sports, athletes and coaches play a very significant role in the lives of children, students, workers, professionals, men and women and even the old ones. They are the inspirations of different status and level of people, who strive for the positive pursuit of excellence, determination and courage. But on the other hand, they can also be a source of frustration and anxiety. Hence, there is exquisiteness for being an athlete and a coach. The Filipino elite coaches and athletes are the preeminent model to exemplify the meaning of sports in our country for the reason that they give honor, reputation and superb performance. They are the epitomy of hard work, firmness and strength of mind that anyone can admire. During the last Olympics held in Beijing China our coaches and athletes had proven their worth and service to the Filipino people by showing that our country is capable of competing not only with the Asian countries but as well as competing globally; reaching the highest goal of competitiveness in sports. Hence, this concept of reaching the highest goal of competitiveness in sports for the Filipino coaches and athletes might lead to possible syndrome of burnout such as emotional/physical exhaustion; reduced personal accomplishment and sports devaluation (Maslach 1996, p.4). In order to achieve exceptional performances, elite athletes and even coaches often push the boundaries of training and competition. When there is a lasting imbalance between training and recovery, elite athletes and coaches become at risk of emotional/ physical exhaustion, reduced personal accomplishment and sports devaluation, hence affect the level of their satisfaction (Simonsen, 2006).

Synthesis
The reviewed conceptual literature further gave clearer perceptive concerning the emotional/physical exhaustion, reduced personal accomplishment, sports devaluation and satisfaction among Filipino elite coaches and athletes. Moreover, the literature cited gives generous reason why there is a need to pursue this study. The ideas of Caccese, Dale, Kelley, Maslach, Pargman, Raedeke and Tahayneh evidently intricate the substantial information to support the analysis of the three dimensions of burnout and satisfaction.

Their idea about this concept supplementary explains the complexities of acquiring burnout among coaches and athletes. On the other hand, Cox, Le Blanc, Pierce, Miller, Jenkins and Runyan provide the present study information and suggestions how to cope up with the three dimensions of burnout. Al-Tahazneh's ideas on why there is a need to study the three dimensions of burnout is in consonance with this study, in order to advance and build up the performance of Filipino elite coaches and athletes.
On the other hand, the research of Magpantay, Raedeke and Tahazneh is somewhat similar to this study in terms of the level of emotional/physical exhaustion, reduced personal accomplishment and sports devaluation among coaches and athletes.

Methods

The descriptive research design was used in this study. The descriptive method is designed to gather information about the present existing conditions. According to Manuel and Medel (in Calderon, 1993) descriptive research describes what it is. It involves the description, recording, analysis, and interpretation of the present nature, composition or processes of phenomena.

Respondents

The respondents of this study were thirty five (35) or 40 per cent of the Filipino elite coaches and one hundred ninety seven (197) or 45 per cent Filipino elite athletes. The respondents' came from different selected types of sports such as arnis men, badminton men and women, boxing men and women, gymnastics men and women, judo men and women, muaythai men and women, pencak silat men and women, rowing men and women, sports aerobics men and women, sepak takraw men and women, softball men and women, swimming men and women, traditional boat race women, volleyball men and women, wrestling men and women and weightlifting men. The aforementioned events were chosen because they represented the four major athletic events such as individual/dual, team sports, combative and aquatic sports.

Conclusions

In the light of the above findings, the following conclusions were drawn.

1. The respondents were mostly male, middle age, college degree holder and majority of them were involved in volleyball. Majority of the coaches' respondents had six and above length of coaching experience while athletes had 0-1 year playing experience. Respondents were receiving not less than P 20,000 thousand and they had the same days of training per week which run 3-
4 hours per day.
2. The coaches had rarely or low level of emotional/physical exhaustion.
3. Both the Filipino elite coaches and athletes experienced rarely or low
level of reduced personal accomplishment.
4. The Filipino elite coaches and athletes had both experienced low level
in terms of sports devaluation.
5. Both the coaches and athletes were satisfied in the area of coaching job, autonomy, team performance, job security, amount of work and pay while the athletes were satisfied among the four factors such as personal treatment, individual performance, team performance, training and instruction.
7. For Filipino elite coaches, the only profile that stood out among the rest is the monthly income received which showed significant difference in emotional/ physical exhaustion. Other profile such as gender, age, highest educational attainment, sports involvement, length of coaching experience, days of regular training per week and hours of regular training per day does not
showed or no significant differences. Gender, age, highest educational attainment and sports involvement showed or manifested significant differences in emotional/physical exhaustion among athletes while, length of playing experience, monthly income received, days of regular training per week and hours of regular training per day showed or manifested no significant difference.
8. With regards to reduced personal accomplishment; gender, age, highest educational attainment, sports involvement, length of coaching experience, monthly income received, days of regular training per week and hours of regular training per day does not influence or showed no significant differences among the coaches respondents while the athletes, sports involvement showed significant difference among other profile of the respondents. Others, such as gender, age, highest educational attainment, and length of playing experience in the national team, monthly income received, days of regular training per week and hours of regular training per day showed no significant differences.

9. Gender, age, highest educational attainment, sports involvement, length of coaching experience, monthly income received and days of regular training per day manifested or showed no significant differences in sports devaluation while the athletes, gender, age, highest educational attainment and sports involvement reveal significant differences. While length of playing experience, monthly income received, days of regular training per week and hours of regular training per day exhibit no significant differences among the respondents.
10. With regards to coaches' satisfaction, very interestingly monthly income received showed or manifested significant difference. Gender, age, highest educational attainment, sports involvement, length of coaching experience, days of regular training per week and hours of regular training per day showed no significant differences while the athletes' gender, age, highest
educational attainment, sports involvement, length of playing experience, monthly income received, days of regular training per week and hours of regular training per day displayed no significant differences among the respondents.

Recommendations:

Base on the findings of the study, the following recommendations are
presented:

1. Create programs that would help the Filipino elite coaches lessen their emotional and physical exhaustion. Encourage also the coaches to take personal responsibility, be in tune with their bodies and self-monitoring should be addressed for the signs of excessive fatigue and overtraining.
2. Give more coaches the chance to upgrade their coaching competencies thru sending them in major specific countries like US, China, Russia or Canada who scientifically excel in the area of performance enhancement and psychological skills training.
3. Review the salary scale and upgrade the international exposure of the Filipino elite coaches. Open forum among top officials from the Philippine Sports Commission should be encourage to address their major concerns and issues that they are facing towards the athletes, management and other benefits.

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The Biomechanical Analysis of Muay Thai Kinematics Ability of Undergraduate Students Majoring in Physical Education and Sport, Faculty of Education and Development Sciences Kasetsart University, Kamphaeng Saen Campus

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Abstract:
The objective of this research was to biomechanically analyze the kinematics skills of Muay Thai of undergraduate students majoring in physical education and sports. The data were collected by video recording of the Muay Thai show which was performed by the student participants and included four skills : kick, punch, the elbow and the knee fights with 10 times each. Then the best of each skill was selected to be analyzed in terms of time, speed, acceleration and angle. The results showed as follows: As for the right kick, the time, speed, acceleration and the angle were 0.33±0.21seconds, 5.15± 2.54 meters per second, 20.68±11.23 meters per second squared, and 85.42±10.86 degrees, respectively. As for the right punch, the time, speed, acceleration and the angle were 0.42±0.23seconds, 1.45± 0.78 meters per second, 4.63±3.82 meters per second squared and 119.52±9.83 degrees, respectively. As for the right knee, the time, speed, acceleration and the angle were 0.31±0.14seconds, 2.97± 0.97 meters per second, 11.74±7.13 meters per second squared, and 81.42±13.43 degrees, respectively. Finally, as for the right elbow, the time, speed, acceleration and the angle were 0.38±0.17seconds, 1.88± 0.53 meters per second, 19.24±32.48 meters per second squared and 116.04±19.12degrees, respectively.
Key Word: Biomechanical, Kinematics ,Muay Thai

Introduction:
Muay Thai is one of of the most important Thai national cultural heritage. At present,
in the teaching and learning of Muay Thai in higher education, no boxing biomechanical principles of the kinematics have not been taken into teaching program before. Muay Thai has been assigned as an elective for the third year students, the biomechanical principles of the kinematics have not yet been included in the teaching as well.In response to the above-mentioned reasons and importance, therefore, the author as a Muay Thai boxing instructor wished to biomechanically analyze the use of Muay Thai boxing kinematics skills by students after being taught and trained. Through video records, analyzing physical movement in each image can help to closely and clearly observe the movement of the boxers in each step including their mistakes and errors that may occur at each stage in order to further improve and revise according to Biomechanics. In addition, the results from this analysis can be used as fundamental data and guidelines for the development of programs and courses of Muay Thai as taught in higher education. Therefore, this study will be useful in helping learners to be better to perform Muay Thai major techniques (Mae Mai Muay Thai) more efficiently. It will also be beneficial to sustain the national and unique art and culture of Muay Thai.

Materials and Methods:
The research sample consisted of 14 male students majoring in physical education, Department of Physical Education and Sports, Faculty of Education and Development Sciences, Kasetsrt University, Kamphaeng Saen Campus, who had registered for the Muay Thai course. These students' ages ranged from 18 to 21 years. They were trained for 14 weeks, on Monday, Wednesday and Friday at the rate of 2 hours per day.

Toolsusedintheresearch
1. A 2-Dimension motion analysis computer program (Focus X2, Focus X3) of Company Analysis Elite Sports,England
2. Videocassette tapes for recording (Videocassette model VHS)

Results and Discussion:

This study found that as for the right kick, the average time was 0.33 ± 0.21 seconds; the average speed was 5.15 ± 2.54 m / s; The average acceleration is equal to 20.68 ± 11.23 m / s^2; and the average angle was 85.42 ± 10.86 degrees. According to the study, the participants are right-handed, so they always take a left step first (in Muay Thai terms it is commonly called " jhod saii "). To kick with the right foot, they will throw up their right legs, then twist their hips and torso to the left with their right arms protecting their face while their left arms smashed down beside their bodies. This performing posture facilitates a high speed and a good balance and is in line with Costello, et. al. (2002) who has biomechanically analyzed a karate kick as suggesting that the karate athlete can make a good balance when the offset center of gravity is compensated while his hips and knees are bending. Through crouching down the torso and head in resistance with weight distribution, the stability in the position to fight requires a good balance.As for the right punch, the average time was 0.42 ± 0.23 seconds; the average speed was 1.45 ± 0.78 m / s ; the average acceleration is equal to 4.63 ± 3.82 m / s^2 ; and the average angle was 119.52 ± 9.83 degrees. Because the participants are right-handed, to perform the right punch they will release the whole right arms. This is to keep the weight off ahead with the hips, torso and shoulders rotate together. This increases speed and force in line with Sukol Ariyasajseesakul (1996) as suggesting that the proper punch begin with using back foot to push the ground in order to create the reaction force from the ground to the rest of the body. The body weight is also transferred from the back foot to the front foot. Reaction force is transmitted from the feet to the hips, torso, shoulders, arms, and the fist. To maximize the force, the hips and body should be quickly twisted. As for the right knee, the average time was 0.31 ± 0.14 seconds; the average speed was 2.97 ± 0.97 m / s. the average acceleration is equal to 11.74 ± 7.13 m / s^2 ; and the average angle was 81.42 ± 13.43 degrees. Due to the right-handed dexterity, to perform the right knee, the participants will raise their right knees to the end pointing their right feet to the ground; thus, they stab with their right knees to the end and keep the total body weight forward while their torsos and hips are rotating together. To start stabbing with a knee is to exert pressure on the back foot against the ground floor to create the reaction force the various parts of the body. Moreover,the transfer of body weight from back foot to front foot must be done. Reaction is passed from the foot to the hips, torsos and knees whereas hips and torsos are being twisted with high speed.

Conclusion:

This biomechanical analysis which was conducted applying sports science and technology with the participation of students majoring in physical education and sport helps us to identify kinematics abilities among these students and to obtain something concrete to be used in the development of basic sports for excellence and professional sports. Therefore, this research is an extremely important piece of the new fact or finding which can be important information leading to the development of the national sport of Muay Thai.

Acknowledgment:

Grateful and sincere thanks go to the Faculty of Sports Science, Chulalongkorn University for its kind permission to use the instrument in this study, to all sample students majoring in physical education in Faculty of Education and Development Sciences, Kasetsart University and to all qualified professionals contributed a lot to this research.

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Effect Of Parcourse Training On Speed And Leg Strength

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Abstract
Aim: The purpose of the present study was to find out the effect of par course training on speed and leg strength. *Methods:* For this purpose, 30 male players from various games and sports, studying Bachelor Degree in the Department of Physical Education and Sports Sciences, Annamalai University were selected as subjects and their age between 18 and 23 years. They were divided into two equal groups, each group consisted of fifteen subjects, in which, group – I underwent par course training and group – II acted as control that did not participate in any special activities apart from their regular curricular activities. The training period for this study was three days (alternative days) per week for twelve weeks. Prior to and after the training period the subjects were tested on speed and leg strength. Speed was assessed by administering 50 meters dash and leg strength was measured by using leg lift with dynamometer. The Analysis of Covariance (ANCOVA) was used to find out any significant difference that was exists between the parcourse training group and control group on selected criterion variables. *Results:* The result of the study shows that parcourse training group has improved the speed and leg strength significantly ($p < .05$) when compared as the control group. *Conclusions:* It was concluded from the results of the study that parcourse training has improved the speed and leg strength.
Keywords; Parcourse training, Speed, Leg Strength and ANCOVA.

Introduction

Training involves construction of exercise programme to develop an athlete for a particular athletic event. Thus, increasing skill and energy capacities take equal consideration. The greatest concern among today's athletes in soccer, football, baseball, rugby, lacrosse, field hockey, and most other sports is, how to improve playing speed, the speed, of all movement, including starting, stopping, accelerating, changing the direction of the body, delivering or avoiding a blow, sprinting, and split- second decision making during sports competition. Speed and strength are integral component of fitness found in varying degrees in all athletic movements. Simply saying the combination of speed and strength is power. Throughout this century and no doubt longer before, jumping, bounding and hopping exercises have been used in various ways to enhance athletic performance. Strength has been considered as the most important condition ability. It has been the most significant to enhance sports techniques and performance. Development of strength also contributes to indirect development of other condition abilities namely speed and endurance. Since all sports movement are created by the contraction of muscles, therefore, strength is an important components of varies conditional abilities, skill and tactical action. Strength is the ability of a muscle of get over resistance. Leg strength is very essential for sports persons, especially athletes. The leg strength of a muscle is related to its cross sectional area of girth, the large the muscle it is. Strength training increases the contractile protein that gives the muscle its pulling power. By comparing strength to performance, it is possible to determine if more strength is needed. If an athlete's performances improve with increased strength training is to be recommended. Leg strength is the capacity of the lower muscle to exert muscular force. Participation in physical activities will improve the strength and size of muscle in the thigh and other parts of the body. The fibers of the muscle can develop through a high resistance training programme. It also improves the size of the muscle. The strength of the muscle also depends upon the size of the muscle. Rigorous training, particularly, when done against heavy resistance (weights) usually results in muscle fiber thickening.

Metholodology

Selection of Subjects: Thirty male players from various sports and games, studying Bachelor Degree in the Department of Physical Education and Sports Sciences, Annamalai University were selected as subjects in the age group of 18 to 22 years. They were divided into two equal groups, each group consisted of fifteen subjects, in which group – I underwent parcourse training and group – II acted as control that did not participate in any special activities apart from their regular curricular activities. *Training Period*: parcourse training was conducted three days (alternative days) per week for twelve weeks. *Criterion Variables Selected*: The researcher consulted with the physical education professionals and selected the following as criterion variables: 1.speed and 2. leg strength. *Testing tool and Procedure*: The selected criterion variable such as speed was assessed by administering 50 meters dash and leg strength was measured by leg lift with dynamometer. The data were collected before and immediately after the experimental period as pre and post tests respectively and they were statistically examined for significant difference, if any, applying the analysis of covariance (ANCOVA). In all the cases, .05 level of confidence was used to test the significance, which was considered as an appropriate.

Results

The data collected on speed and leg strength between parcourse training group and control group were analysed and presented in Table – I.

Table - I

Analysis Of Covariance On Speed And Leg Strength OfParcourse Training Group And Control Group

Variable Name	Group Name	Parcourse Training Group	Control Group	'F' Ratio
Speed (in seconds)	Pre-test Mean ± S.D	7.49 ±0.012	7.53 ±0.026	0.07
	Post-test Mean ± S.D.	6.87 ±0.032	7.52 ±0.032	5.58*
	Adj. Post-test Mean	7.07	7.54	35.24*
Leg Strength (in Kgs)	Pre-test Mean ± S.D	76.20 ±2.16	76.25 ±1.98	1.07
	Post-test Mean ± S.D.	80.21 ±1.98	76.95 ±2.26	7.61*
	Adj. Post-test Mean	80.03	76.91	47.47*

***Significant .05 level of confidence.(The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.21 and 4.20 respectively).**

After applying the analysis of covariance, the result of this study shows that there was a significant increase in speed and leg strength for the parcourse training group. Further, comparing the adjusted post-test means of the criterion variables, such as speed (F- ratio – 35.24 p > 0.05) and leg strength (F-ratio – 47.47 p > 0.05) the parcourse training group was significant. The result of the study also shows that there was a significant difference in total speed and leg strength between the parcourse training group and control group.

Bar Diagram Showing The Pre Post And Adjusted Post Test Mean Values On Speed And Leg Strength Of Parcourse Training Group And Control Group

Discussion

In the present study, the parcourse training group increased the speed and leg strength significantly. Methodology of training has written one of the most important bio ability required in sports is the speed or the capacity to travel on air more quickly. Moreover, there are another benefits of parcourse training, which they help to burn off the fat from muscles. Thus, parcourse training may help them to improve their fitness.

Conclusion

Based on the results of the study, the following conclusions were drawn,

There was a significant improvement after the parcourse training group when compared with control group on speed and leg strength which was supported by the findings of Bompa (1996), and Gotchell (1976).

There was a significant difference between e training group when compared with control group on speed and leg strength.

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A Study On Mental Toughness Among Ranji And U-17 Cricket Players

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Abstract
At elite level of all sports , it has been observed that the competitors' personalities and characteristics win the event; highly successful athletes appear to have the psychological edge and are often referred to as "mentally tough" Although mental toughness is on of the most frequently used ters in sports psychology, it is one of the least understood. The purpose of the study was to find the level of mental toughness among Ranji and U-17 Cricket Players. For this study one hundred and Twenty subjects were selected during the Ranji and U-17 Cricket tournaments and administered Mental toughness questionnaire of Loehr (1986). The results showed that there is a significant difference between mental toughness of Ranji and U-17 cricket players in negative energy control, attention control, visualization and imagery control and Positive energy control and there is no significant difference in motivation and attitude control.
Key Words: Mental toughness, Ranji players. Attention, visualization, imagery, motivation, attitude.

Introduction

Sports performance was the result of a multitude of factors such as physical fitness, skill fitness, constitutional factors and tactical efficiency. Cricket, which was an excellent spectacular all-round team sports, has been widely accepted as a highly competitive as well as recreational game throughout the Commonwealth countries. It was now recognized as a one of the most breath taking and dramatic sports of the sporting arena due to its multifarious variations in terms of play series. Mental toughness was often referred to in everyday conversations as an elusive quality possessed by only a few elite sportspeople. On the contrary, it was the view of people working in sport psychology that psychological skills can be taught. Mental toughness refers to a player's psychological skills that are advantageous to performance. . Psychological preparation was an integral part of the training system. It cannot, however, substitute for any other part of the training. Psychological preparation was directed towards an increase in the player's psychic resistance or strength as well as towards the ability to realize the gained capacity of performance through optimal self-confidence. At elite level of all sports, it has been observed that the competitors' personalities and characteristics win the event; highly successful athletes appear to have the psychological edge and are often referred to as "mentally tough" Although mental toughness is on of the most frequently used ters in sports psychology, it is one of the least understood.Cricket performance involves more than physical skill, there are important psychological factors as well. Such factors are evident when we witness a superior display of skill by a player in one occasion and then, on a separate occasion, see that same player makes effort after error. The game of cricket is performance oriented. The performance of top class cricket player is the result of interaction of a number of factors, which includes physical, physiological and psychological demands also.Mental toughness refers to a player's psychological skills that are advantageous to performance. One way to begin thinking about psychological skills was to think of a player that you admire for their on-field ability.. These two mammoth psychological factors really matter a lot in any sportspersons success and failure. Hence, it was worth to study to contribute unknown status of our Indian cricket scenario.

Methodology :

The objective of the study was to assess the mental toughness of Ranji and Under 17 cricket players. To achieve the objective of the study, one hundred and twenty subjects were selected during the semi final matches of RANJI and U-17 CRICKET Tournaments. To assess the mental toughness of Ranji and under 17 years cricket player psychological performance inventory constructed by James E Loher (1986) was used. It measures seven fundamental attributes of mental.

The seven attributes are (a). Self confidence (b) negative energy control (c) attention control (d) visualization and imagery control (e)motivation(f) positive energy control and (g) attitude control .The data collected was analyzed by using the statistical technique 't' test at 0.05 level of significance

Results:

Data collected for the study was analyzed by using statistical technique t test and results are presented in the following tables.

Table 1: Shows Mean, standard deviation and 't' value of Self confidence

Sl.No.	Game	N	Mean	Standard deviation	't' value
1	Under 22 years	60	25.05	4.20	2.82
2	Under 17 years	60	23.10	3.99	

***significant at 0.05 level.**

The above table shows the calculated 't' value 2.82which is significant at 0.05 level, since this value is higher than the table value 1.96.

Table 2:Shows Mean, standard deviation and t' value of negative energy control

Sl.No.	Game	N	Mean	Standard deviation	't' value
1	Under 22 years	60	21.02	3.14	3.41
2	Under 17 years	60	19.02	3.69	

***significant at 0.05 level.**

The above table shows the calculated 't' value 3.41which is significant at 0.05 level, since this value is higher than the table value 1.96.

Table 3 :Shows Mean, standard deviation and 't' value of attention control

Sl.No.	Game	N	Mean	Standard deviation	't' value
1	Under 22 years	60	20.82	3.28	3.10
2	Under 17 years	60	18.90	4.21	

***significant at 0.05 level.**

The above table shows the calculated 't' value 3.10which is significant at 0.05 level, since this value is higher than the table value 1.96.

Table 4 :Shows Mean, standard deviation and 't' value of Visualization and imagery control

Sl. No.	Game	N	Mean	Standard deviation	't' value
1	Under 22 years	60	22.53	3.72	0.66
2	Under 17 years	60	22.15	2.98	

***significant at 0.05 level.**

The above table shows the calculated 't' value 0.66 which is not significant at 0.05 level, since this value is lesser than the table value 1.96.

Table 5 :Shows Mean, standard deviation and 't' value of motivation

Sl. No.	Game	N	Mean	Standard deviation	't' value
1	Under 22 years	60	24.28	4.05	1.59
2	Under 17 years	60	23.15	4.87	

***significant at 0.05 level.**

The above table shows the calculated 't' value 1.59 which is not significant at 0.05 level, since this value is lesser than the table value 1.96.

Table 6 :Shows Mean, standard deviation and 't' value of positive energy control

Sl. No.	Game	N	Mean	Standard deviation	't' value
1	Under 22 years	60	24.35	3.89	2.42
2	Under 17 years	60	22.72	3.52	

***significant at 0.05 level.**

The above table shows the calculated 't' value 2.42which is significant at 0.05 level, since this value is higher than the table value 1.96.

Table 7 :Shows Mean, standard deviation and 't' value of attitude control

Sl. No.	Game	N	Mean	Standard deviation	't' value
1	Under 22 years	60	24.98	3.83	1.20
2	Under 17 years	60	24.17	4.04	

***significant at 0.05 level.**

The above table shows the calculated 't' value 1.20 which is not significant at 0.05 level, since this value is lesser than the table value 1.96.

Result of the Study

Analysis of the data showed that there is a significant difference between Ranji and under 17 years cricketers in Self confidence, negative energy control, attention control and positive energy control. In all the above sub scales, Ranji male cricketers shown the significant difference than under 17 years male cricketers. There is no significant difference in visualization and imagery control, motivation and attitude control between Ranji and under 17 years cricketers. When the mean values of these sub scales are compared Ranji players have shown more mean values than the under 17 male cricketers. This is because they training and coaching they get prior to their competition as well as the exposure they get for competition.

Conclusion

As one progresses up the chain of great athletic performers, it gets continually more difficult to beat the oppositions by raw physical talent and strength alone. The higher one gets, the more even the playing field becomes. Consequentially, sport performance is contingent upon mental preparation and psychological strength. As physical preparation for upcoming competitions begins so should mental preparation. The results of the study proves the characteristics of growth and developments of an individual.

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The Managing Sports Facilities

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Introduction.

Today the facilities for sports and fitness programs resemble less and less the old gymnasiums and stadiums of the past. As competition increases among fitness centers and athletics and recreation programs, the quality of facilities must improve. Multiuse facilities, designed to accommodate a variety and non-profit organization.

Facility management.

Human Resource Management practices are job design staffing, leadership, performance evaluation, reward systems and organizational justice. The types of human resources are volunteers, paid, nominated, elected, appointed, professionals and clients/consumers. Human Resource Management practices should result in sound satisfaction of all involved and in their commitment to the organization as well as it's enhancement. A clear cut understanding of the dynamics of human resources and their management is necessary to be an effective manager. Facility management.

A facility that is well maintained and managed is one the best public relation tools a director has

Policy guide.Facility supervision and security. Facility management. Facility scheduling. Inventory control.

Policy guide.

A policy document can be of great value in the operation of facility. It is essential that the policy document that is developed offers information and direction for all employees. It is an absolute necessity that the staff personnel who deals with the users of the staff facility thoroughly understand the rules, regulations, and operating philosophy

Facility maintenance.

In addition to promoting pride on an organization, proper maintenance is necessary to extend the life of and decrease the necessity' for repairs in a facility. Some people may think that maintenance of building, field, or pool is the responsibility of the janitorial and maintains crews.

Facility supervision and security.

Activity based facilities are used for many different events and by many individuals and groups, and the primary objectives should be to meet the needs and desires of all patrons as easily and comfortably as possible while ensuring their satisfaction and safety.

Inventory control.

Careful inventory control is as essential to schools as it is to business or other organizations. Keeping precise records of all equipment, uniforms, and resale items will not only help in controlling loss and theft but will make ordering and recording of stock and equipment easier.

May organization use special inventory forms to track equipment issued or purchased. Any person requesting the use of equipment, towels, or clothing's should provide proper identification,, such as student or member ID card or a drivers license. Many inventory systems can easily be Computerized to make tracking property easier.

Facility scheduling.

The final topic to discuss relating to facility management is scheduling. On the surface, facility scheduling may seem like an easy task, but it is not as simple as group A goes here at 9:00, and group B goes there at 10:00. fields, one stadium, two gymnasium, two strength training facilities, three dance/gymnastic rooms, and many people and groups and groups varying for the use of the facilities.

Planning tie facility.

In school settings, teaching stations are required for physical education classes. The number of teaching stations depends upon many factors, including, The number of students, number of days per week stations are in use, number of school periods per day and the types of programs to be provided.
Sports facility management.
In sports we should maintain the Indoor and Outdoor facilities.
Add to this use the requirements of Athletic practice and contest and recreational use, and the importance of Outdoor activity areas in an academic setting becomes very clear.

Policy guide.

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In addition to promoting pride on an organization, proper maintenance is necessary to extend the life of and decrease the necessity' for repairs in a facility. Some people may think that maintenance of building, field, or tool is the responsibility of the janitorial and maintains rews.
Activity based facilities are used for many different events and by 'many individuals and groups, and the primary objectives should be to meet the needs and desires of all patrons as easily and comfortably as possible while ensuring their satisfaction and safety.
The client may include individuals who desire a personal work-out, a group that has a reservation to play volleyball for one hour, or a large crowd of spectators who are in the facility for several hours, or a large crowd of spectators who are in the facility for several hours to watch the progress of a tournament.
Inventory control.
Careful inventory control is as essential to schools as it is to business or other organizations. Keeping precise records of all equipment, uniforms, and resale items will not only help in controlling loss and theft but will make ordering and recording of stock and equipment easier.May organization use special inventory forms to track equipment issued or purchased. Any person requesting the use of equipment, towels, or clothing's should provide proper identification, such as student or member IDcard or a drivers license. Many inventory systems can easily be computerized to make tracking property easier.
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Sports facility management.
In sports we should maintain the Indoor and Outdoor facilities. Add to this use the requirements of Athletic practice and contest and recreational use, and the importance of Outdoor activity areas in an academic setting becomes very clear. Indoor facility management.
The numerous factors influencing Indoor facilities, our discussion will focus primarily on general for varies areas within facilities. They are lighting, corridors, lockers, dressing areas, wet areas, surfaces, walls, ceiling, air quality control, and storage and office areas.
Outdoor faculty management.
The numerous factors influencing Outdoor facilities, our focus primarily on general for varies areas within facilities, they are Surfaces(natural turf, non turf, artificial surfaces), lighting, orientation, pool maintains.

Conclusion.

Today the competitions are increase among the fitness centers and athletic and recreational programs, the quality of facility must improve. So we have to improve our sports facilities and that managements.

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A Study on the effect of Plyometric Training for development of Speed among Long Jumpers of Hyderabad District in Telangana

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Abstract:
Plyometrics, also known as "jump training" or "plyos", are exercises based around having muscles exert maximum force in as short a time as possible, with the goal of increasing both speed and power. .The purpose of the present study to find out the effect of plyometric training for the development of Speed among Long jumpers. The sample for the present study consists of 40 Male Long Jumpers of Hyderabad out of which 20 are experimental group and 20 are controlled group. Plyometric exercises such as hopping, bounding, depth jumps, tuck jumps, box jumps etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training in Long Jump for six weeks. To assess the Speed Pre Test and Post Test were conducted in 50 Meters Run by the qualified technical officials of athletics to the experimental group and controlled group .This study shows that due to the plyometric exercises there is a improvement of Long Jump experimental group in speed and Long Jump controlled group is decreased in performance ability and speed due to the general training.
Key words: plyometric exercises, speed, explosive power etc

Introduction: Plyometrics, also known as "jump training" or "plyos", are exercises based around having muscles exert maximum force in as short a time as possible, with the goal of increasing both speed and power. Speed and strength are integral components of fitness found in varying degrees in virtually all athletic movements. Simply put the combination of speed and strength is power. For many years, coaches and athletes have sought to improve power in order to enhance performance. Throughout this century and no doubt long before, jumping, bounding and hopping exercises have been used in various ways to enhance athletic performance. In recent years, this distinct method of training for power or explosiveness has been termed plyometrics. Whatever the origins of the word the term is used to describe the method of training that seeks to enhance the explosive reaction of the individual through powerful muscular contractions because of rapid eccentric contractions.Plyometrics are any exercises that help develop the stretch shortening cycle of movement. They start with the stretching of a muscle, an amortisation phase (the period of time from the beginning of the lengthening phase to the beginning of the take-off phase) and then a muscle contraction phase. The faster the stretching phase, the faster the contraction phase. It's akin to an elastic band being stretched and then released, rather than just thrown. The actions should be explosive in order to train the SSC, rather than heavy and slow. The exercises can involve some sort of jumping or landing for the lower body, or some sort of throwing for the upper body. The three main jumps are:

The **long jump** (historically called the **broad jump**) is a track and field event in which athletes combine speed, strength, and agility in an attempt to leap as far as possible from a take off point. This event has a history in the Ancient Olympic Games and has been a modern Olympic event for men since the first Olympics in 1896 and for women since 1948

Materials and Methods: The purpose of the present study to find out the effect of plyometric training for the development of Speed in Long Jumpers. The sample for the present study consists of 40 Male Long Jumpers of Hyderabad out of which 20 are experimental group and 20 are controlled group. Plyometric exercises such as hopping, bounding, depth jumps, tuck jumps, box jumps etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training in Long Jump for six weeks. To assess the Speed Pre Test and Post Test were conducted in 50 Meters Run by the qualified technical officials of athletics to the experimental group and controlled group

50 M Run:

Sprint or speed tests can be performed over varying distances, depending on the factors being tested and the relevance to the sport. The 50 Meter Sprint is part of the International Physical Fitness Test.

Purpose: The aim of this test is to determine acceleration and speed.

Equipment required: measuring tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters.

Procedure: The test involves running a single maximum sprint over 50 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary standing position (hands cannot touch the ground), with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready and motionless, the starter gives the instructions "set" then "go.". The tester should provide hints for maximizing speed (such as keeping low, driving hard with the arms and legs) and the participant should be encouraged to not slow down before crossing the finish line.

Results**:** Two trials are allowed, and the best time is recorded to the nearest 2 decimal places. The timing starts from the first movement (if using a stopwatch) or when the timing system is triggered, and finishes when the chest crosses the finish line and/or the finishing timing gate is triggered.

Results: This study shows that due to the plyometric exercises there is a improvement of Long Jump experimental group in speed and Long Jump controlled group is decreased in performance ability and speed due to the general training.

Mean values and Independent Samples Test of 50 M run test between experimental and control groups

Variables	Group	Pre Test Mean ± SD	Post Test Mean ± SD	t	P - Value
50 M Run Test	Experimental	7.52 ± 0.294	7.23 ± 0.262	4.58	0.000
	Control	7.65 ± 0.376	7.73 ± 0.408		

***Significant at 0.05 level**

The Experimental Group of 50 M Run Men is 7.52 in Pre Test and Controlled Group mean is 7.65 in Pre Test there is a difference of 0.13 in Pre Test. The Experimental Group Mean is 7.23 in Post Test and Controlled Group mean is 7.73, the Experimental Group mean in Post Test in 50 M Run is decreased from 7.52 to 7.23 there is a improvement of 0.29 from Pre Test to Post and Control Group Mean is post test is 7.73 there is a increasement of 7.65 to 7.73 from Pre Test to Post, the performance is come down to 0.08 in the controlled group.

Discussion & Conclusion: Long Jump is all about explosive power. Explosive power is a combination of speed, muscular endurance and muscular strength, all of which can be developed through plyometric exercises. Due to Plyometric training the speed of experimental group is improved and due to the general training the controlled group speed is decreased. These exercises typically increase speed and strength and build power.It is concluded that due to plyometric training there will be improvement in speed among Long Jumpers.

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A Comparison Of Competition Anxiety Between Cricket Players Of Middle Adolescent And Late Adolescent Group.

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Abstract
Anxiety is an arousal state of mind which has both negative and positive effects on sports performance. The aim of present study was explore the difference of sports competition anxiety among cricket players of Middle Adolescent and Late Adolescent group. For the purpose of the study 30 Middle Adolescent and 30 Late Adolescent cricket players (boys) selected from district team of Dakshin Dinajpur. The age of the subjects ranged from 14 to 17 years and 18 to 21 years respectively. To examine the comparison of competition anxiety between players of two different psychological (growth and developmental) stages, competition anxiety questionnaire (SCAT) was used, developed by Rainer Marten. To analyzed the raw scores and "t test" were computed. The result shows that Middle Adolescent and Late Adolescent players differ significantly from each other and Late Adolescents are found more anxious than Middle Adolescents in this study has found by the "t test" at 0.05 level of significance.
Keywords – Anxiety, SCAT, Middle and Late Adolescent, Psychological stage etc.

Introduction

Competition is a situation in which two or more individuals or groups struggle for a particular goal in which the successor and their performance is related to each other. Thus, sports competition may be considered as an open conflict when the individual or group makes effort to surpass the other individual or the group in any sporting activity for which the competition is held. Modern sports has become a very complex behavioural issue for competitive sports which includes genetic endowment, generally good environment and highly specialized psychological training that are needed to produce better sportsmen. Anxiety has both positive as well as negative effects on the performance of players. It is one of the greatest problems of modern trends. It generally arises as a result of fear of something unknown that creates tension and disturbance in the homeostasis on the individual (Kocher & Pratap, 1972). This can lead to development of poor work habits or athletic technique. These often lead to failure and lack of confidence.As a positive motivating force it can be instrumental in motivating the athlete to work harder to find new and better ways to improve performances and to help set goals. The over anxious individual has a high level of cerebral and emotional activity with neuro-muscular tension that may eventually lead the individual to the exhaustion stage and perhaps to psychosomatic disorders. Anxiety plays a paramount role in sports. It is the challenge in sports participation which produces anxiety. How an athlete handles the anxiety determines how successful he would be. The degree of anxiety also varies with a number of different conditions. Anxiety is likely to be greater in higher competitive sports than in relatively non competitive sports, because in the competitive sports, participants are expected to win a great demands are made up on them to succeed.

Significance Of The Study

The results of the study would give information regarding the relationship of competition anxiety to playing performance of district cricket players.The results of the study would also help to understand the behavior of district cricket players of Middle and Late Adolescent groups during competition. The finding of study would provide the guideline to the future research investigation in sports psychology and sports sciences to conduct further research in this field.

Methodology

Subjects

The samples consisted of 30 Middle Adolescent and 30 Late Adolescent cricket players (boys) of Dakshin Dinajpur district. The age of the subjects ranged from 14 to 17 years and 18 to 21years respectively.

Procedure

Sports Competition Anxiety Test (SCAT) Questionnaire was prepared by Rainer Martens (1977). The test is reliable and valid. All players were first of all provided with following SCAT questionnaire and they were asked to give their opinion strictly independent manner. The SCAT contains 15 items, 10 of which measures symptoms associated with anxiety. The five items that are not scored are included in the inventory to reduce the likelihood of an internal response-set bias. The standard instructions of the SCAT ask respondents to indicate how they "usually feel when competing in sports and games".

Scoring

The subject was instructed to respond to each item according to how he generally felt at the time of competition. Every student had three possible responses i.e.1. Rarely 2. Sometimes 3. Often. The 10 test items, which were taken for scoring purpose, were 2,3,5,6,8,9,11,12,14 and 15. The remaining items i.e. spurious items, which were not scored out, were 1,4,7,10, and 13.These 5 questions was added to diminish response bias towards actual test items. The questionnaire based on 3 point scale responds.

Result And Discussion

Table-1

Significance difference between Middle and Late Adolescent players on competitive anxiety.

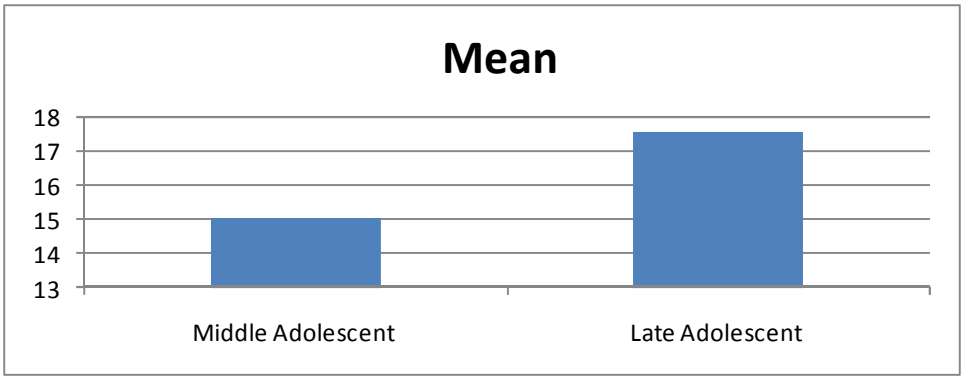
Group	N	Mean	S.D	D.M.	S.E.	't'-Value
Middle Adolescent	30	15.03	2.92	2.5	0.773	3.234
Late Adolescent	30	17.53	3.07			

Level of Significance = 0.05, Required 't'- Value = 2.00 and df = 58.

In table – 1 the Mean Value of Middle Adolescent cricket players is 15.03 and Late Adolescent cricket players is 17.53 . The Standard Deviation of Middle Adolescent cricket players is 2.92. and Late Adolescent cricket players is 3.07 and the t-Value is 3.234, which indicates that the difference is Significant at the .05 level.

Figure – 1

The mean value of anxiety of the Middle Adolescent group and Late Adolescent group.



It is clear from the figure -1 that the mean difference between Middle Adolescent cricket players and Late Adolescent cricket players are Higher, that means Late Adolescent players have higher level of competition anxiety and Middle Adolescent players have lower level of competition anxiety among the groups.

Conclusions

The main purpose of this study was to compare the competition anxiety Between cricket players of Middle and Late Adolescent group and it merely focused on the level of anxiety pre- competitions only. It based on the current results. Within the limitation of the present study and on the basis of the results following conclusion is drawn that Middle Adolescent group and Late Adolescent group differ significantly in competition anxiety from each other. Late Adolescent are found to be more anxious than Middle Adolescents in this study.

Recommendations

Similar study may be conducted by considering different physiological variables,among players of different age groups,may be conducted by taking beginners, advanced and professional players as a subject and may be repeated by dividing the subjects into different levels i.e. National Level and International Level

Acknowledgement

We would like to thank Mr. Tuhin Guha coach of Dakshin Dinajpur DSA cricket team and others for providing assistance in collecting the relevant information for undertaking quality research and also my thanks are due to all the players who acted as a subject for the study.

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Relationship Between Mental Skills With Performance Among The Indian Athletes

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Abstract
The purpose of the study was to assess and correlate the Mental Skills of athletes' which affects the performance of athletes during competition. The totals of thirty eight (38) athletes were selected to measure the correlation between variables of Ottawa Mental Skills Assessment Tools (version 3) with one weak difference with the help of Pearson's Correlation and Cronbach's Alpha. The responses given by athletes on mental skills questionnaire in Hindi and English language, which assessed 12 sub-scales namely Goal Setting, Confidence, Commitment, Stress Control, Relaxation, Fear Control, Energizing, Focusing, Imagery, Competition Planning, Mental Practice and Refocusing. According to the results and finding of this study, it is recommended that coaches must use mental skills during training and coaching of their athletes to facilitate performance and create a positive approach to improve the performance of the athletes for their goal attainment.
Key words: OMSAT -3 Scale, Athletics, Indian Athletes, National and International Level

Introduction
Competition has become so important in today's society that extremely lofty expectations by others are placed on competing athletes regardless of competitors' abilities, reasons for high level of sports participation and skill level. These types of conditions place high stress loads on the individuals, who are competing at elite level sports meets. Athletes could not perform at their best as they usually faced high anxiety, reason the stress is embodied as a process that unfolds over time, researchers should be aware that the emotional responses to it (e.g. competitive anxiety) are likely to be characterized by change due to the ever fluctuating environment athlete faces (Behroz Khodayari et. al., 2011).
To achieving a desired goal and higher performance concentrate with mental skills and coping with anxiety situation where one feels nervous and stressed because of the demand by the environment that leads to an imbalance between the demand and the ability of an individual to fulfill the expectation. Anxiety during the game in the other hand is defined as nervousness or and/or physical stress that is related to imbalance between the demand on performance and the capability of an individual to achieve that objective. Therefore, there need to be a positive thinking and better mental skills to solve the problems that may arise because of anxiety. If it is not handled well or misinterpreted, the athlete will lose control and their performance will decrease. (Hardy & Fazey, 1987). In the sport psychology literature, it is well-established that mental skill training interventions are effective in enhancing performance and decreasing anxiety (Greenspan & Feltz, 1989; Vealey, 1994; Weinberg & Comar, 1994), only a few studies had been conducted that examines the effects of mental training on athletes' anxiety. Research shows that so far none of these researches have focused on studying the relation between sport anxiety and mental skills criteria of sprint and endurance runner. Thus this study aims to study this relation between mental skill criteria and sport anxiety of endurance and sprint runners. (Hanton & et. al., 1999 b; Dominikus F & et. al., 2009; Aufenanger S. J., 2005).According to various researches find that using of mental skills and experiencing them during a competition are the best strategies to control factors which cause poor performance of athletes who can control their stressful conditions before a competition can be more successful in achieving their goals (Jones and et al, 1995). Thus, it seems that different mental skills have positive effects on the performance of athletes and reduce anxiety before a competition (Gould and et al, 1995).

Objective

The main objectives of the study were to find out the mental skills level of the Indian athletes, to establish the Reliability of the OMSET-3version and also find correlation among the subscales of Mental Skills assessment tool.

Hypothesis

There would be a high reliability of Hindi language translated to OMSET-3 version and significant correlation among the selected 12 Mental Skills of selected Athletes with the help of English and Hindi language.

Methods

ParticipantsThe Indian elite level athletes (N=38) age ranging from 17 years to 26 years were selected for the present study. At the time of collection of the data the subjects were attending Junior Indian National coaching camp of Athletics at coaching center of Sports Authority of India at Sonepat, Haryana, India and IIIrd Lusofonia Games 2014 coaching camp of Athletics at Goa, India.

Instrument

A standardized questionnaire OMSAT-3 version developed by Durand-Bush et. al. in 2001 was used to evaluate the extent of selected mental skill application. The OMSET-3 version was translated in Hindi language by the expert and again checked by the other two experts. The questionnaire examined mental skills in 12 sub-scales: Goal Setting, Confidence, Commitment, Stress Control, Relaxation, Fear Control, Energizing, Focusing, Imagery, Competition Planning, Mental Practice and Refocusing.

Statistical Method

As per the objective of the study selected statistical techniques use in this study were descriptive statistics, Pearson's Correlation and Cronbach's Alpha to measured relationship between mental skills variables to assessed their sports performance among Indian athletes and establish the Reliability of the OMSET-3 version on Indian athletes.

Results

As depicted and evident in the table no.-1, the descriptive result of mental skills of athletes' performance (vide Table no. 1). The descriptive value (Mean±SD) of Mental Skill were measured on Goal Setting 25.05±1.89 (test) & 23.66 ±2.62 (Retest), Confidence 24.24 ±2.69 (test) & 24.33 ±1.90 (Retest), Commitment 24.53±2.41 (test) & 24.95±2.56 (Retest), Stress Control 17.29±4.60 (test) & 18.45±5.29 (Retest), Relaxation 20.47±3.30 (test) & 21.11±3.33 (Retest), Fear Control17.39±4.84 (test) &16.97±4.58 (Retest), Energizing 22.08±3.20 (test) & 21.89±3.22 (Retest), Focus 19.58±4.47 (test) & 16.97±4.58 (Retest), Imagery 21.18±3.77 (test) &21.53±3.47 (Retest), Competition Planning 22.79±3.65 (test) & 23.16±2.87 (Retest), Mental Practice 21.92±3.93 (test) & 22.84±3.23 (Retest) and Refocus 15.76±4.78 (test) & 15.71±4.79 (Retest) on Test-Retest with the help of Pearson's Correlations

Table No.-1: Descriptive Results in Relation to Mental Skills 12 Variables

S. No.	Variable	N	Test		Re-test	
			Mean	SD	Mean	SD
1.	Goal Setting	38	25.05	1.89	23.66	2.62
2.	Confidence	38	24.24	2.69	24.33	1.90
3.	Commitment	38	24.53	2.41	24.95	2.56
4.	Stress Control	38	17.29	4.60	18.45	5.29
5.	Relaxation	38	20.47	3.30	21.11	3.33
6.	Fear Control	38	17.39	4.84	16.97	4.58
7.	Energizing	38	22.08	3.20	21.89	3.22
8.	Focus	38	19.58	4.47	18.92	4.65
9.	Imagery	38	21.18	3.77	21.53	3.47
10	Competition Planning	38	22.79	3.65	23.16	2.87
11.	Mental Practice	38	21.92	3.93	22.84	3.23
12.	Refocus	38	15.76	4.78	15.71	4.79

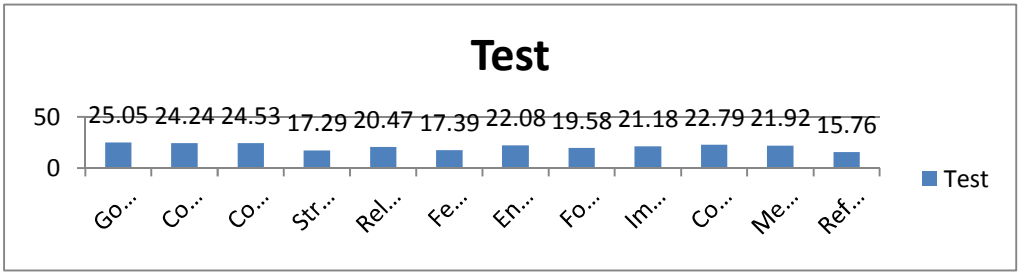

Figure-1 Graphical presentation of the mean scores of test-1 of OMSET-3

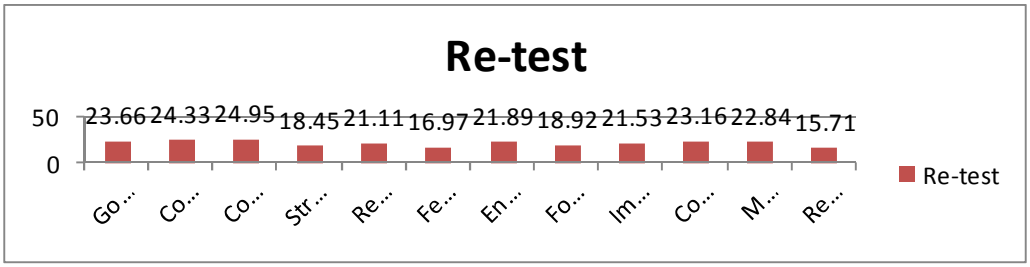

Figure-2 Graphical presentation of the mean scores of test-2 of OMSET-3

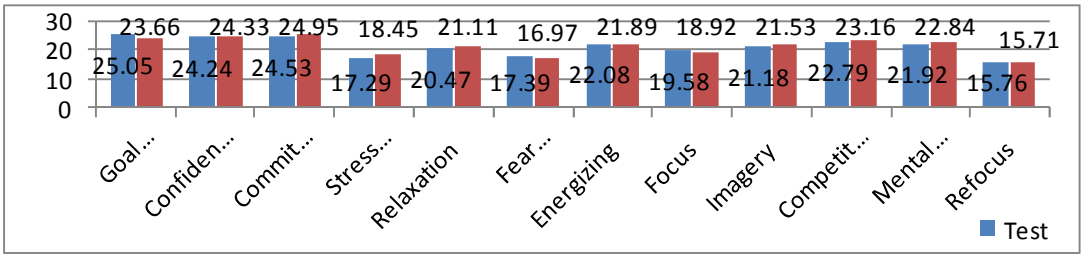

Figure-3- Graphical presentation of the mean scores of test-1 and test-2 of OMSET-3

Table no.2 states the results of Test-Retest of all variables of mental skills are significantly correlated at 0.01 level and 0.05 level. Variable Goal Setting, Commitment and Relaxation of Mental Skills are significantly correlated at 0.05 level and other variables Confidence, Stress Control, Fear Control, Energizing, Focusing, Imagery, Competition Planning, Mental Practice and Refocusing are significantly correlated at 0.01 level.

Table No. - 2: Correlation between Test &Retest of Mental Skills 12 Variables

S. No.	Variables	'r'	p-value
1.	Goal Setting	.397*	.014
2.	Confidence	.621**	.000
3.	Commitment	.386*	.017
4.	Stress Control	.493**	.002
5.	Relaxation	.377**	.020
6.	Fear Control	.643**	.000
7.	Energizing	.449**	.005
8.	Focus	.511**	.001
9.	Imagery	.505**	.001
10	Competition Planning	.599**	.000
11.	Mental Practice	.582*	.000
12.	Refocus	.511**	.001

*** Correlation significant at 0.05 levels (2-tailed)**
**** Correlation significant at 0.01 levels (2-tailed)**

Table No. 3 states the Cronbach's Alpha Reliability value is .822 for 12 Variables of Mental Skills, which is highly correlation between all 12 variables. After measuring individual variable inter-item relations of mental skills scale (OMSAT-3 version) we find all variables internal consistency was not highly correlated with variable items. There were some variables internal consistency is high (Competition Planning and Mental Practice), moderate (Confidence, Relaxation, Fear Control, Energizing, Focus, Imagery, and Refocusing) and low (Goal Setting, Commitment and Stress Control).

Table No. 3: Cronbach's Alpha Reliability Statistics of Mental Skills 12 and Variables

Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Items
Total score- 12 Variables	.809	.822	12
Goal Setting	.227	.270	4
Confidence	.572	.642	4
Commitment	.006	.020	4
Stress Control	.346	.386	4
Relaxation	.575	.578	4
Fear Control	.545	.534	4
Energizing	.650	.649	4
Focus	.594	.610	4
Imagery	.541	.577	4
Competition Planning	.730	.758	4
Mental Practice	.707	.710	4
Refocus	.476	.473	4

Discussion and Conclusion

The purpose of this study was to measure the effect of 12 variables of mental skills on Indian Population with the help of OMSAT-3 version developed by Durand-Bush et. al, 2001. Through this study, we wish to find out the significant relationship between the Mental Skill variables on Indian Population, which are said to be helpful in developing or facilitating performance and creating a positive approach in sports competition for athletes'. With the help of Pearson's Correlation and Cronbach's Alpha we found that OMSAT-3 version scales are Reliable on Indian Population in relation to performance.

As per the previous researches the result of mental skill scales is significantly effective on training programs, which helpful to athlete to improve their performance through cognitive strategies. Mental skills training can serve a number of purposes in preparing athletes for competition and improving the quality of their lives (Kelly Sponholz, 2012).

"Winning means doing your best and the key to doing your best is correctly understand your goals, strengths and weakness. You can have two athletes of equal skill and physical make up but the one with the stronger mind will usually be the one who will come out on top" (Dr. Andrew Jacobs, 1991).

Mental Skill training is required for high performance and Goal attainment. So, in the absence of Mental skill training many breaks in having to perform like: (a) Due to injury, (b) Nature of the game (time between playing periods such as half time), (c) Judicial breaks (umpires/ referees consulting) and (d) between execution of skills (e.g. in Golf, Trap Shooting etc.) (Kelly Sponholz, 2012).

According to this study was found positive relationship between all 12 variables of mental skills scale. But we also find the moderate and low relations between variables of mental skills. After study the various study and material on Mental Skills we found mental skills training is required for creating positive approach in sports competition to facilitate performance of athletes. According to this study survey we found athletes not getting any mental skills training in their training session and through this absence of training program all variables of Mental Skills (OMSAT-3 version) were not highly correlated in relation of athlete's performance.

Recommendation

For creating a positive approach in competition and facilitate performance of athletes' should need of psychological training/mental skills training. The MST can be given to athletes' with the help of psychologist or coach. Psychological Training program (MST program) should be used:To train and taught to well known or understanding in relation to their desired Goal attainment.This should be providing step-by-step process for training the positive mental skills that will improve capabilities using the convenience of individual's.Developing Positive psychological approach, Perception of success, Mental toughness, Hardiness/Skills, Self-esteem, Self-efficacy, Dispositional optimism and Positive and Negative affectivity.Feedback in relation to mental skills training for performance. Feedback in relation to individual athlete should be given by coach, psychologist and as well as athlete. It called self-talk technique to improve or creating positive approaches in athletes.Training program session should not be long.During training programs developed Goal setting.

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Physical Fitness - A New Approach In Engineering Colleges – KL University – A Case Study

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Introduction

Physical Education and sports are essential for overall development of an individual. India has a large population of youth compared to other developing and developed countries. World is looking at the youth of India for their services. United States of America has recruited many Indians in their country. The world survey indicates that the huge population of youth in India is the strength of the country.

Realizing the importance of physical activities; and the number of students involved in the engineering colleges, the researcher has conducted a survey of engineering colleges in Guntur and Vijayawada areas to know about the sports activities in their colleges.

In the survey he found a typical physical education program conducted by KL University at its campus in Vaddeswaram. This University is offering a certificate courses in sports for all the engineering students pursuing their courses. The program was made compulsory by the University and it is in progress for the last four years. The researcher has realized the need to take up a case study to know more about the sports program offered by the university and its impact on students.

Methodology:

In this study, the researcher has collected the data from the staff and students of KL University. a schedule was prepared to elicit the information from the staff and the office. A questionnaire was prepared and the opinions were collected from the students. The researcher has also conducted structured interviews with the faculty members of the department of Physical Education.

Analysis of the data:

KL College of Engineering, which was established as an engineering college affiliated to Acharya Nagarjuna University emerged as a deemed university. Data indicates that this institution is following semester pattern from first year onwards. The university is following continuous assessment, Credit and grading system to evaluate the students. There are prescribed number of hours of teaching for each credit. KLU is insisting on two certificate courses. Among them sports certificate course is mandatory and the student can choose the second course from any other branch.

Sports are conducted as co-curricular activity for all the students as is done in other institutions. The sports achievements of this institute are enclosed as annexure. The University has developed reasonably good sports infrastructure. This institution has been encouraging and supporting the sports activities right from the beginning of this institution. All the major games and sports are supervised by coaches appointed by the college. This is one reason why students have been winning prizes at Zonal, State, National and International levels apart from Inter-University level.

As per the data given by the college, the following are the sports achievements of the college.

Table-1: Medals won during the last five years:

Year	Inter University participants	State	National	International
2011-12	5	6	7	3
2010-11	17	5	4	2
2009-10	19	3	1	1
2008-09	15	2	2	-
2007-08	12	2	2	1

Table 2:Details of Sports Quota Admissions:

Sl no	Course	Year wise admissions			
		2009	2010	2011	2012
1	B.Tech	22	35	8	22

Table 3 Certificate course in sport: Offering an exclusive sports certificate course

Sn	Name of the event/ game	Number of students attended the course				
		2009 Batch I	2009 Batch 11	2010	2011	2012
1	Kabaddi	8	2	10	47	115
2	Volley ball	97	52	175	198	270
3	Basketball	47	53	108	149	120
4	Football	57	51	81	142	159
5	Lawn Tannis	28	27	73	153	77
6	T.Tennis	90	144	117	168	206
7	Cricket	43	51	81	218	160
8	S.Badminton	101	231	210	211	203
9	Yoga	442	337	187	250	180
10	Throwball	35	11	48	133	112
11	Athletics					54
12	Handball					82
13	Netball					76
14	Kho-Kho					71
15	Chess					137
	Total	948	959	1090	1669	2022

The features of the course: This course is compulsory for students of all branches in 2^{nd} year 2^{nd} semester. Strength of the engineering courses in KLU is 2000. The students will have to register online to choose their game. Depending on the availability of infrastructure the games will be allotted to students. When a particular game is over crowded, the department of Physical Education conducts counseling to students to re allocate other games to them.

Duration of the course: The period of coaching is 45 periods. The playing timing is 2 hours per week
Activity timings: The time table is made in such a way that the student can attend the classes in one of the following three sessions on the day.

Morning session	**6.00am to 8.00am**
Afternoon session	**12.30pm to 2.30pm (only for indoor activity).**
Evening session	**3.00pm to 6.00pm**

Course content: As such the content of course for each game is not provided to the students. The appointed coaches guide the students to learn the game. The students have to play the game during the session allotted to them. Since the appointed coaches are proficient in playing the game, they teach the basics of the game and the students practise the skills they learn.
Evaluation process and grading system: The student is evaluated for a total of 100 marks. The break up is as follows. Theory - 25 marks; practical- 50marks; and viva - 25marks.
Grade system: A grade: 70% and above ; B grade: 60% to 69% ; C grade: 50% to 59%
Staff pattern:
The department of physical education is run with 20 members .
Financial viability of the course: A fee of Rs 1500 is collected for the certificate course along with the term fee.
This fee component will meet the total salaries of all the coaches in the department of physical education and also the maintenance of sports infrastructure and the consumable sports equipment. With the existing salaries of faculty and sports equipment, the university is left with surplus funds for sports by conducting the course.
Duties hours for the staff: Coaches: 6.00 am to 8.00 am and in 3.00 Pm to 6.00 pm. Physical Directors: 9.00 am to 5.00 pm.

Opinions of the students

sn			
1	General impression about the course	97% Satisfactory	3% Not satisfied
2	About course content	42% felt that there is a need to supply course content	58% felt that there is no need to supply course content
3	About Evaluation and Grading system	87% Satisfactory	13% Not satisfied

Data analysis on the student's opinion:

Out of the 120 students interviewed, 97 percent of the students undergoing the course have expressed their satisfaction about the course. 3% felt that they are losing their time because of the sports. Among the third and fourth year students 95 % students are satisfied with the course. To a question about the course content, 42% of the students felt that they need to be given material related to their subject. About 87% of the students have expressed their satisfaction about the evaluation and grading system.

The above data indicates that there is a need to develop the course content and supply the same to the students so that they can follow the syllabus. Even though there is an evaluation process for evaluating the efficiency of the student in playing the game chosen by an individual, there is a need to evaluate the physical fitness components of all the students before and after the completion of the course. Further, there is a need to introduce some component of course content with health related physical fitness and the need to develop the physical fitness for their healthy living.

Observations:

The Institution is giving priority to the sports activities.

They are providing sports quota admissions and also fee concessions to the outstanding sportsmen and sportswomen.

The efforts of the institution in conducting the certificate course shows their commitment in promoting sports and general fitness of the students as this is a unique course offered in any of the engineering institutions in this area.

Recommendations:

The students should be provided with the course content and some course material for their guidance.

A component of physical fitness assessment, documentation and monitoring system has to be developed to monitor the fitness level of all students throughout their study period and specifically before and after the certificate course to know the impact of the course.

More seminars have to be conducted to create awareness of physical fitness courses.

A physical fitness evaluation lab can be developed to help the students to monitor their own strengths and weaknesses.

Special provision for encouraging sports

1. Quto in Admissions all ready inclined

.Fee concessions ,,

3Exemptions from attendances for all the days of a)Participation in national and international competitions ans the for the days of training before participation

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A Comparative Study of Speed among Badminton Players and Lawn Tennis Players of the Khammam District in Telangana

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Abstract:.The Purpose of the study is to find the Speed among Shuttle Badminton Players and Lawn Tennis Players of the Khammam District in Telangana. The Sample for the Study consists of 15 Male Lawn Tennis Players and 15 Male Badminton Players of Khammam District between the age group of 18-22 Years. To assess the speed the 50 M Run Test Test is conducted by the Technical Officials. The results of the study shows that the Badminton Players are having good speed compare to Lawn tennis Players.It is recommended that this study is help to Coaches to prepare the condition Program to improve the speed among Badminton and Lawn Tennis Players.
Key words: explosive strength, speed etc.

Introduction:

Badminton is a racquet sport played by either two opposing players (singles) or two opposing pairs (doubles), who take positions on opposite halves of a rectangular court divided by a net. Players score points by striking a shuttlecock with their racquet so that it passes over the net and lands in their opponents' half of the court. Each side may only strike the shuttlecock once before it passes over the net. A rally ends once the shuttlecock has struck the floor, or if a fault has been called by either the umpire or service judge or, in their absence, the offending player, at any time during the rally.[1]

The shuttlecock (or shuttle) is a feathered (or, mainly in uncompetitive games, plastic) projectile whose unique aerodynamic properties cause it to fly differently from the balls used in most racquet sports; in particular, the feathers create much higher drag, causing the shuttlecock to decelerate more rapidly than a ball. Shuttlecocks have a much higher top speed, when compared to other racquet sports. Because shuttlecock flight is affected by wind, competitive badminton is played indoors. Badminton is also played outdoors as a casual recreational activity, often as a garden or beach game.

Since 1992, badminton has been an Olympic sport with five events: men's and women's singles, men's and women's doubles, and mixed doubles, in which each pair consists of a man and a woman. At high levels of play, especially in singles, the sport demands excellent fitness: players require aerobic stamina, agility, explosive strength, speed and precision. It is also a technical sport, requiring good motor coordination and the development of sophisticated racquet movements

Tennis is a sport people play individually against a single opponent (singles) or between two teams of two players each (doubles). Each player uses a racquet that is strung with cord to strike a hollow rubber ball covered with felt over or around a net and into the opponent's court. The object of the game is to play the ball in such a way that the opponent is not able to play a good return.

Tennis is an Olympic sport and is played at all levels of society and at all ages. The sport can be played by anyone who can hold a racquet, including wheelchair users. The modern game of tennis originated in Birmingham, England, in the late 19th century as "**lawn tennis**".[1] It had close connections both to various field ("lawn") games such as croquet and bowls as well as to the older racquet sport of *real tennis*. During most of the 19th-century in fact, the term "tennis" referred to real tennis, not lawn tennis: for example, in Disraeli's novel *Sybil* (1845), Lord Eugene De Vere announces that he will "go down to Hampton Court and play tennis."[2]

The rules of tennis have changed little since the 1890s. Two exceptions are that from 1908 to 1961 the server had to keep one foot on the ground at all times, and the adoption of the tie-break in the 1970s. A recent addition to professional tennis has been the adoption of electronic review technology coupled with a point challenge system, which allows a player to contest the line call of a point.

Tennis is played by millions of recreational players and is also a popular worldwide spectator sport. The four Grand Slamtournaments (also referred to as the "Majors") are especially popular: the Australian Open played on hard courts, the French Open played on red clay courts, Wimbledon played on grass courts, and the US Open played also on hard courts.

Methodology:

The sample for the present study consists of 15 Male Badminton and 15 Male Tennis Players of Khammam District between the age group of 18 to 22 Years. To assess the speed the 50 M Run Test Test is conducted by the Technical Officials

50 M Run:

Sprint or speed tests can be performed over varying distances, depending on the factors being tested and the relevance to the sport.

purpose: The aim of this test is to determine acceleration and speed.

equipment required: measuring tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters.

procedure: The test involves running a single maximum sprint over 50 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary standing position (hands cannot touch the ground), with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready and motionless, the starter gives the instructions "set" then "go.". The tester should provide hints for maximizing speed (such as keeping low, driving hard with the arms and legs) and the participant should be encouraged to not slow down before crossing the finish line.

results: Two trials are allowed, and the best time is recorded to the nearest 2 decimal places. The timing starts from the first movement (if using a stopwatch) or when the timing system is triggered, and finishes when the chest crosses the finish line and/or the finishing timing gate is triggered

Results and Discussion:

The results of the study shows that the Badminton Players are good in Speed compare to Lawn Tennis Players

Table I Showing Comparison of Speed among Badminton Players and Lawn Tennis Players

Speed	N	Mean	Std.Deviation	t	Sig.
Lawn TennisPlayers	15	8.64	0.702	1.39	0.174
Badminton Players	15	8.32	0.557		

In Table –I the Mean Values of Badminton Players in 50 M Run is 8.32 and Lawn Tennis Players is 8.64 The Standard Deviation on Badminton Players is 0.557 and Lawn Tennis Players is 0.702 and t is 1.39 and significance is 0.174.

The Mean values of Badminton Players in 50 M Run is 8.23 and Lawn Tennis Players is 8.64 in 50 M Run. Hence the Badminton Players are having good speed compare to Lawn Tennis Players. Badminton players hit fast to the Shuttle cork and also move fast in badminton court.

Conclusions:

It is concluded that the Badminton Players are having good speed because they require good speed and agile to perform well.

Recommendations:

Similar Studies can be conducted among females and in other Sports and games. This study is useful to the Coaches to prepare the conditioning program to improve their skills in Badminton and Lawn Tennis.

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Effect of Plyometric Exercises for development of Shoulder Strength and Speed among Judokas of Osmania University

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Abstract:
Plyometric exercises are a vital component for Judokas for obtaining the maximal strength,speed and force during the Judo event and should be included in any conditioning program of Judokas. The purpose of the present study to find out the effect of plyometric exercises for the development of Shoulder strength and speed among Judokas. The sample for the present study consists of 20 Male Judokas of Osmania University out of which 10 are experimental group and 10 are controlled group. Plyometric exercises such as hopping, bounding,depth jumps, tuck jumps, Push ups etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for six weeks. Pre Test and Post Test were conducted in Pull ups to measure the shoulder strength and 30 M Run to measure the speed among experimental group and controlled group .This study shows that due to the plyometric training there is a improvement of experimental group in the Shoulder strength and Speed and controlled group is decreased in performance of shoulder strength and speed.Judokas is all about explosive power. Explosive power is a combination of speed, muscular endurance and muscular strength, all of which can be developed through plyometric exercises. It is concluded that due to plyometric exercises there will be improvement in shoulder strength and speed among Judokas.
Key Words:plyometric exercises,maximal strength, judokas etc.

Introduction:
Plyometric exercises are a vital component for Judokas for obtaining the maximal strength,speed and force during the Judo event and should be included in any conditioning program of Judokas. Successful Judokas are athletic,technically sound and tactical savvy in the ring. Spending long hours in the gym makes you more technical and tactical. With an effective workout routing and the right training, your coordination,quickness and explosiveness should improve through Plyometric training Plyometric train your nervous system to trigger quick, Powerful muscle contractions, workouts include high intensity exercises that emphasize short bursts of energy. Judokas a sport that requires explosive and powerful movements for an athlete to succeed.Plyometrics mimics the physical demands of a fight and will train your body to move more quickly and explosively. When completing plyometric exercises, they must be done in short bursts at the highest intensity possible, then take a brief rest before moving to the next set or exercise**Judo** is a modern martial art, combat and Olympic sport created in Japan in 1882 by Jigoro Kano. Its most prominent feature is its competitive element, where the objective is to either throw or takedown an opponent to the ground, immobilize or otherwise subdue an opponent with a pin, or force an opponent to submit with a joint lock or a choke.Strikes and thrusts by hands and feet as well as weapons defenses are a part of judo, but only in pre-arranged forms and are not allowed in judo competition or free practice judo practitioner is called a **judoka**.The philosophy and subsequent pedagogy developed for judo became the model for other modern Japanese martial arts that developed from traditional schools. The worldwide spread of judo has led to the development of a number of offshoots such as Sambo and Brazilian jiu-jitsu.
Fitness is a very important in the success of a Judokas. Judokas need excellent levels stamina, speed, agility and power. In order to improve as a judo player you should be testing and monitoring your fitness levels and adjusting your training so you can fully reach your potential.

Method:.

The purpose of the present study to find out the effect of plyometric exercises for the development of Shoulder strength and speed among Judokas. The sample for the present study consists of 20 Male Judokas of Osmania University out of which 10 are experimental group and 10 are controlled group. Plyometric exercises such as Push ups,Medicine Ball Throws, Hopping,Bounding,Tuck Jumps, Box Jumps, dumbell throws etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for six weeks. Pre Test and Post Test were conducted in Pull ups to measure the shoulder strength and 30 M Run to measure the speed among experimental group and controlled group . The Judo Player weight categories is from 50 kg to 80 Kgs.

Result:

This results of the study shows that due to the plyometric training there is a improvement of experimental group in the Shoulder strength and Speed and controlled group is decreased in performance of shoulder strength and speed due to the general training.

Table I:
Mean values of 30 M run test between experimental and control groups of Judokas

Variables	Group	Pre Test Mean	Post Test Mean	t	P - Value
30 M Run Test	Experimental	4.53	4.23	2.58	0.000
	Control	4.66	4.73		

The Experimental Group of 30 M Run Men is 4.53 in Pre Test and Controlled Group mean is 4.66 in Pre Test there is a difference of 0.13 in Pre Test. The Experimental Group Mean is 4.23 in Post Test and Controlled Group mean is 4.73, the Experimental Group mean in Post Test in 30 M Run is decreased from 4.53 to 4.23 there is a improvement of 0.30 from Pre Test to Post and Control Group Mean is post test is 4.73 there is a increase of 4.66 to 4.73 from Pre Test to Post, the performance is come down to 0.07 in the controlled group. Due to the Plyometric Training the Experimental group has improved a lot.

Table II: Mean values of Pull Ups test between experimental and control groups of Judokas.Hil

Variables	Group	Pre Test Mean	Post Test Mean	t	P - Value
Pull ups	Experimental	10.00	13.50	6.19	0.000
	Control	10.10	10.00		

The Experimental Group of Pull ups in Pre Test is 10.00 and Controlled Group mean is 10.10 in Pre Test there is a difference of 0.10 in Pre Test. The Experimental Group Mean in Pull Ups Test is 13.50 in Post Test and Controlled Group mean is 10.00, the Experimental Group mean in Post Test in Pull ups Test is improved from Pre Test 10.00 to Post Test 13.50 and Control Group Mean is post test is 10.00 there is a decrease in the performance from 10.10 to 10.00. The Experimental Group has improved due to Plyometric exercises in Pull ups Test and Controlled Group is decreased due to general training.

Conclusion:

Judo is all about explosive power. Explosive power is a combination of speed, muscular endurance and muscular strength, all of which can be developed through plyometric exercises. In a competitive sport such as Judo overall body strength and ability to attack quickly are distinct advantage. Competition are according to the weight categories.It is concluded that due to plyometric exercises there will be improvement in shoulder strength and speed among Judokas.

Recommendations:

Similar Studies can be conducted on Women Judokas and other sports and games.

References:

Wikipaedia,Judo

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Managing Everyday Fitness

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Introduction.

One dictionary definition of exercise is: "Regular" pr repeated appropriate use of a faculty, power, or bodily organ." Thus even if we never run, jog, swim, or play sports, we are nevertheless indulging in some part sort of exercise; the mere act of living insures this. But the key words are regular and appropriate. Whatever exercise programme one may choose either to Achieve real fitness or to remain fit - The person must make sure that the exercises appeal to the person enough to make you feel that you can face doing them regularly, and that they are right for their age, weight and present level of fitness.

Better health is meaningful.

The process of living has two dimensions. One is the shee number of days of our lives. The other is the quality of the life experience itself, if we maintain our bodies in top physical condition through proper eating, sensible exercise and adequate rest, then both dimensions should be obtained. We will stand a good chance of living better and be able to make a greater contribution to the overall happiness of our families and ourselves. We will feel good and equally important through our outward appearance.One essential part of any programme for healthy living is daily exercise. Exercise can make you look, think, sleep, feel better and keep your body parts in good order. Work alone is usually not enough, because it exercises only certain muscles and often not in the proper way. Exercising for health is like eating for health. The benefits of small amounts of exercise do good and a minimal exercise programme is enough to keep you fit, healthy and vital; provided you follow it regularly.Your basic skeleton cannot be altered, /you have only the fat and muscles to work with and unfortunately you cannot take the fat off just like that. Fat is lost by burning more calories that are consumed. Muscle, however can be built up selectively to keep you in proportion and give you better shape.

Good posture is important apart from being vital to your appearance and comfort, the way you stand, sit and move is also important to your health. Good posture aids breathing, circulation, digestion and puts far less strain on muscles and joints; it even helps the nervous system to function efficiently. Exercise and diet are vital to good health, but they must be combined with adequate rest and relaxation.

Benefits of Regular Exercise.

We could make a long list of the obvious physical benefits of regular exercise and it would be pleasing to add to the list that exercise helps us to live longer but unfortunately, there is little direct evidence to support it. The sports and physical education activities can improve a person's self image and thus help with physical personality. It seems more reasonable to say that exercise and participating in competitions can contribute in improving personality, but there is no assurance that this will happen. There are wonderful opportunities in exercise and sports for positive personality growth, but the benefits actually derived are more dependent upon the individual's response than upon the activities themselves.

All though exercise can help to relieve tension and depression, it is not possible to say that regular exercise will prevent mental illness. But it is known that exercise can be of great help to those people recovering from mental breakdown. Strength is often equated with fitness, but this may not be true. Strength does not depend on muscle size or how much they bulge. In attempting to achieve health and fitness the emphasis is not entirely on appearance, but functional capacity and individual needs. Strength is quite often confused with muscular endurance. But the measure of true strength is the maximal amount of force that a muscle group can exert. I low ever a minimum level of strength is obviously necessary' for you to be fit.

Physical activity has virtues that are closely related to relaxation. Firstly, the time spent exercise is time taken out of work, and contributes to some balance life. Secondly, physical fatigue, particularly in the relatively unfit, promotes sound sleep. An eminent doctor once said that hard exercise is the best antidote to anxiety: get physically tired enough and you will sleep through anything. A piece of advice often given by doctors to people with heart conditions is 'get yourself a dog and do not let your wife take it out The third virtue is that many types of exercise involve meeting and participating with an entirely different group of people. This means a change of routine that can lead to relaxation.

Exercise for the day.

In our modern society an increasing number of people have so little time to spare that they can no longer keep fit through sports. They are simply too busy. More over they are almost always on the move for these people Dr. Morehouse has developed a realistic fitness programme. This is divided into three stages, each lasting eight weeks. Stage one will help you to develop tissue, stage two will increase your endurance stage three will build up your strength.

Walking is the best from of exercise after 40 years, you can do for an hour and at least you have to cover 4 - 5 km distance, the walk should be brisk enough, or else you can walk for some distance slowly and increase the pace of your walk another 200m again slow down your pace for 100 m again go for fast pace like this cover the whole distance. This will give proper endurance and good exercise. If you walk with companions and have chat with them the purpose is defeated. If it is feasible to jog you can follow the same to increase your endurance.

Conclusion.

To keep your body hale and healthy, you need exercise with the sense of mind about your body, conditions and the ability of your body parts. Exercise with sensible eating and proper rest will make you fit for everyday with minimum maintenance. You are brisk enough to do your work in the house hold and out of the house by keeping yourself fit.

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An Analysis Of The Impact And Influence Of Fitness Equipments On Speed And Muscular Strength Among High Fitness Boys

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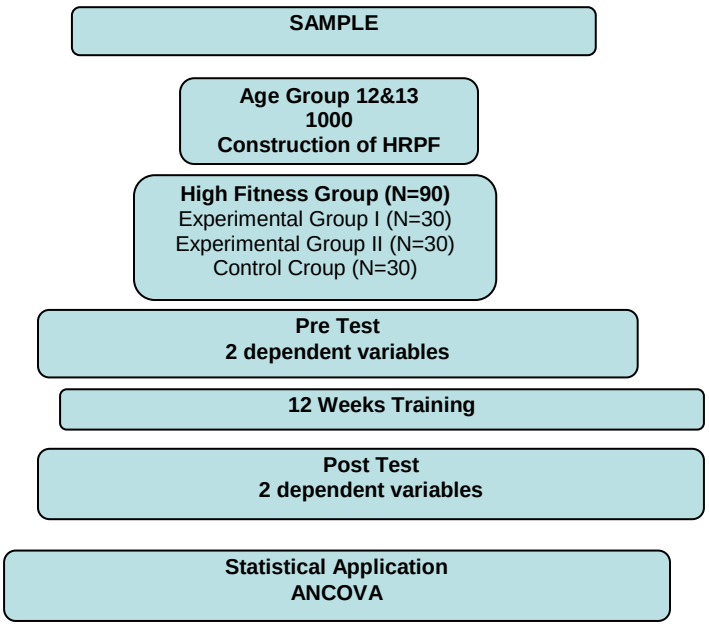
Introduction

Health can be interpreted on constructive levels. It includes physical, mental and social well-being of a human being. Health is not static. Humans are plastic in flesh and blood, able to respond both behaviorally and biologically even when various factors threaten their well-being, resulting in stress. Such plasticity produces long term consequences. Health represents interactions among biological, economic and socio-cultural factors.Physically fit person can handle the everyday work load without stress and discomfort. When one is fit, one looks bolder, feels better and has more physical energy. When one feels fit, the good things of life have more meaning and value. The sky is blue but seems to be more beautiful, the music heard will be sweeter than before, and the food becomes more delicious and tastier. This is true because all the part of the body is operating at full efficiency and with full energy and vigor. One can work or play harder and can recover faster. Exercise will help the individuals to lead a longer life, just as one need food, rest, sleep and need daily vigorous exertion for the maintenance of healthy physical capacities.The methodology is explained clearly in the following diagram.

Purpose Of The Study

The study has two fold purpose and the main objective of this study is to identify the fitness level of the students in the three different age groups of the Tamilnadu State.The second objective of the study is to evaluate the effect of exercises on fitness equipments in the selected bio motor, physiological & biochemical variables among selected high fitness boys.The purpose of this study is to generate the awareness of the fitness on among people, especially the young children.

Methodology



Results

Table I

Means, Standard Deviations And Adjusted Means Among Experimental And Control Groups On Speed And Muscular Strength For The Age Group 12&13

Variable	Tests		Exercise With Equipment Group	Exercise Without Equipment Group	Control Group
Speed	Pre Test	Mean	9.727	9.730	9.757
		Sd	0.260	0.220	0.200
	Post Test	Mean	9.475	9.629	9.751
		Sd	0.193	0.250	0.194
	Adjusted Post Test	Mean	9.483	9.635	9.736
	'T' Value		8.785*	4.168*	1.517
Muscular Strength	Pre Test	Mean	1.567	1.533	1.533
		Sd	0.504	0.507	0.507
	Post Test	Mean	3.400	2.367	1.467
		Sd	0.498	0.490	0.507
	Adjusted Post Test	Mean	3.400	2.367	1.467
	'T' Value		13.449*	7.047*	0.494

* Significant at 0.05 level. Table value required for df (29) = 1.699

For the dependent variable speed, the means of pre test and post test, standard deviation and the adjusted means of the Exercise With Equipment group EWEG recorded were 9.727 $\pm$ 0.260, 9.475 $\pm$ 0.193, 9.483, for Exercise Without Equipment group EWOEG the means of pre test and post test, standard deviation and the adjusted means obtained were 9.730 $\pm$ 0.220, 9.629 $\pm$ 0.250, 9.635, and for Control group CG the means of pre test and post test, standard deviation and the adjusted means were noted as 9.757 $\pm$ 0.200, 9.751 $\pm$ 0.194, 9.736.For the dependent variable Muscular Strength, the means of pre test and post test, standard deviation and the adjusted means of the Exercise with Equipment group EWEG were recorded as 1.567 $\pm$ 0.504, 3.400 $\pm$ 0.498, 3.400, for Exercise without Equipment group EWOEG the means of pre test and post test, standard deviation and the adjusted means were 1.533 $\pm$ 0.507, 2.367 $\pm$ 0.490, 2.367, and for Control group CG the means of pre test and post test, standard deviation and the adjusted means were noted as 1.533 $\pm$ 0.507,1.467 $\pm$ 0.507,1.467.

Table Ii

Analysis Of Covariance For The Data Among Control And Experimental Groups On Motor Variables For The Age Group 12 & 13

Variable	Test	Sources of Variance	Sum of Squares	Df	Mean Squares	F-Ratio
Speed	Pre test	Between	0.016	2	0.008	0.152
		Within	4.515	87	0.052	
	Post test	Between	1.150	2	0.575	12.523*
		Within	3.996	87	0.046	
	Adjusted Post test	Between	0.969	2	0.484	38.805*
		Within	1.073	86	0.012	
Muscular Strength	Pre test	Between	0.022	2	0.011	0.043
		Within	22.300	87	0.256	
	Post test	Between	56.156	2	28.078	112.917*
		Within	21.633	87	0.249	
	Adjusted Post test	Between	56.124	2	28.062	111.559*
		Within	21.633	86	0.252	

* Significant at 0.05 level of confidence. The table value for significance at 0.05 withdf 2 and 87 and 2 and 86 are 3.103 and 3.104 respectively.

From the table II the F ratio for Speed is 38.805 for Muscular Strength is 111.559 two motor variables were significant at.05 level since those values are greater than the table value of 3.104 then the post hoc test was applied to find out which group showed more improvement.

Table Iii
Scheffe's Test For The Mean Scores Of Adjusted Post-Test Of Experimental And Control Groups On Speed And Muscular Strength For The Age Group 12&13

Variable	Adjusted Post Test Mean			Mean Difference	C.I. Value
	With Equipment Group	Without Equipment Group	Control Group		
Speed	9.483	9.635		0.152*	0.072
	9.483		9.736	0.253*	
		9.635	9.736	0.101*	
Muscular Strength	3.400	2.367		1.034*	0.323
	3.400		1.467	1.934*	
		2.367	1.467	0.900*	

* Significant at 0.05 level.

From the table III the C.I. value for speed is 0.072 for muscular strength is 0.323. The table clearly shows that all the mean differences were greater than the C.I. value. It is very clear that the experimental group has significant improvement with control group for all the motor variables. When compared between the experimental groups exercise with equipment group wasshowed better improvement than exercise without equipment group on speed and muscular strength.

Discussion

To find out the effect of exercise with and without equipments the following conclusions were derived from the analysis. The experimental groups have significant improvement with control group for all the motor variables namely Speed, Muscular Strength for all the three age groups. So it is clear that the equipment place an important role for improvement of motor fitness variables irrespective of age.When compared to the two experimental groups, Exercise With Equipment Group was showed better improvement than Exercise Without Equipment Group on the all four motor variables for the three age groups.

Conclusions

High fitness boys do exercise with equipment. It increases not only body strength but also mental strength. Simply running sprints is not enough to enhance the performance. To really improve the times, whether a sprinter or a football player, start incorporating training equipment into the routine. As they use equipment for doing exercise, our body will not lose the energy, strength mental ability etc. if boys do merely exercise without equipments it gives us only relaxation for the time only so the training explains exercise with equipment group has been shown better improvement than exercise without equipment group and control group for all the motor variables namely Speed and Muscular Strength for all the three age groups.

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Allocations Of Budget On Sports -An Empirical Study In Between Third World And Developed Nations

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Introduction

However, the cost of operating, organizing, and building infrastructure for an Olympic Games or World Cup can be daunting, especially for developing nations without the same level of sports and tourism infrastructure that exists in many industrialized countries. On the other hand, mega event present an opportunity to generate the political will necessary to make investments in general infrastructure that can lead to long-run economic growth. From an economic standpoint, the question is whether mega-events represent a good investment for developing countries and whether developing nations have used mega-events differently than industrialized nations to promote general infrastructure development. These are the questions that will be addressed in this chapter.

The modern Summer Olympic Games began in 1896 and take place every four years at new locations selected through an elaborate bidding process many years in advance of the event. The Winter Olympics, held since 1924, follow an identical procedure. In recent times, the host city for both the summer and winter Games has been selected six or seven years before the event is to take place. Historically, hosting the Olympic Games has been almost exclusively the domain of rich, industrialized nations. Between 1896 and 1952, every Summer and Winter Games was held in either Western Europe or the U.S. with cities in Japan, Canada, and Australia joining the mix over the next two decades. Mexico City in 1968 was the first location outside the industrialized world in which the Games were held. Eastern European countries were awarded the Summer Games in 1980 (Moscow) and Winter Games in 1984 (Sarajevo, Yugoslavia).

Sporting mega-events such as the Summer and Winter Olympic Games or soccer's World Cup focus the world's attention on the region hosting the event and are highly sought-after by cities and countries around the globe. It would not be an exaggeration to suggest that the competition among cities and countries to host these events can often be as fierce as thecompetition among the athletes on the playing field. Over the past decade or two, developingcountries have increasing thrown their hats into the ring for a chance to host these mega-events.

Seoul, Korea was awarded the 1988 Summer Games, a time during which South Korea might be classified as "rapidly industrializing" rather than industrialized, but it is probably fair to note that shortly after the Olympics, the country was admitted to the Organization for Economic Cooperation and Development (OECD), a de facto dividing line between industrialized and developing nations. More recently, however, the International Olympic Committee (IOC) has encouraged bids from poorer countries and has awarded the Games on several occasions to countries outside of the OECD.

Twenty percent of the bids submitted for the Summer Games prior to 2000 came from outside of Western Europe, Japan, Australia, Canada, and the U.S. Since 2000, however, over half of all bids have come from this group including applications by Istanbul, Bangkok, Havana, Buenos Aires, and Cape Town, among others, plus, of course, the successful bids by Beijing and Rio. On the Winter Olympics side, the past decade has witnessed bids from Kazakhstan, Georgia, China, Slovakia, and Poland for the first time.

The world's other major international mega-sporting event is the Federation International de Football Association (FIFA) World Cup. Like the Olympics, this event takes place every four years and features soccer teams composed of players grouped by nationality (i.e. "national teams"). The World Cup3 began in 1930 in response to soccer's growing prominence in the Olympics. Due to the number of large stadiums required to accommodate the tournament, FIFA selects a host country for the event as opposed to the IOC's tradition of choosing a single host city. For the first 60 years of the competition, the World Cup essentially alternated between the two centers of soccer interest, Europe and Latin America, so

unlike the Olympics, numerous countries in Central and South America have hosted the World Cup including Uruguay, Brazil, Chile, Argentina, and Mexico.

This rotation scheme lasted until 1994 when FIFA, in an attempt to expand world interest in the game, awarded the World Cup to the U.S., a huge untapped market for the sport. Japan and South Korea followed in 2002, the first tournament co-hosted by two countries and the first World Cup played in Asia. More "firsts" followed: South Africa became the first African host in 2010, Russia becomes the first Eastern European host in 2018, and Qatar, a nation with no domestic soccer league and little soccer history or tradition, is slated to become the first Middle Eastern host in 2022. In 2014, the World Cup returns to a Latin American country for the first time in nearly 30 years in Brazil.

It is interesting to note that as the world's attention in the economic realm has increasingly shifted from the so-called G-7 nations, which include the world's largest industrialized economies such as the U.S., Japan, U.K., and Germany, to the BRICS nations, an acronym for the five rapidly developing nations of Brazil, Russia, India, China, and South Africa, so too has attention shifted in the sports world. Including the 2010 Commonwealth Games hosted by India, every BRICS nation will have held at least one of the world's top sporting events between 2008 and 2018.

Short-run costs and benefits

It is undeniable that mega-events result in significant tourism expenditures by sports fans, but in many cases the observed increases in economic activity during the event fall well short of the economic impact predicted by event organizers. Focusing just on the Olympics and World actual economic data before, during, and after the events. In the majority of cases, independent economists find little or no direct economic impact of mega-events on host economies. The disconnect between *ex ante* predictions and *ex post* reality comes as a result of numerous factors. Obviously, any economic impact studies may be biased if inflated, unrealistic, or best-case projections are used. But even under realistic assumptions, economic impact Estimates often suffer from at least three deficiencies that serve to exaggerate the numbers. First, to the extent a sporting event attracts spectators from the local community; any money spent by these fans is money not being spent by these residents elsewhere in the local economy. Spending by local citizens does not represent new money in the economy but is rather simply money that is reallocated within the city or country. For example, at least 400,000 of the 3 million tickets for the 2014 World Cup in Brazil are available for sale exclusively to Brazilians.

Conclusion

Similarly, while initial projections for the 2010 World Cup in South Africa predicted 483,000 international visitors for the event, econometric analysis of tourist arrivals to the country suggests an increase of only 123 to 202 thousand above what would have normally been expected without the World Cup (Matheson, Peeters, and Syzmanski, 2012). Third, money spent in a local economy during a mega-event may not stick in the local economy. Mega-events are frequently characterized by capacity constraints and high prices for items such as accommodations.

Indeed, the U.K. government claimed that despite a fall in raw tourism numbers during the 2012 Olympics, "the average spend of Games visitors was around double that of a normal visitor and as a result there was a substantial net increase in overseas visitor spend of £235million." (UK, 2013, pg. 18) While the combined effect of lower visitor numbers combined with higher prices may have led to higher direct spending, it is quite possible that indirect spending and the multiplier effect actually fell. As case in point, hotel rooms can frequently sell at three or four time their normal rates during mega-events, but the desk clerks and room cleaners who service these establishments will not generally see their wages triple or quadruple. Thus, the tourist industry should see an increase in returns to capital with little effect on returns to labour. In addition, some of the higher spending at the event leaks out of local economy as many hotels or other service industries are owned by outside individuals.

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A Comparative Study Of Agility Among Kho-Kho And Kabaddi Players Of NG Govt. Degree College Of Nalgonda

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Introduction*:*
The ability to perform a series explosive power movements in rapid succession in opposing directions.It is the ability of the person to change direction while moving at or near full speed move specifically, the agility is the ability to change the direction quickly and to control the body movements and regain body control to proceed with another movement . Agility is highly dependent upon or interrelated with speed ,strength, balance and coordination . it is developed through practice and confidence in movement .The acquisition of agility is not only improvement to success in games and sports requiring quick change dodging objector opponents , for ex;Gymnastics,football , basketball, hockey judo etc. But also to safely outside of the play situation. There for to develop agility, the daily physical activity programme should include fast starts, stops and changes of body direction at a speed.
Agility: Ability to make successive movements in different directions efficiently and rapidly.
Kho-Kho: kho-kho is one of the popular Indian game. It was in the year 1914 the first kho-kho game was known as “solapuri “kho-kho. Kho-kho is a game where two sets of players i.e. chasers and runners, play the game. The result of the game depends upon the time spend by the runners and the points scored by the chasers.For getting point or to play better in kho-kho,players should be very much physically fit.physically fit ,in the sense, that he should be able to run fast, more agile, need of co-ordination ,good strength ,endurance etc.And to be a good kho-kho player good speed,agility ,flexibility and quck speed of movements are required. If these qualities are improved by any means then the overall kho-kho playing ability can be improved
Kabaddi:The game of kabaddi is ancient and essentially Indian origin playing kabaddi not only inproves the muscles but also increases agility flexibility and speed of movements due to the improvement of leg strength, trunk strength and other sports men like qualities. at the same time this game has been used to develop strength,fitness,courage aglility and team spirit, defensive art and sound moral values since the game requires these components.Though it is called by a variety of names its skill stuff and play patterns remain, more or less.In south india,kabaddi is known as chedugudu, in Bengal it is called DO DO and in Maharashtra its original name is HU-TU-TU Kaun Bada is a north Indian version of the game kabaddi which denotes a sort of challenge to the opponent .The sanjeevani, Gemini and Amar are three popular versions of kabaddi played with greater flexibility in rules but under the aegis of the kabaddi federation of india only sanjeevani is officially recognized as the national style .
Method: The purpose of the present study to find out a comparative study of agility anong kho-kho and kabaddi players of NG Govt Degree College in nalgonda the sample for the present study consist of 20 each from kho-kho and kabaddi players. The subject selected from different courses run by the NG Govt Degree College Nalgonda
For collecting data the researcher conducted the 40 yards shuttle run for measuring agility:The performer was asked to start the run behind the starting line on the signal “go” and runs to the blocks , picks up one, returns to the starting line and places block behind the line he then repeats the process with the second blocks.the score for each performer was recorded to the nearest tenth of a second to complete the course .

Result:

Significant difference of mean scores in shuttle run of kho-kho and kabaddi players

Groups	Mean	Std.deviation	Difference of Mean	S.E	t-ratio	T-value
Kho-kho players	10.87	0.98	0.11	0.26	0.42	2.02
Kabaddi players	10.98	0.95				

The above table explain that the calculated value of t-ratio is 0.42 which is compared to the table value required for statistical significance is much lower .The mean value of kho-kho player is 10.87 and kabaddi players is 10.98The result iof the study showed significant improvement in the kabaddi players when compared to the kho-kho players

Conclusion: The results of the study shows the kho –kho and kabaddi players do not possess much variation in respect of agility. The t-ratio value indicates that insignificant difference exists among kho - kho and kabaddi players of Nalgonda district.

Recommendations:

The following recommendations are made on the basis of the results obtained from the study which may be useful for further research work.

1. The same type of study may be under taken by selecting other games.
2. The same study may be taken on girls of the same age group.

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Evaluation Of Stride Length And Frequency Of Sprint Event

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Introduction

Sprint running is extremely technical. It involves the use and coordination of the entire body. Olympic sprinters fine tune the biomechanics of their sprint running form for years to reduce their times by fractions of a second. There are two basic phases in sprint running i.e contact phase and flight phase. These two motions occur in every stride while running. Also in each phase muscles contract either eccentrically or concentrically. In eccentric motion, tension increases on the muscle as it lengthens. In concentric motion, tension increases on the muscle as it shortens. Tellez (1984) states that the ability to move the legs faster through the full running motion is limited by the physiological abilities of the athlete. Each individual has a different ratio of Type II (fast twitch) fibers to Type I (slow twitch fibers). The higher the ratio of Type II fibers, greater the ability to move quickly. The identification of biomechanical factors and the effect on stride frequency is of utmost importance. Tellez (1984) identified improper technique as the major influence, resulting in slower leg turnover. For example, a low heel kick on the recovery phase of the stride will cause the leg "lever" to lengthen, which will reduce the angular velocity. Over striding, projecting the foot too far in front of the body causes a breaking effect, which will also cause slower leg turnover. Deshon and Nelson, cited in (Hay, 1993) concluded, "Efficient running is characterized by placement of the foot as closely as possible beneath the centre of gravity of the runner"An athlete's running velocity is the product of step /stride frequency (SF) and step length (SL) – a step being from one foot contact to the next contact of the contra lateral foot. Whilst the equation of velocity equals SF multiplied by SL is very straightforward and simple in theory, athletes face problems in practice, as the relationship between SF and SL is generally an inverse relationship at maximum effort. Thus, an increase in one parameter could typically lead to a decrease in the other. This is due to the negative interaction apparent in the production of these variables. With proper technique, a sprinter can achieve optimal stride length. Dintiman *et al.* (1997) describes ideal stride length as a length that is as long as is mechanically efficient, with the foot striking the ground with the lower leg at 90° to the ground. Flexibility and strength both influence stride length. If the leg is free to move through the range of motion, an optimal stride is possible. If the range of motion is restricted, due to lack of flexibility, the stride length will be lessened. Likewise, as strength increases, the amount of force applied to the ground with each stride should increase, resulting in the sprinter travelling further with each stride.Accurate measurements of athletes' stride parameters, such as stride/step length, stride/step frequency, stance times and foot contact times are important to coaching and also for the biomechanical studies. Existing stride parameter monitoring approaches are either expensive, or insufficiently accurate, or not suitable for supporting daily training sessions.The purpose of this study was to evaluate the stride characteristics of stride length and frequency among Physical Education College students in 100mts sprint event.

Methodology

Subjects:Twenty one male and twelve female students of first year master degree in physical education of college of physical education and sports sciences of Acharya Nagarjuna University were chosen for this study. The informed consent was taken from the subjects. The best 100mts performance was taken from each subject for analysis.Based on the performance of the subjects in 100mts run, all the subjects were divided into four groups i.e. A, B, C and D. Group 'A' consists of eight male subjects who clocked above fourteen seconds and B group consists of thirteen male subjects who clocked below fourteen seconds, C group consists of seven female subjects who clocked above sixteen seconds and the D group consists of five females subjects who clocked below sixteen seconds.

Tools and equipment:

Calibrated Digital stop watches with 100^{th} of a second measuring capability, steel measuring tape and lime powder for marking.

Collection of data:

The variables selected for this study were the stride length, stride frequency, speed and height of the individual. For the collection of data three testers were allotted for recording the timing of 100mts run and three judges for counting the number of strides of each subject. The timing in seconds and strides in number were taken. When the timing of three appointed judges differed, the timing of two judges that are equal were taken. When there is no matching of time among all the three, middle time is recorded. The same policy was followed for recording the stride count also. Each subject was given sufficient time for their warm-up. Analysis was conducted by using simple mathematical calculations. Acquired data was subjected to statistical analysis by correlation of coefficient between the stride length and frequency with time as well as with individual standing height. All statistical procedures were conducted using the SPSS software. The level of significance was set at 0.05

Analysis of data and discussion:

Table:1 showing the anthropometric measurements of male subjects A and B groups.

	Heigh (mts)		Weight (kg)		L. length (cm)		S. height (cm)	
Group	A	B	A	B	A	B	A	B
Mean	1.65	1.70	57.13	63.15	82.13	84.77	83.25	85.00
SD	0.03	0.07	5.26	8.93	1.66	5.8	2.09	2.95

The averages height of Group 'A' subjects was 1.65mts, weight 57.13 kg, leg length 82.13cm and sitting height was 83.25cm. Group 'B' subjects averages were height 1.70mts, weight 63.15 kg, leg length 84.77cm and sitting height was 85.00cm.

Table:2 showing the anthropometric measurements of female subjects C and D groups.

	Height(mts)		Weight (kg)		L. length (cm)		S. height (cm)	
Group	C	D	C	D	C	D	C	D
Mean	1.56	1.56	49.43	47.80	78.86	79.00	77.29	77.00
SD	0.03	0.05	4.95	3.87	1.96	2.83	3.283	1.90

Group 'C' subjects averages were height 1.56mts, weight 49.43 kg, leg length 78.86cm and sitting height was 77.29cm. Group 'D' subjects averages were height 1.56mts, weight 47.80 kg, leg length 79.00cm and sitting height was 77.00cm.

Table2: Indicating the stride characteristic of 100mts run between group ‘A and B.

	Time (sec)		Strides (No)		S. lengt (mts)		S.frequency(Hz)	
Group	A	B	A	B	A	B	A	B
Mean	15.67	13.66	52.38	47.62	1.92	2.12	3.36	3.50
SD	1.74	0.26	5.14	5.09	0.18	0.19	0.24	0.39

Above table showed that group B has shown longer stride length and lesser number of strides than groups of A. The stride frequency of group B was also higher than group A. The ‘B’ group had an advantage of individual standing height which must have contributed for their higher stride length. But the higher stride frequency of the same group can be attributed to their power.

Table2: Indicating the stride characteristic of 100mts run between group C and D groups.

	Time (sec)		Strides (No)		S.length(mts)		S.frequency(Hz)	
Group	C	D	C	D	C	D	C	D
Mean	17.39	15.66	58.57	54.40	1.71	1.84	3.38	3.48
SD	0.93	0.25	4.4	2.50	0.13	0.08	0.297	0.14

The D group has shown longer stride length and lesser number of strides than group of C. The stride frequency of group D was also higher than group C. In spite of having the same average individual standing height the ‘D’ group had an advantage of higher leg length which must have benefited for their higher stride length.The data indicates that unlike the stride length, the stride frequency of C and D groups were shown higher than A group. It can be attributed to the poor technique of group A in the running style but not to the power.

Figure 1: Graph shows the differences among four groups stride characteristics.
A,B,C & D groups.

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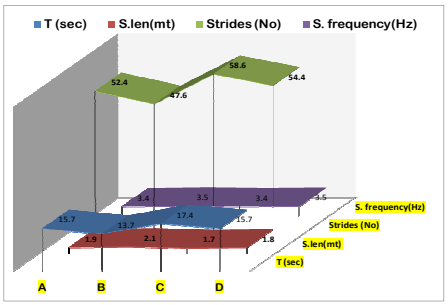

Table3: Indicating the ‘r’ values and significance level between variables among A, B, C and D groups.

Group	SFvs T	Signi.	SLvs.T	Signi.	SLvsSF	Signi.	HtvsSL	Signi.	HtvsSF	Signi.
A	-0.41	Not	-0.71	Sig	-0.34	Not	0.04	Not	0.18	Not
B	-0.17	Not	-0.03	Not	-0.97	Sig	0.44	Not	-0.46	Not
C	-0.48	Not	-0.19	Not	-0.77	Sig	-0.03	Not	0.09	Not
D	0.12	Not	-0.41	not	-0.95	Sig	-0.74	not	0.76	not

*Significant at 0.05 level (2.22)
SF – Stride frequency; SL - Stride length; T - time

The above table clearly indicates that there is a negative correlation between stride frequency and the time of the individual. All groups have shown the negative co-relation. With this we can draw a conclusion that the stride frequency is a contributor for clipping the time. There is a negative correlation between the stride length and time. This also can draw a conclusion that the stride length also is a contributing factor for clipping the time. The significant level of correlation for a group can be attributed to the fact that the stride length has contributed more for their timing than the stride frequency. The negative correlation between stride length and stride frequency of all the groups can be attributed to the fact that each one negative with other variable. The significant level of negative correlation of group B can be attributed to the fact that they have correct matching of stride length and stride frequency and it can be attributed to the skillfulness of the group in running.There is positive correlation between height and stride length. The higher level of correlation of the B group can be attributed to the fact that they have utilized their height to optimum for their performance. In case of correlation between height and stride frequency, the group B has negative co-relation. It indicates that this group has utilized more of stride length than stride frequency and they need to work on frequency than the stretching.

Table --5 showing ratio between the height and Stride length.

Group	Mean height	Mean stride length	Ratio between the height and stride length
A	1.65	1.92	1.16
B	1.70	2.12	1.24
C	1.56	1.71	1.09
D	1.56	1.84	1.17

The above data indicated that the ratio of height and stride length varies. In case of group B had highest ratio of 1.24 than group A and in women groups the D group had highest ratio of 1.17 than C group. These results showed that the B group had highest relation between standing height and stride length than other groups. D group had second highest than A and C groups with high stride length with less height.

Summary And Conclusion

On the basis of the results the stride characteristics of stride length and frequency had shown negative correlation with time. Stride length and frequency both are important for contributing the betterperformance. The significant level of correlation for a group can be attributed to the fact that the stride length has contributed more for their timing than the stride frequency. The negative correlation between stride length and stride frequency of all the groups can be attributed to the fact that each one negate with other variable. The significant level of negative correlation between stride length and stride frequency of group B can be attributed to the fact that they have correct matching of stride length and stride frequency and can conclude that this group is skillful in running This would be happened due to physical and physiological differences among men and women. Few studies have showed that the world class elite athletes stride length was between 2.15 and 2.25mts and stride frequency between 4.61 and 4.81Hz. However, this study showed that there was a large variation in performance patterns amongst these groups with elite athletes. It was assumed that more power generated primarily in the legs would produce more force and therefore, greater speed

Recommendations

These observations recommends that, the every sprinter has an advantage of standing height to improve his/her stride length. These results were discussed with stride length and stride frequency, becausethese two variables play a key role for better performance. Hence athletes must concentrate on these two during training for the optimum performance.Through this study it is observed that, due to physical and physiological variations the performance also varies. Hence while selecting the suitable runners for sprinting events above factors should be kept in mind.Further research will be focused on methods of running speed development.

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Comparison Of Serum Creatinine Values Of Elite Athletes With Their Aerobic & Anaerobic Power

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Abstract
This is an attempt to investigate the relationship of serum creatinine with aerobic and anaerobic power of national level athletes. The study was conducted on 17 male athletes in the age group of 16 -20 years who have been under training at Madan Mohan Malviya Stadium Allahabad for participating in National meets. At the time of evaluation their competition experience was of minimum three years. The creatinine was estimated by taking blood samples through Jeffers's methods. The physiological variables such as aerobic power and anaerobic power were examined with the help of three minute step up test and Sarjant jump test respectively. Each subject was examined individually during rest hours with the help of standard scientific instruments. The results of the study were drawn here: (1) the mean values of creatinine (1.32± 0.39) anaerobic power (106.29±15.26) and aerobic power (54.41±9.06). Significant relationship with anaerobic power of athletes was found in relation to creatinine.
Key Words: Creatinine, aerobic and anaerobic power

Introduction
The concentration of creatinine in serum is the most widely used and commonly accepted measure of renal function in clinical medicine. Reference values of biochemical variables specific for sportsmen have never been defined, and those used for the general population are also applied to athletes (Giuseppe B. 2006). It is understandable that a degree of scepticism exists as to the relevance of talent identification and selection but this assumption is largely untested. Therefore this study namely comparison of serum creatinine values of elite athletes with their aerobic & anaerobic power can contribute to selection procedures in junior athletes at elite senior level as well as sketch of selecting, training, comparing, improving and knowing the status of both level athletes and determinants of success and be profiled later at senior level. The present study aims at analyzing and predicting the factors to success in sports among junior and senior players.

limitations of the study
Factors that could not be controlled in the study were as follows:
Environmental factors,Difference regarding subjects daily routine ,Training schedule.
Non availability of sophisticated tools.

Hypotheses
There would be no significant relationship between creatinine and aerobic power.
There would be no significant relationship between creatinine and anaerobic power.

Objectives

The result of the present study may contribute effectively to guide the users in the following ways:

The physical educator and coaches will be able to utilize serum creatinine, aerobic power, anaerobic power, components for adequate training to enhance these important characteristics in the players.Results of this study will be helpful to select the best players for competitive team.On the basis of the results of their study coaches will be able to give the training according to the preference level of the players.The coaches and physical educators will be able to compare their team with other team.The players will be able to self evaluate themselves.

Methodology

To know the effect of serum creatinine on aerobic power and anaerobic power the study was conducted on 17 subjects. All were male players of National level & were under training in Madan Mohan Malviya stadium of age ranging from 16-20yr.

The vertical jump test known as the Sargent jump is conducted to measure anaerobic power. The difference in distance between the simple reach height and the jump height is recorded. Modified Harvard Step test was conducted on 17 male athletes and to monitor the efficiency of cardiovascular system by using 12 inches bench at the step of one every two second for 3 minutes. After completion of test pulse rate was counted for 15 second from carotid artery and then multiply by four to get aerobic power.

Serum creatinine is taken to know the relation with aerobic and anaerobic power. Serum creatinine of athlete was measure by Jeffers method.

Findings

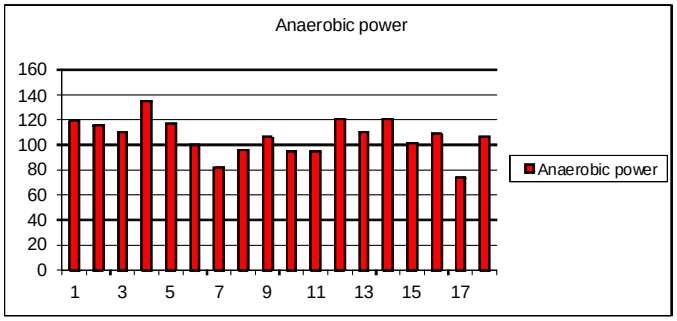
To know the relation of serum creatinine with aerobic power and anaerobic power study was conducted on 17 subjects.

Table -I

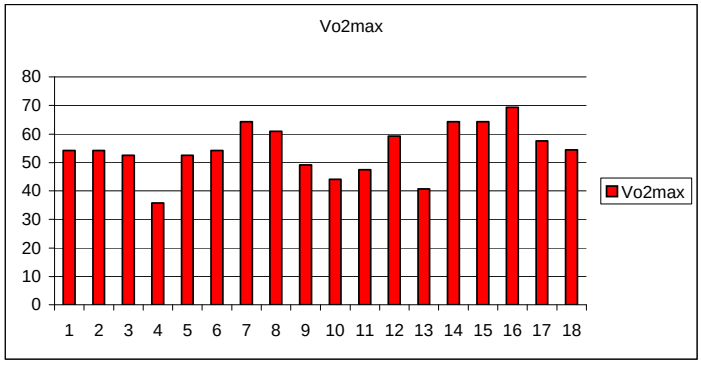
Mean and standard deviation of aerobic and anaerobic power were given in following table:

Exercise	Mean	Standard Deviation
Anaerobic Power	106.29	±15.25
Aerobic Power	54.40	±9.06

Graph 1: Represent the Anaerobic Power of 17 Athletes and number 18 represent the mean value of 17 athletes:



Graph 2: Represent the aerobic Power of 17 Athletes and number 18 represent the mean value of 17 athletes:



The Mean anaerobic power of male athlete of Madan Mohan Malviya Stadium(106.29) was much higher than Sargent Jump Ratings for Anaerobic Power (excellent>65) it is might be due to that most of athlete are thrower and engaged in short duration, high intensity exercise.The Mean aerobic power of male athlete of Madan Mohan Malviya Stadium(54.40) was much lower than Harvard Step Test rating for Aerobic Power (Poor<50) it is might be due to that most of athlete are thrower and engaged in short duration, high intensity exercise.

Graph 3: Represent the Creatinine of 17 Athletes and number 18 represent the mean value of 17 athletes:

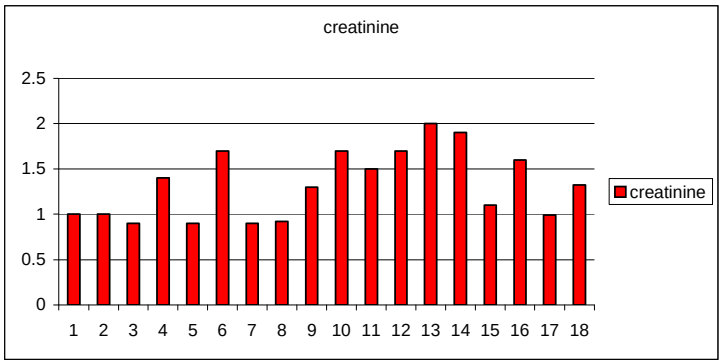


Table:2 Correlation of biochemical indices with aerobic and anaerobic power table

	Aerobic Power	Anaerobic Power
Creatinine	-0.19	0.148

Discussion:

The above table and graph shows that there is no significant relation between Creatinine & Anaerobic power while there is no significant relation between Creatinine & Aerobic Power is may be due to fact that creatinine may improve the performance of short-duration, high-intensity activities such as weight lifting.

Conclusion:

Serum creatinine is taken to know the relation with aerobic and anaerobic power. Serum creatinine of athlete was measure by Jeffers method. The compilation of studies by **Williams et al (1998)** is suggestive that creatinine supplementation has little or no effect upon athletic performance under field conditions. Additionally, it is quite likely that creatinine supplementation may be less effective in elite or highly trained athletes.

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Effect of Plyometric Training for development of Speed in 50 M Breast Stroke in Swimming

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Abstract:
Plyometrics are designed for the maximum generation of force by your muscles in the shortest amount of time possible.. The breaststroke is a swimming style in which the swimmer is on his or her chest and the torso does not rotate. It is the most popular recreational style due to its stability and the ability to keep the head out of the water a large portion of the time. In most swimming classes, beginners learn either the breaststroke or the front crawl first.The purpose of the present study to find out the effect of Plyometric exercises for the development of speed in Breast Stroke swimming.The sample for the present study consists of 20 Male Swimmers of Osmania University out of which 10 are experimental group and 10 are controlled group Plyometric Exercises such as hopping,bounding,chest pass, Power drop, box jumps, tuck jumps etc were given to experimental group for six weeks. Pre Test and Post Test were conducted 50 M Breast Stroke Style Swimming to assess the speed.This study shows that due to the Plyometric training there is a improvement of experimental group in the 50 M breast stroke. Swimming compare to the controlled group.Plyometric training is essential for elite swimming performance. To optimise the benefit of land-based training, you must select exercises with mechanical relevance to the swimming action, particularly those movements which propel the swimmer through the water, such as the arm pull and leg kick Plyometric exercises plays a important role for the development of muscles' activity and contraction which helps in getting the good speed in Swimming. It is recommended that all Coaches must the Plyometric Traning Program for better results.
Key words:Plyometric exercises, breast stroke etc

Introduction:
Swimming is a sport that requires both muscular strength and endurance, and for this reason when training with weights you need to concentrate on developing strong muscles with high endurance capabilities.The sport of swimming has been recorded since prehistoric times; the earliest recording of swimming dates back to Stone Age paintings from around 14,000 years ago. Written references date from 2000 BC. Some of the earliest references to swimming include the Gilgamesh, the Iliad, the Odyssey, the Bible, Beowulf, Quran and other sagas. In 1538, Nikolaus Wynmann, a German professor of languages, wrote the first swimming book, The Swimmer or A Dialogue on the Art of Swimming Der Schwimmer oder ein Zweigespräch über die Schwimmkunst. Competitive swimming as we know it today started in the United States around 1800.Competitive swimming became popular in the nineteenth century. The goal of competitive swimming is to constantly improve upon one's time(s), or to beat the competitors in any given event. Swimming in competition should create the least resistance in order to obtain maximum speed. However, some professional swimmers who do not hold a national or world ranking are considered the best in regard to their technical skills.
In competitive swimming, four major styles have been established. These have been relatively stable over the last 30–40 years with minor improvements. The four main strokes in swimming are:
Freestyle (free)
Breaststroke (breast)
Backstroke (back)
Butterfly (fly)

Breaststroke is a swimming style in which the swimmer is on his or her chest and the torso does not rotate. It is the most popular recreational style due to the swimmer's head being out of the water a large portion of the time, and that it can be swam comfortably at slow speeds. In most swimming classes, beginners learn either the breaststroke or the front crawl first. However, at competition level, swimming breaststroke at speed requires comparable endurance and strength to other strokes. Some people refer to breaststroke as the "frog" stroke, as the arms and legs move somewhat like a frog swimming in the water. The stroke itself is the slowest of any competitive strokes and thought to be the oldest of all swimming strokes. Since the breaststroke is swam with the eyes almost always above water, it is important in lifesaving as it allows the rescuer to approach the victim without losing sight of them.

Breast Stroke style in Swimming

Method:

The purpose of the present study to find out the effect of Plyometric exercises for the development of speed in Breast Stroke swimming.The sample for the present study consists of 20 Male Swimmers of Osmania University, Hyderabad, Telangana, India out of which 10 are experimental group and 10 are controlled group.
The following Plyometric exercises are used for training the Experimental group for six weeks.

1. Hopping	2. Bounding	3. Power Drop
4. Box Jumps	5. Tuck jumps	6. Hurdle Jumps
7. Standing Jumps	8. Squat Jumps	9. Front Cone Hops
10. Medicine ball throws	11. Jumps with wts	12. Dumbell throws

General Training of Swimming is given to the controlled group.Pre Test and Post Test were conducted 50 M Breast Stroke Style Swimming to assess the speed for both the groups after six weeks of training.Pre Test and Post Test were conducted 50 M Breast Stroke Style Swimming to assess the speed.

Result:
This study shows that due to the Plyometric exercises training there is a improvement of experimental group in the 50 M breast stroke Swimming compare to the controlled group.

Table -1 Showing the Performance of Swimming Experimental Group and Swimming Controlled Group in 50 Meters Breast Stroke

50 M Breast Stroke Swimming	N	Pre Test	Post Test	t	Sig.
Experimental	10	39.22	36.22	-3.35	0.004
Control	10	39.22	39.72		

The Mean Performance of Experimental Group in 50 M Breast Stroke Swimming in Pre Test is 39.22 and Post Test is 36.22 That Means Experimental group has improved 3.00 due the Plyometric exercises training in the mean timing.The Mean Performance of Control Group in 50 M Breast Stroke Swimming in Pre Test is 39.22 there is decreased in performance to 39.72. That Means Experimental group has decreased by 0.50 due to the general training. The Experimental group has improved a lot due to the Plyometric exercises training.

Conclusion:

Professional Swimmers have even a small edge on a competitor due to plyometric training . Plyometrics can decrease a swimmer start time of the starting block, cutting the time by those few seconds in start and swimming strokes can spell victory.Plyometrics are a potential asset to any dry land program. Always consider the swimmer exercises, training plan and environment to make informed choices on how to fit them into the training program.It is concluded that due to the Plyometric training there is improvement in the 50 M Breast Stroke swimming.

Reccomendations:

It is recommended that Plyometric training program must be included in the coaching program for swimmers. Similar Studies can be conducted in other events and also in females in swimming.

Acknowledgements:

I am thankful to Mr.Bala, Swimming Coach of Osmania University for providing the help in the Study.

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Wikipaedia, Swimming and 50 M Breast Stroke

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INVESTIGATION OF THE CHANGES ON SYSTOLIC AND DIASTOLIC BLOOD PRESSURE SUBSEQUENT TO AEROBIC EXERCISES AND YOGIC PRACTICESAMONG TYPE II DIABETIC PATIENTS.

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Abstract
The purpose of the study was to investigate of the changes on systolic and diastolic blood pressure subsequent to aerobic exercises and yogic practices among type IIdiabetic patients. To achieve this purpose thirty men type II diabetic patients from Raja Muthiya Medical College, Annamalai University, Chidhambaram, Tamilnadu, aged 30 – 50 years volunteered to participate in this study. Subjects were assigned into three groups namely (N-10), aerobic exercises group, yogic practices group and control group. Physiological variables such as systolic and diastolic blood pressure were selected as criterion variables. Analysis of covariance (ANCOVA) was used as statistical technique. Scheffe's test was followed as a post hoc test. The results of the study showed that there was a significance differences exist between the experimental groups on systolic and diastolic blood pressurewhen compared to the control group.
Keywords:Aerobic Exercises, Yogic Practices, Systolic and Diastolic Blood Pressure.

Introduction:

Aerobic Exercise is the keystone of fitness and they increase the capillary network in the body. To do any work we need energy and even while at rest some physiological functions have to be carried within our body and for that purpose some calories of energy will be burnt. Aerobic exercise is physical exercise that intends to improve the oxygen system. Aerobic training may be as effective as or better than exercise at improving a variety of health related outcome measures and as a result this study was undertaken to find out the effects of aerobic exercises on blood pressure among type II diabetic patients.Diabetes often referred to simply as diabetes is a syndrome of disorder metabolism, usually due to a combination of hereditary and environmental causes, resulting in abnormally high blood sugar levels. Practice of yoga has been reported to be beneficial in treating a range of stress related disorders, improving autonomic functions, relieving symptoms of asthma, stuttering and reducing signs of oxidative stress. Practice of yogic develops a steady mind, strong will-power and sound judgment. In addition regular yogic helps extends life and enhance perception.

Methodology:

The purpose of the study was to investigate of the changes on systolic and diastolic blood pressure subsequent to aerobic exercises and yogic practices among type IIdiabetic patients. To achieve this purpose thirty men type II diabetic patients from Raja Muthiya Medical College, Annamalai University, Chidhambaram, Tamilnadu, aged 30 – 50 years volunteered to participate in this study. Subjects were assigned into three groups namely (N-10), aerobic exercises group, yogic practices group and control group. Physiological variables such as systolic and diastolic blood pressure were selected as criterion variables.Both systolic and diastolic blood pressure were measured by using standardized sphygmomanometer and stethoscope. Analysis of covariance (ANCOVA) was used as statistical technique. Scheffe's test was followed as a post hoc test.

Training Schedule:

Experimental Group I (Aerobic exercises) Duration : 45 minutes(6.00 to 6.45 am), Six weeks (6 days per week), training session consists of a 30 minutes aerobic exercises with a warming-up and cooling-down period of 5 and 3 minutes respectively. Experimental Group II (Yogic Practices) Duration : 45 minutes(6.00 to 6.45 am),Six weeks (6 days per week), Yogic practices such as Kriyas, various types of Asanas, Pranayama and Meditation.Control group did not participate any specific training.

Results and Discussions:

Tab 1: Results on Calculation of Analysis of Covariance on Physiological Variables

Calculation of Analysis of Covariance on Systolic blood pressure								
	Aerobic Exercises Group	Yogic Practices Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained F- ratio
Pre Test Mean	137.00142	142.150	136.650	Between	356.83	2	177.91	1.30
				Within	7772.1	27	136.352	
Post Test Mean	121.560123	123.800	142.40	Between	5238.30	2	2619.15	48.80*
				Within	3058.95	27	53.66	
Adjusted Post Test Mean	121.38	124.24	142.13	Between	5121.48	2	2560.74	45.00*
				Within	3186.33	26	56.89	
Calculation of Analysis of Covariance on Diastolic blood pressure								
Pre Test Mean	89.700	90.300	91.050	Between	18.3	2	9.15	1.522
				Within	342.65	27	6.011	
Post Test Mean	82.450	84.850	89.560	Between	521.73	2	260.86	5.36*
				Within	2774.45	27	48.67	
Adjusted Post Test Mean	81.43	84.77	90.65	Between	918.678	2	459.33	7.11*
				Within	3613.05	26	64.51	

Tab 2: Scheffe's Post Hoc Analysis Results

Post Hoc Analysis for Systolic blood pressure				
Aerobic Exercises Group	Yogic Practices Group	Control Group	Mean Difference	Reqd. C.I
121.38	124.24		2.858	6.92
121.38		142.13	17.896*	6.92
	124.24	142.13	20.754*	6.92
Post Hoc Analysis for Diastolic blood pressure				
81.43	84.77		3.339	7.370
81.43		90.65	9.212*	7.370
	84.77	90.65	5.873*	7.370

Finding of the study shows that there was a significant improvement in diabetic patients due to the aerobic exercises and yogic practices. The result of the study showed thatthere was a significant differences exist between aerobic exercises group, yogic practicesgroup and control groups on systolic and diastolic blood pressure.

Conclusion:

It was concluded that the aerobic exercises and yogic practices programs has resulted in significant improvement on selected criterion variables as compared to control group.

The present investigation suggested that six weeks of aerobic exercises and yogic practices had beneficially changes in controlling the blood pressure of type II diabetic patients.

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Comparison of Speed among Sprinters and Long Jumpers of Rayalaseema Region

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Abstract:
To find out the Speed among Sprinters and Long Jumpers of Rayalaseema Region.The sample for present study consists of 20 Male Long Jumpers and 20 Male Sprinters between the age group of 18 to 22 years of Rayalaseema Region. 30 Meter Run is used to collect the data for speed. The results of the Study shows that Sprinters are having good Speed compare to Long Jumpers. It is concluded that speed is essential component for sprinters. Key words: Speed, Sprinters, Long Jumpers etc.

Introduction:

Sprinting is running over a short distance at the top-most speed of the body in a limited period of time. It is used in many sports that incorporate running, typically as a way of quickly reaching a target or goal, or avoiding or catching an opponent. Human physiology dictates that a runner's near-top speed cannot be maintained for more than 30–35 seconds due to the depletion of phosphocreatine stores in muscles, and perhaps secondarily to excessive metabolic acidosis as a result of anaerobic glycolysis.

In athletics and track and field, **sprints** are races over short distances. They are among the oldest running competitions, being recorded at the Ancient Olympic Games. Three sprints are currently held at the modern Summer Olympics and outdoor World Championships: the 100 metres, 200 metres, and 400 metres.

At the professional level, sprinters begin the race by assuming a crouching position in the starting blocks before driving forward and gradually moving into an upright position as the race progresses and momentum is gained. The set position differs depending on the start. The use of starting blocks allows the sprinter to perform an enhanced isometric preload; this generates muscular pre-tension which is channeled into the subsequent forward drive, making it more powerful. Body alignment is of key importance in producing the optimal amount of force. Ideally, the athlete should begin in a 4-point stance and drive forwards, pushing off using both legs for maximum force production. Athletes remain in the same lane on the running track throughout all sprinting events,] with the sole exception of the 400 metre indoors. Races up to 100 metre are largely focused upon acceleration to an athlete's maximum speed. All sprints beyond this distance increasingly incorporate an element of endurance

The **long jump** is a track and field event in which athletes combine speed, strength, and agility in an attempt to leap as far as possible from a take off point. This event has a history in the Ancient Olympic Games and has been a modern Olympic event for men since the first Olympics in 1896 and for women since 1948.

Long Jump Styles

The Stride Jump

In the stride jump style the athlete maintains the take off position for as long as possible and only as the athlete comes into land does the take off leg join the free leg for a good landing position.

The Hang Style

On take off the athlete drops the free leg to the vertical, which is then joined by the take off leg. The arms go overhead to slow down the rotation about the athlete's centre of gravity. The legs are then lifted upwards and forwards whilst lower the trunk. The arms swing past the legs during the landing phase to ensure a good leg shoot.

The Hitch-Kick

Following take off the free leg is straightened and swung back and down as the take off leg folds up beneath the hips and comes forward bent. The take off leg then continues forward, straightening for landing. The free leg completes its backward swing behind the hip and then folds up and moves forwards bent, to join the take off leg ready for landing.

Methodology:

AIM: To find out the Speed among Sprinters and Long Jumpers of Rayalaseema Region

SAMPLE: The sample for present study consists of 20 Male Long Jumpers and 20 Male Sprinters between the age group of 18 to 22 years of Rayalaseema Region.

TOOLS: 30 Meter Run is used to collect the data for speed .

30 Meters sprint Test:

Objective:To monitor the development of the athlete's maximum sprint speed.

To undertake this test you will require:

• Flat non-slip surface, Cones and Stopwatch

• Assistant

This test requires the athlete to sprint as fast as possible over 30 metres

• The athlete warms up for 10 minutes

• The assistant marks out a 30 M straight section with cones

• The athlete starts in their own time and sprints as fast as possible over the 30 metres

• The assistant starts the stopwatch on the athlete's 1st foot strike after starting and stopping the stopwatch as the athlete’s torso crosses the finishing line

• The test is conducted 3 times

• The assistant uses the fastest recorded time to assess the athlete’s performance.

Results and Discussion:

The results of the Study shows that Sprinters are having good Speed. Speed is the most important skill related component of fitness for a sprinter as their initial goal is to cross the finish line as fast as possible. They need maximal acceleration every time the gunshot fires.

Table 1 : It showing the Mean values and Independent Samples Test of 30 M run test for speed between Sprinters and Long Jumpers

Variables	Group	Mean	SD	t	P - Value
30 M Run	Sprinters	3.47	0.115	10.62	0.000
	Long Jumpers	3.56	0.102		

*Significant at 0.05 level

In Table –I the Mean Values of Sprinters is 3.47 and Long jumpers is 3.56. The Standard Deviation of Sprinters is 0.115 and Long Jumpers is 0.102 and t is 10.62 and P-Value is 0.000. The Mean values of Sprinters are in 30 M Run for Speed 3.47 and Long Jumpers is 3.56.

Conclusions:

Sprinters who can move faster than their opponents have an advantage. For example, a faster athlete may be able to get to a ball more quickly than a competitor or may even outrun a pursuer. For this reason, Sprinters required speed highly.

Recommendations:

Similar Studies can be conducted among females and in other events in athletics. This type of studies is useful for preparing the coaching and condition program for improvement of motor qualities among the long jumpers and Sprinters.

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Wikipaedia, Long Jump and Sprints

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Upper Body Muscle Strength among Volley Ball Players and Basket Ball Players of Rayalaseema College of Physical Education, Proddatur – A Comparative Study

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Abstract:

The objective of the study is to determine the Comparison of upper body muscle strength among Volley Ball Players and Basket Ball Players of RCPE Prodattur..The sample for the present study consists of 20 Male Volley Ball Players and 20 Basket Ball Players of RCPE, Proddatur. To assess the Upper body muscle Strength Pull ups test is conducted among Volley Ball and Basket Ball Players. This study shows that due to the Volley Ball Players are having more upper body muscle strength compare to Basket Ball Players. Volley ball Players may have good upper body muscle strength due to using the shoulders in Service during the Volley ball Play e. Key words: Upper body muscle strength, Pull Ups, Volley Ball Player, Basket Ball Players etc.

INTRODUCTION:

Physical fitness is one of the most important and key aspects in the field of physical education. But physical fitness is not the same with health; it plays an essential role in all aspects of health because they are very much related fitness. Good health provides a solid foundation on which fitness rests and at the same time fitness provides one of the important keys to health and living one's Life to the fullest. Fitness is not a state for the young; it is reality for all ages.

Volleyball is a team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules.[1] It has been a part of the official program of the Summer Olympic Games since Tokyo 1964. Beach volleyball was introduced to the programme at the Atlanta 1996. The adapted version of volleyball at the Summer Paralympic Games is sitting volleyball.

Basketball is a team sport in which two teams, most commonly of five players each, opposing one another on a rectangular court, compete with the primary objectiveof shooting a basketball (approximately 9.4 inches (24 cm) in diameter) through the defender's hoop (a basket 18 inches (46 cm) in diameter mounted 10 feet (3.048 m) high to a backboard at each end of the court, while preventing the opposing team from shooting through their own hoop. A field goal is worth two points, unless made from behind the three-point line, when it is worth three. After a foul, timed play stops and the player fouled or designated to shoot a technical foul is given one, two or three one-point free throws. The team with the most points at the end of the game wins.

Purpose of Research:

The purpose of the present study to Compare the upper body muscle strength among volley ball Players and Basket Ball Players among the Students of the Rayalaseema College of Physical Education, Prodatur.

Methodology:

Population and Sample Group:

For the present Study 20 Male Volley Ball Players and 20 Male Basket Ball Players has taken for the study between the age group of 18 to 20 Years for Rayalseema College of Physical Education, Proddatur.

Sl. NO	Name of the Institution	Sample	Total number of subjects
1	Rayalseema College of Physical Education	Volley Ball Players : 20	40
		Basket Ball Players : 20	

Pull Ups Test:

The pull up test is widely used as a measure of upper body strength. Grasp the overhead bar using either an overhand grip with the arms fully extended. The subject then raises the body until the chin clears the top of the bar, then lowers again to a position with the arms fully extended. The pull-ups should be done in a smooth motion. Jerky motion, swinging the body, and kicking or bending the legs is not permitted. As many full pull-ups as possible are performed.

Data Collection

The pull ups test is conducted among Volley Ball and Basket Ball Players.

Results

Table I: Mean values of Pull Ups test between Basket Ball and volley Ball Players

S.No.	Players	Number	Mean	df	Mean difference	t-ratio
1	Basket Ball Players	20	6.95	38	2.10	4.46
2	Volley Ball Players	20	9.05			

Significant at 0.05 Level

The Mean Values of Volley Ball Players is 9.05 and Basket Ball Players is 6.95. There is a mean difference of 2.10

Conclusions:

This type of study is useful to coaches to give proper coaching for development of motor qualities for improvement of performance in Volley ball and Basket Ball Players.

Recommendations for further Research:

It is recommended that similar studies can be conducted on other sports and games and also female Volley ball players and basket ball Players.

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Effect of Physical Exercises for Development of endurance among High School Students in Proddatur

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Abstract:

Regular Physical exercises is important for all the students in schools. The Objective of the present study is to find out the effect of physical exercises for development of endurance among high school students.in Prodattur. The sample for the Study consists of 20 High School Male Students between the age group of 13 to 15 Years out of 10 High School students are experimental group and 10 are Control group. Physical activities such as Running, Jumping, Throwing and playing sports and games were given to experimental group apart from regular physical education classes of calisthenics exercises for 6 weeks on alternate days per week and control group were attended general physical education class on alternate but no special training were given to improve the endurance.. Pre Test and Post Test were conducted in 600 M Run. The Results of the Study shows due to the physical exercises the Schools Students experimental group improved a in endurance compare to control group.

Key words: Physical exercises, endurance, Running, Jumping, Throwing etc.

Introduction:

Physical exercises help in developing students' competence and confidence. It helps them to take part in a wide range of physical activities that are crucial to their lives— both in and out of school. Physical fitness is the key ingredient for a healthy lifestyle. This is why physical education is an important element in most schools.

When students have regular fitness activities as part of their daily regimen, they stay fit and healthy. Regular physical activities daily help in better absorption of nutrients in the body and also helps in improving cardiovascular health and developing muscular strength.

Objectives of the study

The Objective of the present study is to find out the effect of physical exercises for development of endurance among high school students.in Prodattur.

Methodology

The sample for the Study consists of 20 High School Male Students between the age group of 13 to 15 Years out of 10 High School students are experimental group and 10 are Control group. Physical activities such as Running, Jumping, Throwing and playing sports and games were given to experimental group apart from regular physical education classes of calisthenics exercises for 6 weeks on alternate days per week and control group were attended general physical education class on alternate but no special training were given to improve the endurance.. Pre Test and Post Test were conducted in 600 M Run

Results and Discussion

The Results of the Study shows due to the physical exercises the Schools Students experimental group improved a lot in the endurance.

Table I: Mean values of 600 M run Test between experimental and control groups of School Students

Test for endurance	High School Students	Pre Test Mean ± SD	Post Test Mean ± SD	T	P - Value
600 M Run	Experimental	1.51±0.025	1.43±0.028	10.457	0.000*
	Control	1.52±0.027	1.54±0.021	-3.707	0.001*

*Significant at 0.05 level

In Table –V the Mean Values in 600 M Runof Experimental Group is 1.51 and Control Group is 1.52 in Pre Test and Post Test is Experimental Group is 1.43 and Control Group is 1.54. The Experimental Group has decreased from 1.51 to 1.43 in mean values due to Physical Exercises Training in endurance compare the Control group mean is 1.54 in post test due to general training.

Conclusions

Regular exercises can help high school students to improve the endurance., It is concluded that physical exercises promote endurance among High school Students. Hence the regular physical exercises must be included in the physical education programs in the Schools.

Recommendations:

- Physical Exercises to the students in schools will improve the Physical fitness, Health related fitness and specific fitness.
- Research has shown that physical exercises improves endurance, strength, balance, and flexibility among Physical exercises.

References:

- Basch C. Healthier children are better learners: A missing link in school reforms to close the achievement gap. 2010. [October 11, 2011)
- Committee on Physical Activity and Physical Education in the School Environment; Food and Nutrition Board; Institute of Medicine; Kohl HW III, Cook HD, editors.Washington (DC): National Academies Press (US); 2013 Oct 30.