

Outcome of Nine Weeks of Combined Sports Training on Body Composition among Males

By

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Abstract

Individuals who take part in the sports training program or in competitive sports or any recreational activities with excess body fat can impair physical performance. Body composition analysis provides an evaluation of percent body fat and fat free mass (Birch, Mac Laren, and George, 2005). The purpose of this investigation was to find out the outcome of nine weeks of combined sports training on body composition among males from different groups. For this study a group of (N=200) students were selected randomly undergoing orientation physical education course during the year 2012-13 at King Fahd University of Petroleum & Minerals, Saudi Arabia.. The fifty subjects each from the four groups were selected on the basis of Body mass index (BMI), i.e., under weight, normal weight, overweight, and obese. The age of the subjects was between 17 to 21 years. The combined sports training program was employed on the participants for nine weeks, Football and volleyball training for four and half week each respectively. 45 minutes of training per session, two days of training in a week. The selected fitness variables considered for this study was Body composition (To find out body mass index), from pre to post test. The data was analyzed by the help of following statistical tools, mean, standard deviation, and ANOVA. The data was computed by the help of statistica soft ware. The significance level was adjusted at 0.05. It is concluded that the combined sports training program on underweight participants had shows improvement in the Body mass index from pre to post test. Normal group had shows negligible improvement. Lastly over weight and obese groups had shows encouraging performance from pre to post test by reducing body mass index.

Key words: Body composition, Sports training, Fitness, BMI

INTRODUCTION

Sports training is a program of exercise designed to improve the skills and to increase the energy capacity of an athlete for a particular event. Their fore training is essential for the development of physical fitness components (William and Sperryn, 1976).

In general, this is evident that the less body fat, better the performance. Individuals who take part in the sports training program or in competitive sports or any recreational activities with excess body fat can impair physical performance. Health point of view excess body fat with a high fat to muscle ratio is unfavorable, because it increases the risk of cardio-vascular disease, type II diabetes, metabolic syndrome and certain cancers. Excess body fat, considered as obese

personal and excess fat put stress on the joints and interferes with mobility and the ability to perform day to day activities.

Body composition refers to the relative amount of muscle, fat, bone, and other vital parts of the body. An individual's body weight will not change eventually. The weighing machine shows only the body weight of an individual, but it does not give clear picture with regards to fat and lean body mass. Body mass index (BMI) is a simple technique to find out the clear picture about the health and to maintain (Johnson and Nelson, 1988). Body mass index is an estimation of body composition used specially in epidemiological studies. It has been used as an indicator of obesity on the assumption that the higher the index the greater the level of body fat, (Kent, 1994). Body composition analysis provides an evaluation of percent body fat and fat free mass (Birch, Mac Laren, and George, 2005). The most common method to measure the body composition is with help of body mass index (BMI). The body mass index (BMI) is a simple statistical measurement which compares a person's weight and height by $BMI = \frac{\text{weight in kgs}}{(\text{height in meters})^2}$. There are several reports in the literature concerning investigations which studied the effect of sports training on body composition (Panbilnathan and Balamurugan, 2011; Gonzalez Rave JM et.al. 2011). (Bhavani Ahilan 2015) stated that the excess fat in the body is unhealthy due to it requires more energy for movement and needed a diet high in saturated fat.

The purpose of this investigation was to find out the outcome of nine weeks of combined sports training on body composition among males from different groups.

METHOD

For this study a group of (N=200) students were selected randomly undergoing orientation physical education course during the year 2012-13 at King Fahd University of Petroleum & Minerals, Saudi Arabia. The fifty subjects each from the four groups were selected on the basis of Body mass index (BMI), i.e., under weight, normal weight, overweight, and obese. The age of the subjects was between 17 to 21 years. The combined sports training program was employed on the participants for nine weeks, Football and volleyball training for four and half week each respectively. 45 minutes of training per session, two days of training in a week. The selected fitness variables considered for this study was Body composition (To find out body mass index), from pre to post test. The data was analyzed by the help of following statistical tools, mean, standard deviation, and one way ANOVA. The data was computed by the help of SPSS soft ware. The significance level was adjusted at 0.05 level.

RESULTS AND DISCUSSION

The below table shows the analysis of data pertaining to the effect of combined sports training on body composition of the participants from different categories of body mass index from pre to post test.

Table: 1

Analysis of Variance on body mass index of underweight, normal weight, over weight and Obese Groups

Test	Under weight N=50	Normal weight N=50	Over weight N=50	Obese N=50	S O V	Sum of squares	Df	Mean squares	F	sig
Pre Mean	17.46	22.19	27.47	35.5	BG	90222.9	3	3007.63	649.42	0.00
SD	1.24	1.34	1.34	3.71	W	907.73	196	4.631		
Post Mean	18.47	22.58	26.66	34.24	BG	6817.73	3	2272.58	413.44	0.00
SD	1.29	1.75	2.09	3.64	W	1077.36	196	5.497		

SOV: Source of variance, B: Between, W: Within

Significance at 0.05 level of confidence

The above table-1 showed the analysis of data for four groups i.e. under weight, Normal weight, over weight and Obese Groups. The mean and standard deviation for pre test were (17.46, 1.24), (22.19, 1.34), (27.47, 1.34), (35.5, 3.71) respectively. The 'F' ratio value was 649.42 and 'P' value is 0.00, which is significant. The mean and standard deviation for post test were (18.47, 1.29), (22.58, 1.75), (26.66, 2.09), (34.24, 3.64) respectively. The 'F' ratio value was 413.44, and P value is 0.000, which is significant. The above results presented in the above table the obtained p value is 0.00 and is less than 0.05 level. This is evident that the effect of combined sports training on participants from different strata of Body mass index had shows significant change from pre to post test. Under weight subjects had improved their body composition from pre to post test, which is important for under weight participants to improve weight. This shows that the combined sports training program helps under weight subjects to improve body weight due to many factors. The effect of combined sports training had not shows any significant changes on normal category subjects from pre to post test. Lastly over weight and obese groups had shows interesting results from pre to post test. The effect of combined sports training on both the groups had shows reduction in the body composition, which is very encouraging and significant. This following study is agreement with the findings of this study. In one of the study it was revealed a significant reduction in percent body fat and fat mass during different training seasons, (Indranil, and et.al 2010). In this study it was concluded that the different phases of training can be utilized for improving body composition among the male university athletes, (Panbilnathan, and et.al, 2011). (Kaukab Azeem 2012) had reveals that the impact of physical activity on body composition among the participants had shows significant improvement from pre to post test. (P. Srinivas, 2014), in a study reveals that there was a

significant differences regard to body composition among state level basketball, football and volleyball players. (Bhavani Ahilan, 2015) reveals in a study conducted on 1500 students that the students had shows significant differences among the subjects in relation to their body composition.

CONCLUSION

It is concluded that the combined sports training program on under weight participants had shows improvement in the Body mass index from pre to post test, which is very encouraging and significant.

It is concluded that the effect of training program on the normal weight group had shows slightly change in body mass index from pre to post test.

It is concluded that the overweight and obese groups had shows changes in body mass index from pre to post test. This shows that the combined sports training program had a positive effect on reducing body mass index on the participants, which is very encouraging, and significant.

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Effect of 3 Versus 3 Small Sided Handball Game Training on Aerobic Capacity of Male Handball Players

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Abstract

The aim of this study is to assess the effect of 3 versus 3 small sided handball game training on aerobic capacity of male handball players. Sixteen (16) handball players were selected and randomly classified into two groups namely 3 versus 3 small sided handball training group (3 versus 3 = 8) and control group (CON = 8). Sixteen handball players were tested before, at middle and after eight weeks of training. The aerobic capacity of handball players was measured through Yo-Yo intermittent recovery test level II. The 3 versus 3 small sided handball training group performed 4 repetition 4 of minutes duration at an intensity of 90-95% of heart rate maximum (HRmax), separated by 4 minutes of active recovery during which handball passing drill was performed at 60-65% of HRmax. To assess the training effect 2 × 3 repeated measure ANOVA on last factor repeated was performed. When interaction is significant simple effect was calculated and followed by Scheffe S post hoc test. The result of our study showed that eight weeks of 3 versus 3 small sided handball game training significantly improved aerobic capacity of handball players ($F = 54.21$, $p = 0.000$). The training intervention showed 5.71% of improvement in first four weeks and 11.41% after eight weeks of 3 versus 3 small sided handball game training. It is concluded that 3 versus 3 small sided handball game training programs might be appropriate enough to improve aerobic capacity of handball players in short duration.

Keywords: Handball, Yo-Yo intermittent recovery test level II, Aerobic capacity, 3 versus 3 small sided handball game, two way Repeated measure ANOVA.

INTRODUCTION

Handball is a team sports characterized by repeated sprint bouts of high intensity of short duration with partial rest. Handball players require greater speed, strength, power, endurance, agility and flexibility to excel in competition. However, the players have to perform intermittent sprint repeatedly without getting fatigue for sixty minute duration, thereby endurance capability plays a vital role during a handball match. Traditionally, coaches and trainers have planned conditioning programs for their teams by following regimens used by teams that have successful win-loss records. This type of reasoning is not sound because win-loss records alone do not scientifically validate the conditioning programs used by the successful teams. In fact, the successful team might be victorious by virtue of its superior athletes and not its outstanding conditioning program. Without question, the planning of an effective athletic conditioning program can best be achieved by the application of proven physiological training principles. Optimizing training programs for athletes is important because failure to properly condition an athletic team results in a poor performance and often defeat. The coaches presently use various conditioning skills among, skill based conditioning is prescribed to all level players, because this type offers many benefits. One of the benefits of implying this type of training is the combination of sports specific skills and fitness.

This type of training is also known as small-sided games which are very popular in soccer and rugby, where players use smaller play area and less number of participants during small-sided games, each player comes into contact with the ball and deals with common game situations more often (Capranica *et al.* 2001). These situations require good technical skills such as passing, dribbling, feinting and shooting as well as tactical skills such as running without the ball, unmarking and cooperation with other players. The advantages of this training ensure the players to perform optimally during a game. This suggests that small-sided game conditions may show different responses and this is the first attempt made on university level handball players. Therefore, the aim of this study is to assess the effect of 3 versus 3 small sided handball game training on aerobic capacity of male handball players.

METHOD

Subjects

Sixteen (16) university level male handball players were selected from Department of Physical Education and Sports Sciences, Annamalai University, Chidambaram, Tamilnadu, India. The selected subjects represented Annamalai University in Indian University Competition. The selected handball players age 22.12 ± 3.22 years; height 174.50 ± 7.83 cm and weight 65.62 ± 7.79 kg. These players have minimum of eight years of playing experience and gave willingness to take part in the study.

Study design

The subjects were randomly assigned to two groups. Group 1 (n = 8) performed 3 versus 3 small sided handball game training while Group 2 (n=8) served as control group. Testing of each group was performed on three occasions first before administration of training, after four weeks of training and after eight weeks of training.

Variable and test

The aerobic capacity of handball players was measured through Yo-Yo intermittent recovery test level II. The players were administered with ten minutes of warming up. Then players were asked to line up in front of twenty meter marked area with cones. The tester instructs the subjects to run half way and return to the starting point when the sound signal produced from music player. The tester keeps recording the distance covered by the players. We used formula for estimation of $VO_2 \text{ max} = \text{distance in meter} \times 0.0136 + 45.3$ (Bangsbo *et al.* 2008).

3 versus 3 small sided handball game training

The 3 versus 3 small sided handball training group performed 4 repetition which each of 4 minutes duration at an intensity of 90-95% of heart rate maximum (HRmax) and separated by 4 minutes of active recovery during which handball passing drill was performed at 60-65% of HRmax. The players were strapped with polar heart rate monitor and exercise heart rate were fixed and if they perform below or above the fixed range it produces the beep sound alert the players.

Rules

The coaches encourage the players to perform activity of high intensity. In this training 4 players play against 4 players at high intensity in a standard handball court of 40×20 meters. In order to play at high intensity we simplified handball rules in order to avoid interruption in the game and increase the exercise load. The rule modifications are a) dribbling and defence contacts are not allowed, b) walking, ball hitting below the knee of court player and illegal dribbles were not penalised, c) goal keeper throw was granted immediately after a goal, d) goal will not be validated unless all four players present in the opponents court at the time of goal, e) ball will be

replaced immediately when it is thrown out of the playing area, f) throw in administered immediately without delay, g) penalty throw, substitutions, warning and disqualifications were not granted, g) goalkeepers were instructed to remain inside goalkeeper area during the entire duration.

STATISTICAL TECHNIQUE

A two-way repeated measure ANOVA with last factor repeated was applied to examine the difference in aerobic capacity between groups and testing conditions. When interaction is significant simple effect was applied and Scheffe S post hoc test was applied to the difference between different testing conditions. All the statistical tests were calculated using the statistical package for the social science (SPSS) for windows (Version 16). The level of statistical significance was set at $p < 0.05$.

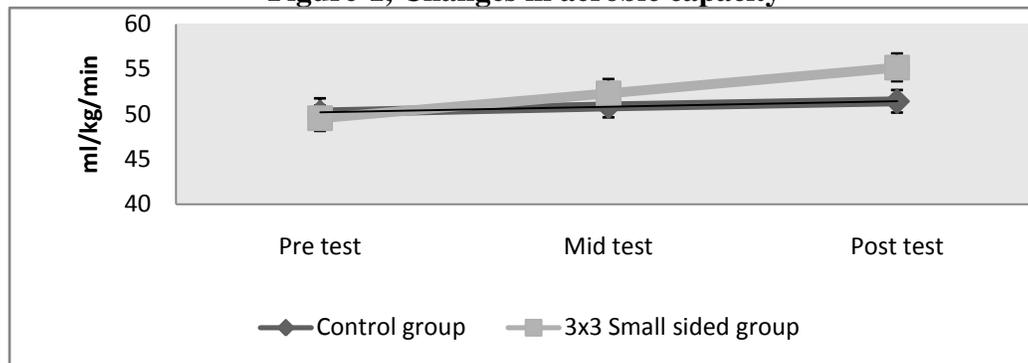
RESULTS

The two way repeated measures on last factor was conducted which examined the effect of 3 versus 3 small sided handball training for four and eight weeks duration on aerobic capacity. There was a significant interaction between the groups and testing conditions on aerobic capacity ($F = 54.21, p = 0.000$). The simple effect analysis revealed that at mid test ($F = 28.60, p = 0.000$) and post test ($F = 5.849, p = 0.030$) significant difference between the 3 versus 3 small sided handball training group and control group. However, handball 3 versus 3 small sided handball training group showed significant difference at different testing conditions ($F = 30.79, p = 0.000$) but there was no difference on control group. Since handball 3 versus 3 small sided handball training group showed significant difference at different testing conditions. Scheffe S post hoc test revealed difference between pre – mid (MD = 2.761, $p = 0.000$); pre – post (MD = 5.654, $p = 0.000$) and mid – post (MD = 2.892, $p = 0.000$).

DISCUSSION

In the present study handball specific aerobic training for four and eight week's duration resulted on significant improvement in aerobic capacity of male handball players (Figure 1). Small sided handball game training results in significant improvement in aerobic capacity by 11.79%. Earlier Chittibabu (2013) in his study showed that handball specific repeated sprint training for eight weeks is more effective in increasing aerobic capacity of men handball players. The training load adopted in repeated – sprint training with game specific which resulted in 11.79% of changes in aerobic capacity.

In the present study we used skill based conditioning games which constitutes both handball specific skills and fitness. The high intensity game and active recovery facilitate to improve aerobic capacity of male handball players. Similarly, Helgerud *et al.* (2001) proved that aerobic power has been shown to improve in soccer players. Similarly, Coutts and his colleagues (2010) clearly state that game based training improves both fitness and skill.

Figure-1, Changes in aerobic capacity

The present study clearly shows that 4 weeks of training resulted in 5.71% of improvement and 11.41% after eight weeks of training. This clearly shows that short duration of this training can improve aerobic capacity of male handball players. The improvement in aerobic capacity after the 3 versus 3 small sided handball game training is consistent with the findings of previous studies in soccer (Helgerud *et al.* 2001) and rugby (Gabbett 2006). The changes in aerobic capacity due to handball specific aerobic training may result in several changes in cardiovascular function, including increased maximal cardiac output, increased stroke volume, and reduced heart rate at rest and during submaximal exercise. The most significant change in cardiovascular function with long endurance training is the increase in maximal cardiac output, resulting primarily from improved stroke volume (Baechle & Earle, 2008).

Conclusion

It is concluded that 3 versus 3 small sided handball game training programs might be appropriate enough to improve aerobic capacity of handball players in short duration. In terms of practicability, it seems that handball specific aerobic training depict movement patterns executed during a game. This short duration training is a time efficient training strategy in enhancing both aerobic fitness and skills of handball players.

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Practical Study on Physical Education Using ICT in Japan: An Example of Flipped Classroom in University

By

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Abstract

In this study, we have experimented practicing physical education (PE) classes implemented the flipped classroom in a university. The flipped classroom is a style of classes. In a flipped classroom, the students acquire knowledge, which they traditionally acquired in a class, at home or other places outside of the classroom using digital educational tools such as videos prior to the class. During the in-class activities, the students revitalize their knowledge through seminars and discussions with teachers using the knowledge they acquired at home prior to the class. In this study, consequently, implementing the flipped classroom in physical education classes (rubber-ball baseball lesson) in a university was experimented, intending to evaluate the results and its possibilities. Before implementing the flipped classroom, a website exclusively for the course was set up, and students were instructed to watch video files specified in the previous class. To the question whether the knowledge they acquired through the instructional videos were helpful in the practical application, the largest number of the students answered that they were “relatively helpful”. To the question whether the instructional videos were helpful in imaging the classes, the largest number of the students answered that they were “relatively helpful”. To the question whether they understand the techniques of the subject by watching the instructional videos, the largest number of the students answered that they “relatively understood”.

Many students also responded that about 50 to 75 percent of the flipped classroom activities should be implemented in physical education in universities. The survey shows that watching instructional videos prior to the class greatly help in imaging the practical application.

Key words : Flipped Classroom, Physical Education in University, Physical Education Using ICT.

INTRODUCTION

In this study, we have experimented practicing physical education (PE) classes implemented the flipped classroom in a university. The flipped classroom is a style of classes. In a flipped classroom, the students acquire knowledge, which they traditionally acquired in a class, at home or other places outside of the classroom using digital educational tools such as videos prior to the class. During the in-class activities, the students revitalize their knowledge through seminars and discussions with teachers using the knowledge they acquired at home prior to the class. Implementations by Bergmann and Sams (2012), Baker (2000), and Lage et al. (2000) are

considered as the start of the flipped classroom. Baker proposed “Classroom Flip” in 2000 in which students view materials for their lectures at the university, post questions or discuss with other students in the forum, and take tests online to check their learning prior to the class. During the class, students exercise active learning to check, expand, and apply their knowledge acquired online. Lage and others, in 2000, defined the style of classes that students watch a lecture recorded prior to the class and the similar style of classes as “Inverted Classroom.” In 2012, Bergmann and Sams called the style of classes that recording their own lectures and showing them to the students prior to the classes, and checking their understanding, giving instructions individually, and the exercising the project based learning during the classes in primary education “Flipped Classroom.”

In recent years, the flipped classroom has been gaining its recognition as an evolutionary educational method. However, although the style of classes in which students utilize tablets and other digital tools in the class is becoming increasingly common, no experiments of implementing the flipped classroom in “physical education” seems to have been reported, even at primary nor secondary education. Many findings about formulating and maintaining the information and communication technology (ICT) environment have been collected, and expected to solve a number of problems as education using ICT progresses. However, answers to the questions directly relating to teachers and students, such as what steps need to be taken to provide educational guidance, what kind of hardware and software are necessary for the learning activities, what kind of functions are required for the hardware and software, and what type of cautions are required to take in using them, may involve accumulating actual cases and further research and study (20). In this study, consequently, implementing the flipped classroom in physical education classes (rubber-ball baseball lesson) in a university was experimented, intending to evaluate the results and its possibilities.

METHOD

Before implementing the flipped classroom, a website exclusively for the course was set up, and students were instructed to watch video files specified in the previous class.

The videos were recorded using one iPad 2. Although the video was recorded outdoor, the sound was recorded without any problems. The explanations and demonstrations were given by the teacher of the course.

The topics, contents, and length of the video files were as follows:

- Structure of a ball and basics of how to grip a ball (1 min. 15 sec.)
- Basics of throwing a ball (1 min. 41 sec.)
- Basics of catching a ground ball (1 min. 0 sec.)
- Basics of catching a fly ball (1 min. 25 sec.)
- Basics of quick release (1 min. 12 sec.)
- Basics of holding a bat (1 min. 30 sec.)

- Toss batting (0 min. 55 sec.)

RESULTS

The viewing rate of the instructional videos increased as the course progressed (first class; 44.8%, second class; 60.0%, third class; 74.1%). The largest number of the students watched the instructional videos “one time” rather than multiple times regardless of the unit intervened.

The largest number of the students watched the instructional videos “at home (including dormitory and boarding house)” (67.6%), and “on the train” (12.3%), “in the university” (9.6%), “at a station” (7.0%), “while travelling” (2.6%), and “in a comic cafe” (0.9%) followed in that order. The largest number of the students used “smartphones” (62.6%) to watch the instructional videos, and “laptop PCs” (26.1%), “desktop PCs” (6.1%), and “tablets” (5.2%) followed in that order. The largest number of the students watched the instructional videos “by a day before the class was held” (88.7%), and “on the day the class was held” (10.4%) and “right before the class started” (0.9%) followed in that order. A survey was taken following each class of the unit the flipped classroom was implemented (total of three classes). To the question whether they thought the length of each video was appropriate, the largest number of the students answered that it was “appropriate” (100%). To the question whether the contents of the instructional videos were easy to understand, the largest number of the students answered that they were “relatively easy to understand” (60.8%). To the question whether the knowledge they acquired through the instructional videos were helpful in the practical application, the largest number of the students answered that they were “relatively helpful” (64.7%). To the question whether the instructional videos were helpful in imaging the classes, the largest number of the students answered that they were “relatively helpful” (54.9%). To the question whether they understand the techniques of the subject by watching the instructional videos, the largest number of the students answered that they “relatively understood” (64.7%). To the question whether they were motivated to learn the subject, the largest number of the students answered that they were “relatively motivated” (74.5%). To the question to what percentage of the flipped classroom activities should be implemented in physical education in universities, the largest number of the students answered that “about 75%” (49.0%).

DISCUSSION

In this study, the flipped classroom was experimented in physical education classes (rubber-ball baseball) in a university, as there has been no study report on the flipped classroom implemented in physical education. In the units that the flipped classroom was implemented, in every class the students were encouraged to watch specified videos before the next class. Even though, the viewing rate increased as the unit progressed, almost 30 percent of the students did not watch the videos. In the preceding study on the flipped classroom (practical applications and seminars) in Japan, “Trial of flipped classroom on medical education,” also reported viewing rate of 67

percent. In this study, the devices that the students used to watch the instructional videos and the locations where the students were when they watched the videos were surveyed, and we found that over 60 percent of the students watched the instructional videos on their smartphones. Although studies on educational environments and supports in “the age of one device per person” are started to be reported, the number of smartphones and tablets are expected to grow. As a consequence, the number of incidents that they “forgot to watch” may decrease as they are able to watch the instructional videos away from home and while they are travelling. The reasons the students gave why they did not watch the instructional videos were that they “forgot” and “were not in the environment to allow accessing a device to watch the videos.” How to raise the viewing rate is a question to be answered. In this implementation, many students had positive impressions of the length and the contents of the instructional videos. In the interview with the students, we found another positive effect on some students who do not well in physical exercise or the subject: despite physical education is a required course for freshmen that they were able to relax before the class by knowing what kind of training they are doing in advance. Many students also responded that about 50 to 75 percent of the flipped classroom activities should be implemented in physical education in universities. The survey shows that watching instructional videos prior to the class greatly help in imaging the practical application. Therefore, it is necessary to consider what are the preferable contents of the videos to be created and to examine them in details.

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Physical Fitness status of IPS Probationers; Interventional study

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Abstract

Background: Sardar Vallabhbhai Patel National Police Academy (SVPNPA) is a premier police training institution in the country for training of IPS (Indian Police service) probationers. Probationers are trained round the year to improve their physical fitness status and professional leadership qualities. Current physical training schedule was not adequately revised in the recent past. The intention of the study was to assess the probationers during their 'zero' (entry) week to develop their training programmes, to have an intervention with modern training programme to improve the training benefits.

Methods: One hundred and five subjects aged 24 to 36y of both sexes (males-91, females-14) were tested as a part of their 'zero' week fitness assessment. Their exercise habits, dietary habits, stress coping skills were assessed with the help of pretested questionnaires. They were physically examined for anatomical inadequacies and assessed for important components of health and skill related fitness such as stature, bodyweight, BMI, WHR, skin-fold thickness measurements, cardio-respiratory endurance, muscle endurance, power and flexibility. Training programme was developed according to their individual capacities and re-test was conducted after six months of intervention.

Results: Zero week assessment revealed that 6% of males were found to be excellent, 33% good, 25% average and 25% were poor. Only 3% of females were found good, 8% average and 3% poor. Eight percent males were in grade II obesity and 21% males were in grade I obesity, 47% were overweight and 27% had poor flexibility. Of the female probationers, 2% had grade I obesity, 5% overweight and 4% had poor flexibility. Lifestyle questionnaire revealed poor habits among many probationers. Intervention with new training programme has shown significant improvements ($p<0.000$) in all age groups and sexes. There was significant ($p<0.005$) reduction in injuries when compared to earlier batches.

Conclusion: This new scientific protocol with intervention has shown highly significant improvements in their fitness levels with significantly less injuries noted when compared to previous batches. This emphasizes the need for revision of existing training programme with up-dated information.

Key words: Fitness, Police, IPS, Training

INTRODUCTION

Sardar Vallabhbhai Patel National Police Academy (SVPNPA) is the premier police training institution in the country for training of IPS and other Senior Police Officers. The probationers from both sexes belonged to varied age groups (24 to 36 yrs) train round the year. Outdoor physical training is an important part of their curriculum. Probationers come to the academy

after a brief period of inactivity (1-3 years of sedentary life)). Inactivity and aging reduces the maximal aerobic power that is the ability to perform for a longer time (1). Aerobic power normally decreases by 8-10% per decade after 30 years of age (2) and some of them were more than 30 years and probationers come from varied socio-economic and geographic backgrounds increases their risk for minor and major field injuries during their training. It was observed that the probationers from previous batches expressed the inability to cope with the training programme and fear of training injuries. In view of this, based on the request from the academy, a comprehensive fitness testing and development of suitable training programme was undertaken. This was attempted during their 'zero' week period (entry level) and planned for re-test after six months. A sports medicine team comprising of a sports medicine doctor, physiotherapists, fitness trainers, outdoor training officers conducted the fitness assessment of all the probationers. Current paper is based on the two assessments conducted between zero week and half-year term.

METHOD

Subjects were aged between 24 to 36 y (Table-1) of both sexes (males-91, females-14). Risk stratification for exercise testing was done prior to these tests by the medical centre in the SVPNPA. American College of Sports Medicine guidelines were followed to assess the health and skill related fitness levels (3). Their cardio-respiratory endurance was assessed in the form of maximal aerobic power tested with the help of fit test (4). This test was conducted in a 20metre running track with a progressive staging of exercise intensity, guided by a beep every minute (20 meters shuttle run). Their maximal aerobic power in the form of METs and VO₂ max was recorded. Strength endurance was assessed with the help of abdominal sit-ups (crunches), back-lifts, push-ups (modified for women with folded legs) and squat thrusts in 60 seconds were measured. Flexibility was tested with forward toe touching. Upper body muscle power (explosive strength) was assessed with the help of medicine ball throw (3 kg for women and 5 kg for men). Lower body power was assessed with standing broad jump.

Anthropometry: Standing height was measured with stadiometer. Body weight measurements were made using a calibrated weighing scale. Skin fold thickness measurements were made on triceps, biceps, sub-scapular, abdomen, supra-iliac and mid thigh regions with the help of 'fat-o-measure', (mfg. Hyderabad Spine Clinics, Gulmohar Marg avenue, RajBhavan road-Hyderabad-82) skin-fold calipers. Skin fold thickness was measured in 'mm' and percent body fat; fat weight and obesity grading were estimated with the help of software developed by the author based on the methods explained by Lohmann. et.al (5).

WHR (Waist to hip ratio): Waist circumference was measured one inch above the umbilicus; hip circumference was measured on the widest part of the hip with a flexible tape. WHR was

estimated as ratio and ≤ 0.9 : fit, ≥ 0.95 : risk for disease for males and ≥ 0.85 : fit, > 0.86 : risk for disease for females were considered as cut off standards (6).

BMI: Body mass index was estimated with the help of standard formula: weight (kg)/ height (meters)². The cut-off points currently followed by international community were taken in to consideration (7). **Questionnaires:** The pretested questionnaires were utilised to know there dietary habits such as visible fat use, timing of food, simple sugar use and other nutrients; exercise habits to understand exercise adherence, duration, frequency, intensity and type of exercise being followed; dependencies including smoking, alcohol and others if any; personality questionnaire to understand the proneness to stress. To know the injury proneness, they were interviewed and examined to note any bio-mechanical faults and anatomical inadequacies.

Table-1: Comprehensive Physical Fitness testing Protocol

a. Maximal Aerobic Power (Endurance)

20-meter Fit-test: to estimate VO² consumption

b. Body composition assessment (Skin folds & Anthropometry)

To measure Nutritional status

- Body fat%, Total Body fat, Lean body mass (Lbm)
- Body Mass Index (BMI)
- Obesity grading
- Waist to Hip Ratio (WHR)
- Target Wt. reduction planning

c. Flexibility Assessment

Forward toe touching – Flexibility of Back & Hamstrings

Sit & reach test

d. Muscular Endurance

Abdominal crunches (Own body Wt.)

Push-ups (modified for women)

Own body squats, back lifts

e. Explosive Strength-Upper body (power)

3Kg (females) / 5Kg (males)- Medicine ball throw

RESULTS

Fitness assessment at 'zero' week before the beginning of outdoor training programme revealed (Table 1& 2) that large number of probationers were in poor fitness, based on fitness criteria (they were divided into four categories of fitness) six percent of males were excellent, 33% were good, 25% were average and 25 % were poor. Eight percent were grade-II obesity, 27% were grade-I obesity, 47% were overweight. Twenty seven percent were noted with poor flexibility. Among women, 3% were in good, 8% were average and 3% were considered poor. Two percent were in grade I obesity, 5 % were overweight and 4% were noted with poor flexibility. The questionnaires revealed the lifestyle factors were very poor prior to joining Academy. Twelve percent (both sexes) had no regular breakfast habit, 52% did not exercise at all; 25 % had the risk of injury and 10% were smokers.

Intervention: Probationers were provided with initial acclimatization programme which was based on their performance in zero week assessment and they were grouped under four categories (Excellent, Good, Average, Poor); however for training convenience they were combined into two. Excellent & good were trained as group-I and average & poor in group-II. This classification was only known to administrative & technical staff to supervise training. The injured, obese and injury-prone subjects were provided with low intensity alternative training programmes (i.e. non-weight bearing) and they were encouraged to undertake active-rest instead of completely avoiding training. Probationers were trained in their own capacity. They were given endurance programmes depending on their correct aerobic training zones. Plyometrics were introduced gradually at the end of the quarter to improve power. Injury-prone exercises were replaced by newer exercises. Probationers were educated repeatedly on the training to improve their understanding and motivation for participation. Special conditioning exercise programmes including knee conditioning, back conditioning and posture care were introduced.

They were given suitable low fat, high fibre diet with adequate calories to help in reducing their body fat. They were also taught simple methods of relaxation techniques such as objective meditation to reduce the cardiovascular reactivity due to stress. Some individual probationers undertook consultations frequently for monitoring. After 3-months training programme, power-training was gradually introduced. They were re-tested after 6 months with similar protocol. The results after 6 months revealed significant improvement in both the sexes (Table-3). The probationers who reported in our clinic; 38% sustained minor training injuries and 7% had moderately severe injuries (horse riding) and these were significantly ($p < 0.005$) lesser than previous batches of probationers. The feedback from the probationers revealed that they enjoyed the new program better due to less fatigue. Based on their individual ratings in the re-test, new training program was designed for the next quarter.

Group n=105	Fitness Rating	Males			Females		
		Test-1	Test -2	Significance	Test-1	Test -2	Significance
A	Excellent	6 %	24%	***	0 %	1 %	***
B	Good	33 %	44%	***	3 %	6 %	***
C	Average	25 %	6 %	***	8 %	3 %	**
D	Poor	25 %	0 %	***	3 %	1 %	**

*** = Highly significant ($p < 0.0001$); ** = Significant ($p < 0.0$)

Fitness Indices	Grade II* Obesity		Grade I** Obesity		Over weight***		Poor Flexibility	
	Test-1	Test -2	Test -1	Test -2	Test-1	Test -2	Test-1	Test -2
Males	8%	2%	27%	8%	47%	10%	27%	12%
Females	0	0	2%	1%	5%	1%	4%	1%

* $\geq 35\%$ body fat, ** $\geq 30\%$ body fat, *** $\geq 25\% - 30\%$ body fat

No Break fast	12%
No Exercise	52%
Injury Prone	25%
Smoking	10%

DISCUSSION

The physical training program currently followed has not been revised in the recent past. Past promotional effort to increase physical activity has been frustrated by poor understanding of the factor that motivates participation in exercise (8, 9). Modern IPS officer needs to understand the training methodology; they need to develop adequate endurance to work for longer duration without fatigue and need adequate amounts of strength and power to be agile in their professional needs. The most important factor responsible for training injuries was due to lack of physical training based on individual capacity. Based on the latest recommendations of ACSM (3) and other sports medicine organisations, the physical fitness testing protocol was developed. Their initial testing revealed that only 6 (males) out of 105 probationers had cardio-respiratory endurance more than 9 METs (Excellent fitness). However many probationers had reasonably good upper body strength and upper body power. About 27% males and 4% females had very poor flexibility increasing risk for back and hamstring injury. Most of the probationers were having percent body fat more than 30% probably was the major cause for their poor performance in the endurance tests. This correlates with their excess consumption of visible fats and simple sugars. Excess body-fat and obesity is known to reduce physical performance (10), it was evident that large numbers (Table-4) of probationers had no exercise habit (52%) and probably associated with sedentary lifestyle for past 2-3 years intensely preparing for exams. Probationers also come from different parts of the country with different socio-cultural backgrounds. It's important that all the probationers to be fit enough to undertake the stress and strain during training. At zero-week fitness status of probationers was not up to the mark and large numbers were not in a position to undertake the program suddenly thus resulted in more injuries in the past. Therefore, the acclimatisation training programme (based on individual fitness capabilities) during first three months with adequate cardio-respiratory endurance, muscular endurance, speed, agility, flexibility and preventive conditioning helped them to get better physiological adaptations. Static stretching and proprioceptive neuromuscular facilitation are considered the best for developing flexibility (11) and they have significantly improved their flexibility. The re-test after six months had significantly reduced the degree of obesity and improved other fitness components in both sexes (table-3). In view of these observations, sport medicine team has developed a protocol of fitness standards for probationers. This has lead to the development of a fitness training program which is currently being followed.

CONCLUSION

Current study reveals that many IPS probationers who come from different backgrounds and large numbers found to be in poor fitness status. Intervention revealed the need of increasing awareness among IPS aspirants to participate in regular exercise & develop positive lifestyle before joining the training. It's beyond any doubt, that doing physical training within their own capacity not only helps to reduce injuries but also improves understanding of what

they are doing. This helps in motivating them to furnish leadership qualities. It is opined that emphasis should be given on preventive conditioning exercises. Injury-prone training events like horse-riding may be considered as optional or modified. The age-old recruitment training cards and tables need to be completely revised with suitable modern scientific recommendations.

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The integrative role of culture in sport development

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ABSTRACT

Objectives: The study aims to highlight the integrative role of culture in the development of competitive sport in Tunisia. **Issue:** This approach to the object is justified by the importance it attaches to the meaning of sportsmanship with respect to cultural values conveyed by the group. Indeed, competitive sports are based on an elitist system which is built upon individualism and the autonomy of the subject (De Tocqueville, Weber, Boudon). These two features are deeply-rooted in the imagination of humankind with degrees varying from one society to another, as shown by Hofstede (2001). The latter has identified four dual and bipolar cultural dimensions. We retain one dimension, namely distance with respect to power, or the degree of acceptance of the unequal distribution of power.

Assumptions: We assume that subjects tend to accept submission if authoritarian influence comes from a famous person (coach, youth leader). **Method:** With reference to this dimension, the experimental protocol proposes to students a scenario where they are called to respond to this command mode. The experiment consists in asking students N 18; Age: 22 years (± 1.00) to perform an exercise in which the body is alternately raised from and lowered to the floor by the arms only, the trunk being kept straight with the toes and hands resting on the floor (press-ups). The number of repetitions relatively exceeds the actual capabilities of each subject. The instruction comes from a "famous" youth leader. **Results and discussion:** The obtained results showed no significant differences between the estimated performance and the actual performance. Such a result does not confirm the hypothesis and calls for the assertion that the subjects are autonomous from the source of authority, which would be favorable for achieving sports performance. However, how could we explain that this is not true in practice? Complete the model of Hofstede (2001) by introducing a dimension illustrating the specificity of the Arab-Muslim culture. It is a culture of dignity where respect for authority, is associated with an affirmation of the equality of humans (Zghal 1994).

Keywords: Sport development, integration, culture, independence, individuality, Tunisia.

INTRODUCTION

By the time when sport seems to be a "religion of globalization" (De Brie, 1996, p. 96) supported by the rapid development of information and communication technologies, is it appropriate to talk about cultural differences for sport development?

The rationality of the results that invades the minds diverts attention from culture. The effect of culture is brushed aside to give way to universal management models of sports careers. This trend of global monoculture (Lévi-Strauss, 1955) is contested by such authors as Latouche (1999). Cultures resist, he says, because *"there are no values that transcend the plurality of cultures for the simple reason that a value exists as such only in a given cultural context."* This leads to the relativity of the models of this approach as conceived by Triki (1998). Indeed, any element, in this case sport, *"coming from another culture can become operative and understood as such only if it is reinterpreted and reinserted with concepts, ideas and ways of the receiving culture"*.

Based on the analysis of Hofstede (1994) and D'Iribarne (1998), Zghal (2008) considers that *"it is through culture that facts and acts are interpreted. It affects the leadership styles and helps in the understanding of the spirits of resistance and inertia of those being led"* [...]. These

preliminary remarks introduce the object of the study: highlighting the integrative role of culture in the development of competitive sport in Tunisia.

COMPETITIVENESS OF SPORT IN TUNISIA

Tunisian sportsmen are not really competitive at the international level. Apart from the performances particularly achieved by the runner Mohamed Gammoudi at the 1968 Olympics in Mexico, by the judoka Anis Lounifi, world champion in Munich 2001 and by the Olympic champion swimmer in 1500 m freestyle at 2008 Beijing Olympics Oussama Mellouli, who also became world champion for the same distance in Rome in August 2009, the international achievements remain rare.

Several reasons may explain the delay of sport development in Tunisia:

- A universal rather than endogenous model advocating instrumental rationality at the expense of communicative rationality (Habermas, 1973; Hentati, 1999).
- A model that includes structural deficiencies at the rationalization strategy which is believed to be adopted (Hentati, 2013).
- A model that takes on the quantitative and ignores the qualitative approach of development (Hentati, 2014).
- A model that ignores the power of culture as a potential that can induce change and creativity.

The crisis that sport is going through is not scientific, technological, financial or infrastructural. In fact, it is primarily a crisis of meaning and only culture could give meanings. How? We will respond by addressing the founding values of modern sport.

CORE VALUES OF SPORT: COMPETITION, INDIVIDUALISM AND AUTONOMY

Historian Ulmann (1977) showed that the competition in the "*modern sport cannot be disassociated from the idea of progress*" (p. 335). He argues that with the advent of capitalism, progress in scientific terms has been undeniable. But on the other hand, there is "*an integral and complementary corporal regression of such progress*": *the technique has indeed released the body and simultaneously unaccustomed the effort. To reach consummate progress, it must be scientific as well as physical. By addressing the body, sports have "contributed to the perfection of the notion of progress"* (Ulmann, p. 336).

Competition is associated with individualism. Following the steps of A. De Tocqueville and Weber, R. Boudon (2005) introduced the paradigm of methodological individualism, in which the project is to "*explain a social phenomenon by making the result of behavior understandable for the concerned individual*". Referring to the laws set forth by these founders, including Tocqueville, Boudon considers that there is one that is undoubtedly the most famous: "*equality promotes individualism .i.e. the withdrawal into oneself and the small inner circle*" (Boudon, p. 7).

The consequences of this sociological legacy are crucial so that, as Ehrenberg points out (1998, pp. 14) "*the extent of the ideal individual is not much docility but the initiative*". In sports, it is illustrated by the "worship of performance" (Ehrenberg, 1991), the strong desire to achieve victory expressed in the time-honored phrase: winning is not all what matters, but it is the only thing that counts.

However, there are two types of individualism to be identified: A "particularistic" individualism, which reflects the morality of "everyone for himself", and "universalist" individualism, based on the recognition of collective values by everyone. The latter principle implies freedom and equality of individuals" (Schweisguth, 1995, pp. 134-135).

Individualism is associated with autonomy, a value shared by all Western societies. It is reflected in *"the involvement of the individual and his ability to mobilize his resources to address a variety of situations and problems"* (Chauffaut et al., 2003, p. 15). But E. Morin sees that *"the notion of autonomy can be conceived only in relation to the idea of dependence [...]"* (Morin, 1981, p. 261). Thus, competition, individualism and autonomy arise as illustrative values of Western cultures and soon affect all areas of social life, including sports. However, these values are deeply rooted in the imagination of humankind with degrees that vary from one society to another, as demonstrated by Bolinger & al. (1987) and Hofstede (1994).

CULTURAL DIMENSIONS

Culture is a *"mental programming"* which designates *"ways of thinking, potential feeling and action that are the outcome of a lifelong learning [...]"* It varies from one group and a class of persons to another, depending on rarely accepted and often misunderstood terms (Hofstede, 1994, in M.-C. Bernard). This author has focused on *"the limits of the validity of the theories about the organization and the management of intellectual capital of a single nation. The acknowledged aim [...] is to help unveil the role of culture in the management of humans. The purpose is to describe the main cultural dimensions that differentiate human groups and to show the consequences in the areas of the management of humans. That is to say, the focus is on the way to run and motivate them and to organize their activities"* (Bollinger et al. 1987, p. 17).

"It is about adapting organizational behavior in multinational companies to local contexts. In this context, the societal culture arises as a potential that lends itself to operationalization. Acting as a source of resistance and dysfunction if ignored by the manager, the societal culture can turn into a factor of motivation, creativity and organizational innovation, if managed as a new reality of the organizational context" (Zghal, 2008, p. 24).

This model includes four dimensions

- The power distance: The extent of the acceptance of the unequal distribution of power
- Collectivism vs. Individualism: Whether the interests of the group prevail over the interests of the individual or the other way round
- Masculinity vs. femininity: The social consequences of belonging to one sex or the other.
- Avoidance of uncertainty: The degree of anxiety of a given society facing uncertain future.

The management of sporting careers involves these dimensions. It should be understood within this value system with bipolar dimensions. There is a pole characterizing Western cultures such as Germany, Scandinavia, and Anglo-Saxon countries as opposed to another one characterizing cultures of developing nations such as Latin countries, Arab countries and some African countries (Bollinger et al., 1987).

Thus, the cultures whose dimensions are characterized by low hierarchical power distance, hence egalitarian, little individualism and control of uncertainty that tolerates risk-taking, are more likely to make high-level sports achievements.

METHOD

In this study, we take on the dimension regarding the distance from power or the extent of the acceptance of its unequal distribution. A non-hierarchical society offers the subjects independence and autonomy in relation to power, which bodes well for performing well in sport. Thus, with reference to the classification of Hofstede, it seems that the Tunisian culture, being characterized by high power distance, is unlikely to enhance excellence in sport in comparison with low power distance cultures.

Nevertheless, it is important to make sure that the Tunisian culture is as hierarchical as the findings of Hofstede seem to suggest. We shall undertake such verification in the discussion section, after performing the experiment and presenting the results.

We stipulate that the independence of subjects from the authority is the principle of sport performance. A group of students receives a command mode from a youth leader with confirmed fame: the subjects tend to accept submission if the authoritarian influence comes from someone enjoying significant social capital.

The experimental procedure is inspired by the experimentation of Wilson (1968). Wilson measures the obedience to an educated person, thus to the statutory authority.

Our experience is to have students [N = 18; Age: 22 years (± 1.00)] perform an exercise in which the body is alternately raised from and lowered to the floor by the arms only, the trunk being kept straight with the toes and hands resting on the floor (press-ups). The number of repetitions relatively exceeds the actual capabilities of each subject.

RESULTS AND DISCUSSION

The results showed no significant differences between the estimated performance [$F = (30.2)$ 1.095; $p = .42$] and the performance achieved [$F = (32.5)$; $p = .176$]. Such results do not confirm the hypothesis. Rather, they call for the assertion that the subjects are autonomous from the source of authority, which would be favorable for the achievement sports performance.

Then, how could we explain that this is not true in practice? The first explanation is: To verify these results on a larger sample and their confirmation with a common youth leader (anonymous).

Pending the confirmation or the refutation of such non significance with a larger sample and an anonymous source of command, let us see what these results mean and discuss them in light of the performed work. We will discuss the model of Hofstede (the dimension of power distance) by introducing a dimension which illustrates the specificity of the Arab-Muslim culture, as was done for the Far Eastern cultures (the introduction of the Confucian dynamism, a value that corresponds to an orientation towards the long term).

The analyses of Zghal (1994) regarding the Tunisian example make it possible to put these results into perspective. For this author, a great respect for the authority or the position goes hand in hand with a great affirmation of the equality of humans. Her researches offer a new useful concept to discuss our results, referred to as "the culture of dignity". Indeed, the new concept questions the two-pole Manichean tendency of power distance cultures that classifies cultures into autonomous cultures and heteronomous cultures.

The introduction of the equal-dignity dimension means the rejection of any submission to the authority of others. *"This has its foundation in the Sunni Muslim religions which does not recognize intermediation between Allah and Men [...] The Hadith recalls that all men are of the same nature and calls for humility and the equal treatment of Men, whether they are rich or the poor, weak or strong,"* (Zghal, 2008, p. 27). But, one is left to wonder how to solve the contradiction caused by the fact that human society is hierarchical? The author introduces an adjuvant dimension, paternalism. It *"is a [...] sort of resolving a dilemma which is created by the theoretically humiliating subordinate situation. Paternalism is based on the bias in favor of the head towards his subordinates and his support of their interests and the primacy of the emotional climate in social relations"* (Zghal, 2008, pp. 27-28 & et Zghal, 1994, pp 180-181).

Ultimately, the author concludes that "we are dealing with an original and coherent cultural configuration including these interrelated elements: the commitment to the values of equality-dignity and paternalism as a regulator of situations where inequality is inevitable [...]" (p. 29)

Have we come all this way only to find ourselves facing a dimension which is more controversial than paternalism? Nonetheless, it is through in this cultural configuration, in which paternalism is the central core, that Tunisians would address competitive sports. This is defined as "*a social relationship where inequality is deflected and transfigured by a social metaphor that likens the authority holder to a father, and the agents subjected to that authority to his children. This metaphor tends to transform the power and exploitation relations into ethical and emotional relations, and duty and feeling replace regulation and benefit [...]*" (Pinçon, 1985, p. 95). In this case, it is conceivable to think positively about paternalism. This would actually prevent social conflicts and maintain social peace.

CONCLUSION

Our approach to the consideration of the cultural factor initially is meant to prevent the occurrence of failures in the process leading to sport excellence due to the inconsistency between the adopted model of preparation and the seemingly unavoidable cultural dimensions. Nonetheless, it can be argued that paternalism can threaten the autonomy of the subjects. Morin replied that this is a "*simplified opposition between autonomy without dependence and determinism of dependence without autonomy*" (Morin, 1981, p. 261).

In fact, it is about creating an emotional climate of listening and caring, as well as confidence in one's ability to improve. It is a climate in which every athlete feels considered and supported through the management of his interests: the autonomy aspect of the relationship. Yet, there is no autonomy without dependence. The supported athletes, themselves, are responsible for improving of their own productivity, developing their resources, and being sportingly more effective.

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Relationship of Physical fitness, Anthropometric and Body composition variables to performance in Still Rings in Men Artistic Gymnastics

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Abstract

The purpose of the study was to find out the “Relationship of selected physical fitness and anthropometric variables to performance in Still (Roman) Rings performance in men artistic gymnastics” of those qualified compulsory exercise in 46th Junior National Gymnastic Championship held at Manipur, India from 15th to 19th February 2006. **Methods:** 60 male gymnasts performance were assessed on all the six apparatus participated in the said championship. The article is presented to bring out the result of Still Rings performance of the gymnasts. Out of 124 gymnasts (total number of gymnasts participated) only 60 Gymnasts was taken in this study those who qualified from compulsory Rings performance to optional exercises. Ten Physical fitness variables and ten Anthropometric variables were selected for this study. The percentage of body fat was assessed using a measuring device such as Harpenden Skinfold Caliper at four standardized sites (biceps, triceps, subscapula and suprailliac). The four measures were then summed and converted to body fat percentage using the Durnin and Womersley table. Height, Weight, Leg Length, Arm Length, Sitting height, Arm Span Thigh girth were assessed using standard tools for the study. A Spearman’s correlation test was used to find out the relationship of physical characteristics with Rings performance in the championship. **Result:** Based on the analysis of the data, the result has been drawn. 21 variables entered, only 5 variables best predicted the performance of gymnasts on Rings compulsory exercises of the gymnasts was Dynamic balance with the correlation coefficient of .427 with the contribution of 16.8%, followed by Ankle flexibility with the correlation coefficient of .530 and contribution of 25.6%, Arm Girth with the correlation coefficient of .584 and contribution of 30.6%, Abdominal strength with the correlation coefficient of .630 and contribution of 35.3% and Chest girth with the correlation coefficient of .668 and contribution of 39.5%. Rings Optional Performance : The first and foremost variable to predict the Rings optional of the gymnasts was Arm Girth with the correlation coefficient of .466 with the contribution of 20.3%, followed by Dynamic balance with the correlation coefficient of .519 and contribution of 24.4%, Abdominal Strength with the correlation coefficient of .600 and contribution of 32.5%, Static balance with the correlation coefficient of .665 and contribution of 40.2% and Chest girth with the correlation coefficient of .696 and contribution of 43.7%. **Conclusion:** The Four (4) variables are commonly best predicted performance of gymnasts in Still Rings compulsory as well as in optional event. They are Arm girth, Chest girth, abdominal strength, and dynamic balance shows significant differences for successful performance. These findings might have practical implications for both training and talent identification in junior men artistic gymnastics.

Keywords : Anthropometry, Artistic gymnastics, Still Rings

INRODUCTION

Men artistic gymnastics (MAG) is an Olympic Sport regulated by the International Gymnastics Federation (FIG), in which gymnasts perform short routines on six different apparatus: Floor, Pommel horse, still rings, Vault, Parallel bars and Horizontal bar. Elite artistic gymnastic players should have an appropriate body physique, maintain low body fat, and have specific physical abilities (ie, flexibility, explosive strength, coordination) to achieve a successful performance. Furthermore, successful performance in artistic gymnastics requires years of practice and training that starts at the early age of 6 years and continues until adolescence.

Muscular strength, the maximum force exerted by a single muscle or muscle group, plays a significant role in executing advanced gymnastics skills. Muscular endurance, the ability of a muscle to exert force repeatedly, acts as a critical component during a gymnastics competition. This physical component enhances a gymnast's resistance and decreases muscle fatigue. Anthropometry is that branch of anthropology that is consented with the measurement of human body. This definition can be contained to the kind of measurements commonly used in associating physical performance with body build (Johnson, et al, 1974). After an intensive study of anthropometric measurements of Olympic athletes, Garay and Carter (1979), concluded that top level performance in a particular event demands particular type of body size and shape. They established high relationship between structure of an athlete and the specific event in which he excelled. Body composition, a necessary fitness component of gymnasts, is the association between fat, muscle and bone within the body increasing body fat percentage can hamper a gymnast's performance. Adequate bone density and lean muscle mass provide the adequate strength and support to perform strenuous gymnastic skills. (Kaukab Azeem, 2015), reveals that muscular strength includes a variety of training modalities, including body weight exercises, elastic bands, plyometric exercises for (upper and lower body), multi machines, free weight machines and hydraulic machines. (Kaukab Azeem 2015), stated that the exercise is a medicine and resistance training in particular is one of the most important medicine in controlling certain types of diseases, i.e., obesity, joint pains, muscle weakness, neuro-muscular coordination, etc.

Soviet authors Rozin & Ceburaev (1981) followed gymnasts height at Olympic Games in 1964 and 1980, which varied from 1.66 up to 1.69 m. Lebedev & Rozin (1981) published results of morphological characteristics of their gymnastics masters of sport: body height 1.66 m, weight 63 kg, interesting are proportions between body height and arm length (44.3%), leg length (54.4%) and trunk length (29.7%). They emphasized the relation between body height, and length of long bones, which was mostly proportional. Cuk & Novak (1985) defined successful gymnast as the one who is short (the ratio between the length of trunk and the length of legs should be such that the muscles can quickly move these levers), light and has a strong chest with a relatively high and good quality muscular mass and has a very little subcutaneous fat. Claessens et al. (1991) carried out measurements of anthropometric characteristics in top gymnasts at the 1987 World Championship in Rotterdam. They measured 15 anthropometric characteristics, calculated Rohrer index and somatotype according to Heath and Carter.

The purpose of the study was to find out the “*Relationship of selected physical fitness, anthropometric variables and body composition to performance in artistic gymnastic*” of those qualified compulsory exercise in 46th Junior National Gymnastic Championship held at Manipur, India held during 15th to 19th February 2006.

METHOD

To achieve the purpose of the study the investigator has selected 124 male gymnastic players participated from 16 States of India in Junior National Championship. Out of 124 gymnasts only 60 Gymnasts was taken into consideration those who qualified from compulsory exercise to optional exercises. The data was collected during the 46th Junior National Gymnastics championship held at Manipur during Feb-2006.

Selected Physical fitness Variables, Tests and Criterion Measure**Table - 1**

Sl No	Variables	Test conducted	Criterion measure
1	Muscular Endurance of Arm	Push-ups Max	Maximum in numbers
2	Running Speed	50 Yard dash	Seconds
3	Leg power	Standing broad jump	Distance in Centimeters
4	Abdominal Strength	Sit -Ups	Maximum in numbers
5	Static Balance	Bass stick test	Time in Seconds
6	Dynamic Balance	Bass Test of Dynamic Balance	Time in Seconds
7	Ankle Flexibility	Ankle Extension Test	Centimeters
8	Hip Flexibility	Side Split Test	Centimeters
9	Shoulder Flexibility	Shoulder Rotation Test	Centimeters
10	Trunk Flexibility	Back Arch Test	Centimeters

Anthropometric Variables, Equipments used and Criterion Measure

METHODS APPLIED: Following statistical methods were employed in the present Study to analyze the data;

1. Descriptive statistics
2. Multiple Regression-Stepwise
3. SPSS statistical package was used for analysis and interpretation of data

The data collected have been analyzed under descriptive statistic and stepwise multiple regressions and the result obtained have been interpreted along with graphical representations.

The performance was taken as major dependent variable and other variables like, physical fitness, body structure and body composition variables as independent variables. In each analysis major predictors through various steps, contribution percentages, result of regression ANOVA, beta coefficients are presented.

Descriptive statistics for physical fitness variables

Table - 2

Sl no.	Variables	Min.	Max.	Mean	S.D
1	Endurance of Arm	34	100	49.98	24.22
2	Abdominal Strength	40	200	65.48	44.96
3	Running Speed	7.70	8.78	8.07	0.34
4	Leg Power	1.96	2.50	2.18	0.18
5	Static balance	0.20	0.70	0.40	0.12
6	Dynamic balance	48.00	87.00	73.35	12.78
7	Hip flexibility	2.00	10.00	4.17	2.08
8	Shoulder flexibility	12.00	65.00	44.90	12.07
9	Ankle flexibility	47.00	71.00	57.53	6.54
10	Trunk flexibility	37.00	92.00	61.60	11.74

Descriptive Statistics for Anthropometric Variables

Table - 3

Sl no.	Variables	Min.	Max.	Mean	S.D
1	Height (cm)	149.00	175.00	161.40	5.64
2	Weight (Kg)	40.50	75.00	52.39	6.35
3	Leg length (cm)	83.00	119.00	93.95	6.05
4	Arm span (cm)	47.00	77.00	57.08	8.11
5	Chest girth (cm)	70.00	96.00	86.68	6.26
6	Thigh girth (cm)	40.00	50.00	45.87	2.48
7	Calf girth (cm)	27.00	35.00	31.03	2.24
8	Arm girth (cm)	20.00	30.00	25.90	2.41
9	Sitting height (cm)	78.00	89.00	82.58	3.70
10	Palm length (cm)	17.00	19.50	18.14	0.66

Sl No.	Variable	Min.	Max.	Mean	S.D
1	Fat percentage	13.66	28.26	20.34	2.94

Table-5

Variables	N	Min.	Max.	Mean	S.D
Shoulder flexibility	60	12.00	65.00	44.9000	12.0686
Hip flexibility	60	2.00	10.00	4.1667	2.0844
Ankle flexibility	60	47.00	71.00	57.5333	6.5444
Static balance	60	0.20	0.70	.3967	.1164
Dynamic balance	60	48.00	87.00	73.3500	12.7808
Standing broad jump	60	1.96	2.50	2.1830	.1769
Push ups	60	15.00	100.00	49.9833	24.2183
Sit-ups	60	20.00	200.00	65.4833	44.9642
Speed	60	7.70	8.78	8.0650	.3439
Weight	60	40.50	75.00	52.3883	6.3535
Height	60	149.00	175.00	161.4000	5.6364
Chest girth	60	70.00	96.00	86.6833	6.2639
Arm length	60	47.00	77.00	57.0833	8.1074
Arm girth	60	20.00	30.00	25.9000	2.4055
Leg length	60	83.00	119.00	93.9500	6.0462
Palm length	60	17.00	19.50	18.1417	.6580
Thigh girth	60	40.00	50.00	45.8667	2.4802
Calve girth	60	27.00	35.00	31.0333	2.2396
Sitting height	60	78.00	89.00	82.5833	3.7020
Fat percentage	60	13.66	28.26	20.3447	2.9414

Description of Rings Exercise

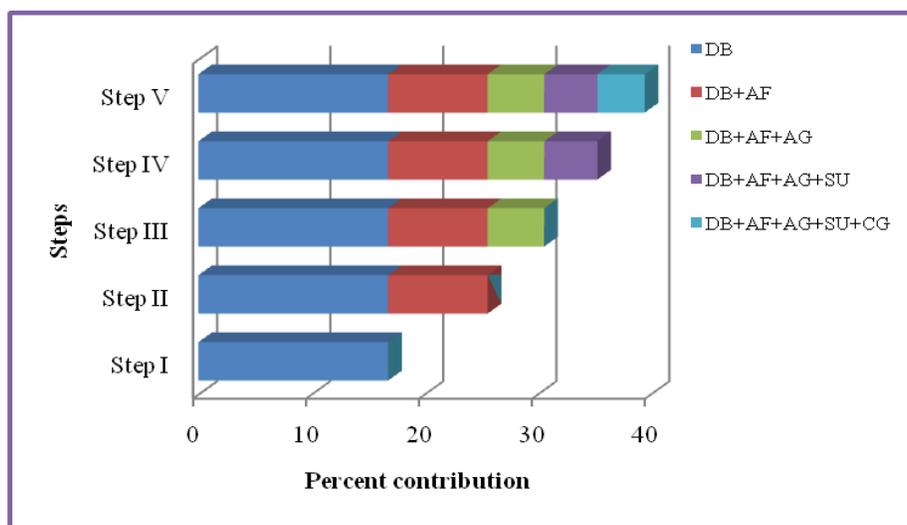
An exercise routine on Still rings (Roman Rings) is composed of swing, strength and hold parts in approximately equal portions. These parts and combinations are executed in a hang position, to or through a support position, or to through the handstand position and execution with straight arms should be predominant. Contemporary gymnastic exercises are characterized by transitions between elements of swing and strength or the reverse.

A: Rings compulsory**Variables Entered and Removed in the Stepwise Multiple Regression Analysis**

Out of 21 variables entered, only 5 variables best predicted the performance of gymnasts. They are Dynamic balance, Ankle flexibility, Arm Girth, Abdominal strength and Chest girth. The first and foremost variable to predict the Rings compulsory of the gymnasts was Dynamic balance with the correlation coefficient of .427 with the contribution of 16.8%, followed by Ankle flexibility with the correlation coefficient of .530 and contribution of 25.6%, Arm Girth with the correlation coefficient of .584 and contribution of 30.6%, Abdominal strength with the correlation coefficient of .630 and contribution of 35.3% and Chest girth with the correlation coefficient of .668 and contribution of 39.5%. Rest of the contribution for the performance was unaccounted for. Remaining 16 variables did not predict the performance of the gymnasts.

Table - 6

Model	Variables Entered	R	R²	Adjusted R²	Std. Error of the Estimate
1	Dynamic Balance	.427	.183	.168	2.5851
2	Ankle Flexibility	.530	.281	.256	2.4455
3	Arm Girth	.584	.341	.306	2.3624
4	Abdominal Strength	.630	.397	.353	2.2810
5	Chest Girth	.668	.447	.395	2.2043



Extent of Contribution by Predictor Variables for Rings Compulsory DB = Dynamic Balance; AF=Ankle Flexibility; AG=Arm Girth; SU = Sit ups and CG = Chest Girth.

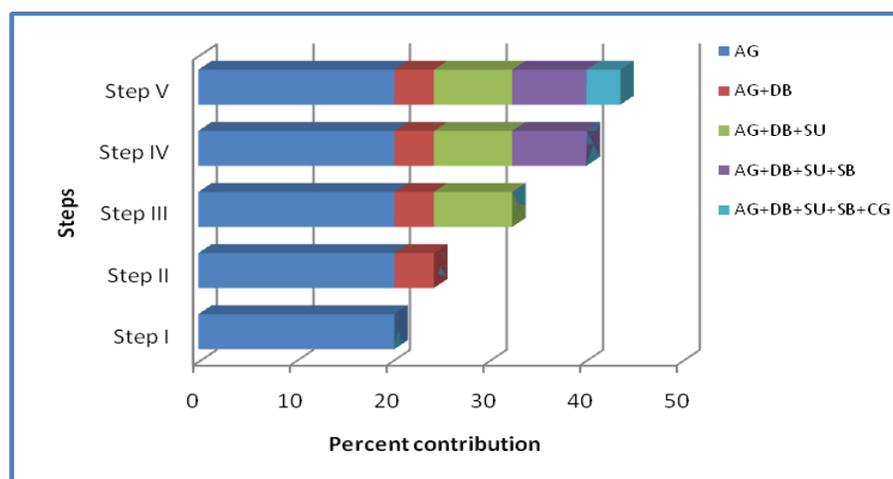
Rings optional

Out of all the 21 variables entered, only 5 variables best predicted performance of gymnasts. They are Arm Girth, Dynamic balance, abdominal strength, Static balance and Chest girth. The first and foremost variable to predict the Rings optional of the gymnasts was Arm Girth with the correlation coefficient of .466 with the contribution of 20.3%, followed by Dynamic balance with the correlation coefficient of .519 and contribution of 24.4%, Abdominal Strength with the correlation coefficient of .600 and contribution of 32.5%, Static balance with the correlation coefficient of .665 and contribution of 40.2% and Chest girth with the correlation coefficient of .696 and contribution of 43.7%. Rest of the contribution for the performance of gymnasts was unaccounted for. Remaining 16 variables did not predict the performance of gymnasts and did not enter into the equation.

Variables Entered and Removed in the stepwise multiple regression analysis

Table - 7

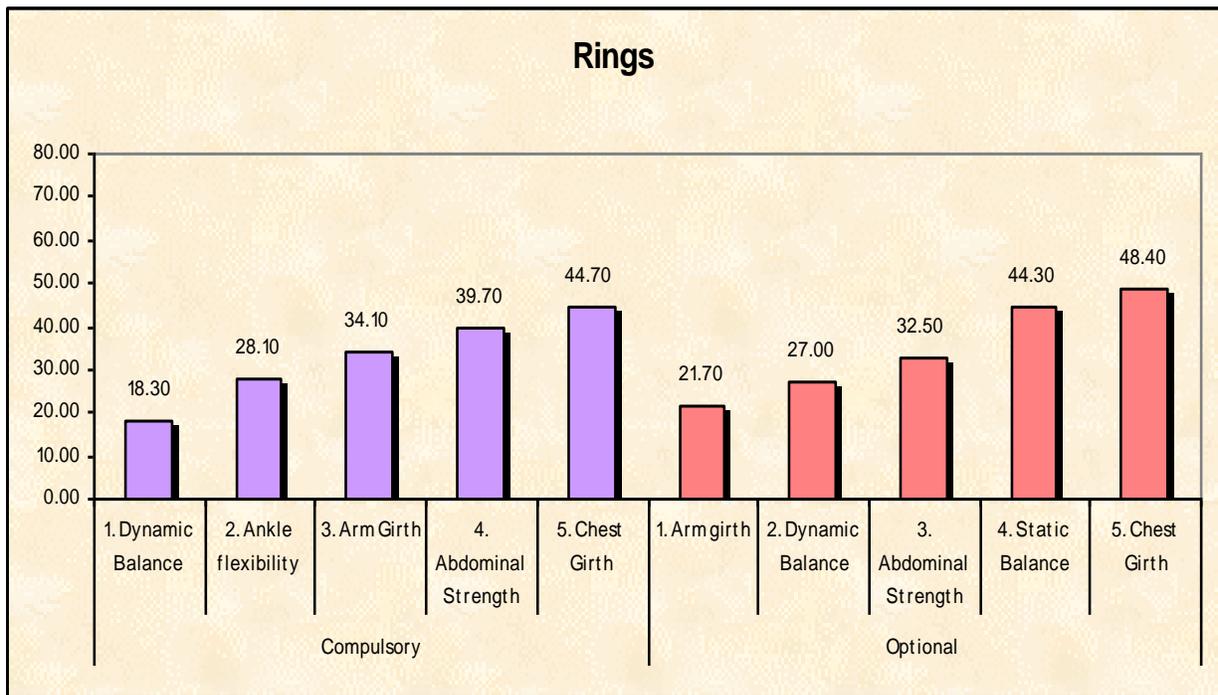
Model	Variables Entered	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	Arm Girth	.466	.217	.203	1.3402
2	Dynamic balance	.519	.270	.244	1.3055
3	Abdominal Strength	.600	.360	.325	1.2335
4	Static balance	.665	.443	.402	1.1611
5	Chest Girth	.696	.484	.437	1.1270



Extent of Contribution by Predictor Variables for Rings-Optional

AG = Arm Girth; DB = Dynamic Balance; SU= Sit Ups, SB = Static Balance;

CG = Chest Girth



The graphical representation indicates the correlation coefficient and contribution of physical fitness, anthropometric and body composition variable for both Compulsory and Optional exercises in still rings performance.

DISCUSSION

The result of the present study indicate that, there is significant relationships between physical and anthropometric and body composition variables to performance in men artistic gymnastics. All selected physical, anthropometric and body composition variables equally predict the Rings (Compulsory and optional) performance of men artistic gymnastics hypothesis is rejected since only 4 variables (dynamic balance, ankle flexibility, arm girth and sit ups) best predicted the compulsory performance and 4 variables – arm girth, dynamic balance, sit ups and static balance best predicted the optional performance. Body composition variables had not shown any significant relationship to predict the Still Rings performance in men artistic gymnastics.

CONCLUSION

The Four (4) variables are commonly best predicted performance of gymnasts in Still Rings compulsory as well as in optional event. They are Arm girth, Chest girth, abdominal strength, and dynamic balance shows significant differences for successful performance. These findings might have practical implications for both training and talent identification in junior men artistic gymnastics. It is evident that using analytical statistical methods with a large number of measurements on morphological, physiological, and physical fitness determinants related to performance is helpful. Knowledge of the these relations might allow coaches to concentrate more on training components that affect performance and provide the appropriate criteria for better talent identification. The purpose of our study was to determine which anthropometric,

physical, and physiological components among a large number of variables best explain the variability in Artistic gymnastics performance.

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A Study of Level of Job Satisfaction among the PEMAC Teachers

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ABSTRACT

Job satisfaction is the feelings of an individual about his job. It depends on the needs in existing situation. Job satisfaction is the motivational factor to carry out given tasks for the period of time. The objective of this study is to measure the level of job satisfaction of the PEMAC (Physical Education, Music, Arts and Craft) teachers on the basis of their gender, location, ethnicity and marital status. The research design of this study is classified as an empirical study. In order to obtain information concerning the job satisfaction of PEMAC teachers, data was collected using a survey in western division of Fiji. Fifty PEMAC teachers were selected for data collection from secondary schools only. The Minnesota Satisfaction Inventory was used to data collection. The results of the study show that thirty eight percent teachers are very satisfied and sixty two percent teachers are satisfied with their job. The result between gender shows that males have higher job satisfaction than the females. The job satisfaction of Indo-Fijian teacher is more than i-Taukei teachers. As for single teachers, they have higher job satisfaction than the married teachers. The urban PEMAC teachers are more satisfied with their job than the rural teachers.

Key Words: Job Satisfaction, PEMAC, Physical Education, Music, Arts and Craft

INTRODUCTION

The success of an educational organization depends upon the quality, quantity, devotion and effectiveness of the teachers engaged in to the process. The school's infra-structure, financial support, well designed programs and good administration are all necessary, but the most decisive component in the total education system is the expertise of teachers. This is accepted that teachers are the core element of any educational system. It is therefore clear that the effectiveness of the teacher is the determining factor for the success or failure of any educational organisation. A good compensation plan is essential for the teachers. This plan initiated in the realities of finances should be provided, and should lead to job satisfaction and higher performance. Job satisfaction among teachers will help to retain teachers and enhance the success of the educational organization.

Job satisfaction can be defined as positive affect towards employment (Mueller and McCloskey, 1990) and it is arguably a fairly stable evaluation of how the job meets the teacher's needs,

wants, or expectations (Fisher, 2003). In research, job satisfaction has been assessed as having multiple facets like salary, career progression, supervisor, etc. (Fisher, 2003). Several approaches have been considered assessing and evaluating job satisfaction in both theoretical and practical researches. Operationally, one of the greatest difficulties in assessing job satisfaction is that it is possible to be satisfied with some aspects of a job and at the same time be dissatisfied with others (Spagnoli et al., 2012).

The literature endorses two main approaches to measuring job satisfaction: an overall measure of job satisfaction or one regarding several aspects of job satisfaction. The first approach takes a macro perspective and consists in asking the respondent directly about his or her overall feelings about the job, being frequently build up with only one item (Wanous et al., 1997); the second approach emphasizes different aspects of the job. It is the extent to which an individual is satisfied with the several facets of the job that determines the overall degree of job satisfaction, frequently adopting a facet-sum approach.

Job Satisfaction has been playing a critical role in research, namely regarding the job satisfaction-job performance relationship (Petty et al., 1984; Fisher, 2003). The search for a relationship between job satisfaction and job performance has been referred to as the ‘Holy Grail’ of organizational behavior research (Weiss and Copranzano, 1996). This is a perception, that satisfied teachers will perform their duties more efficiently is the basis of many theories of performance, reward, job design and leadership (Shipton et al., 2006). This subject seems to be relevant for scholars, teachers and leaders alike. It is relevant for scholars interested in the subjective evaluation of work conditions.

One presumable advantage of multi-dimensional measures of job satisfaction is that components may relate differently to other variables of interest contributing to a deeper understanding on the subject, advancing science and practice of industrial organizational psychology (Hirschfeld, 2000). Some of the most popular measures in the field, e.g. the Job Descriptive Index (Smith et al., 1969), the Minnesota Satisfaction Questionnaire (Weiss et al., 1967), the Job Satisfaction Survey (Spector, 1985) adopt this perspective.

METHOD

The research design of this study was classified as a comparative study. This classification comes from the examination of western secondary school in order to identify the PEMAC teachers’ gender, marital status, location and ethnicity that affect the results obtained by the researchers on teachers’ perceptions of their job satisfaction. In order to obtain information concerning the focus of job satisfaction of the male v/s female, single v/s married, rural v/s urban and I-Taukei v/s Indo-Fijian PEMAC teachers, data were collected using survey to gather information on teachers’ perceptions and opinions concerning their profession.

Participants: Fifty PEMAC teachers from the western region were selected for the study.

The following sections of this report present descriptive information of teacher.

Table - 1

Variables	Gender		Location		Ethnicity		Marital Status	
	Male	Female	Rural	Urban	I-Taukei	Indo-Fijian	Single	Married
Percentage	84	16	26	74	44	56	16	84
Number	42	8	13	37	22	28	8	42

Sample Description – PEMAC Teachers (n=50)

Tools: A researcher requires data-gathering tools in order to collect information. Each tool is appropriate for the collection of certain types of evidence or information. The researcher has to select from the available tools. The Minnesota Satisfaction Inventory was used in this study that was prepared by Minnesota. It is a self-administering inventory. It is mainly for use on groups. Though it may be given to groups of any size, it may also be given individually. The inventory has 20 items. All the questions have been carefully studied. The MSQ-long form items are rated on a 5-point Likert scale (1 “very dissatisfied with this aspect of my job”, 2 “dissatisfied with this aspect of my job”, 3 “can’t decide if I’m satisfied or dissatisfied with this aspect of my job”, 4 “satisfied with this aspect of my job” and 5 “very satisfied with this aspect of my job”). Item responses are summed or averaged to create a total score – the lower the score, the lower the level of job satisfaction.

Procedure: To begin the research process, the questionnaires were distributed amongst the secondary school’s PEMAC teachers of western division of Fiji. All the instructions were on the questionnaire, they were supposed to read carefully before fill the questionnaire and ample time were provided. Teachers were asked to rate their level of job satisfaction for each question using a Likert scales that contained five rating options.

RESULT

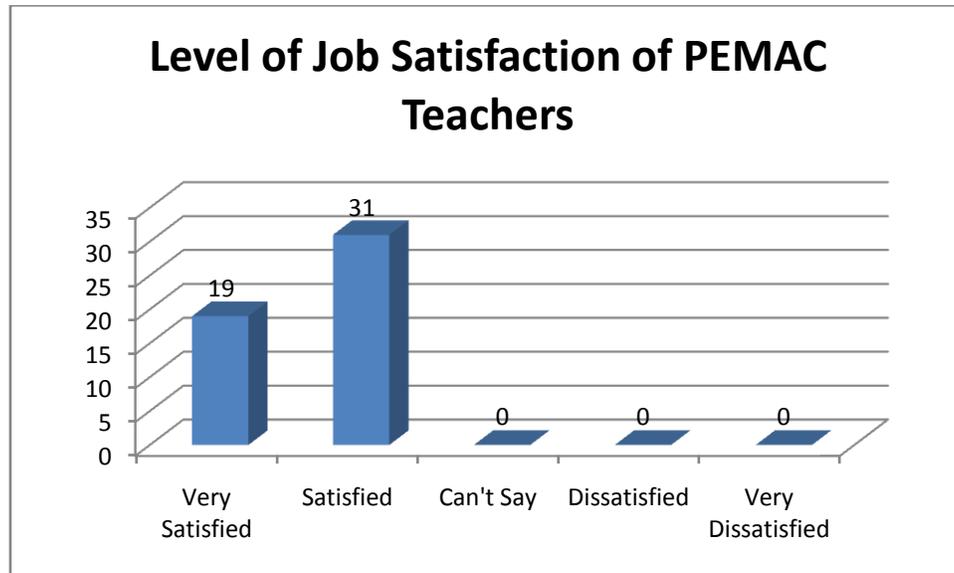
The purpose of this study was to investigate job satisfaction of PEMAC teachers in western division of Fiji. Using survey data obtained from the secondary school, the researchers sought to analyse teacher job satisfaction as well as focus on how each of the school districts of study met the needs of its teachers. This study also provided an opportunity for the researchers to examine the factors valued by teachers in western division and establish a framework of key causes that played an essential role in determining a teacher’s level of job satisfaction.

Job Satisfaction Level of PEMAC Teachers

Table - 2

	Very Satisfied	Satisfied	Can't Say	Dissatisfied	Very Dissatisfied
No. of Participants	19	31	0	0	0
Percentage	38	62	0	0	0

The table (2) showed that out of fifty teachers there are thirty eight percent teachers are very satisfied and sixty two percent PEMAC teachers are satisfied.



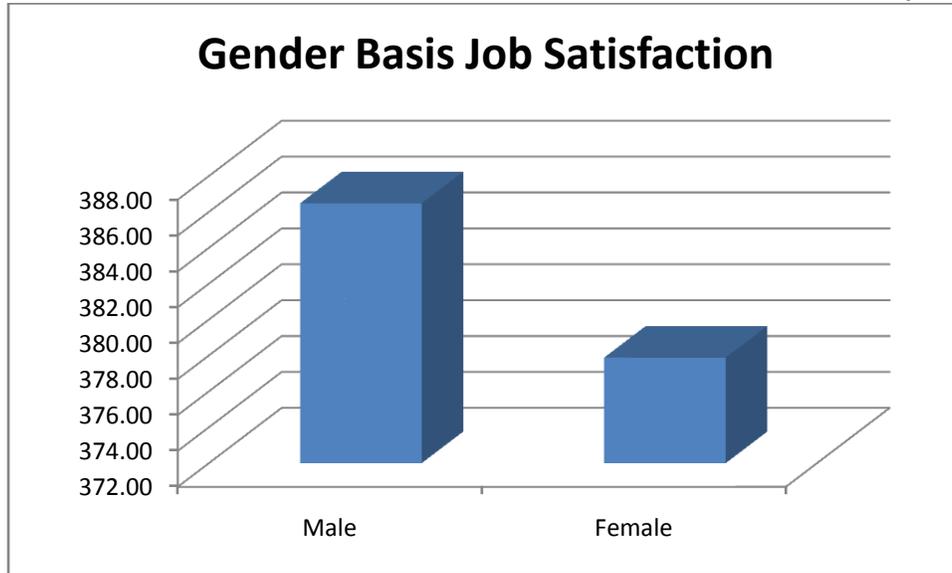
The graph shows response for the level of job satisfaction of PEMAC teachers in western division. Nevertheless we can say that out of fifty teachers there is no any teacher who is not sure, dissatisfied and very dissatisfied with their job while nineteen teachers are very satisfied and thirty one teachers are satisfied with their job.

Job Satisfaction Level of Male and Female PEMAC Teachers

Table - 3

	No.	Means	SD
Male	42	386.48	36.98
Female	8	377.88	32.56

The table (3) showed that there is a difference in job satisfaction between male and female PEMAC teachers. However, the mean score of job satisfaction among male is higher than the female.



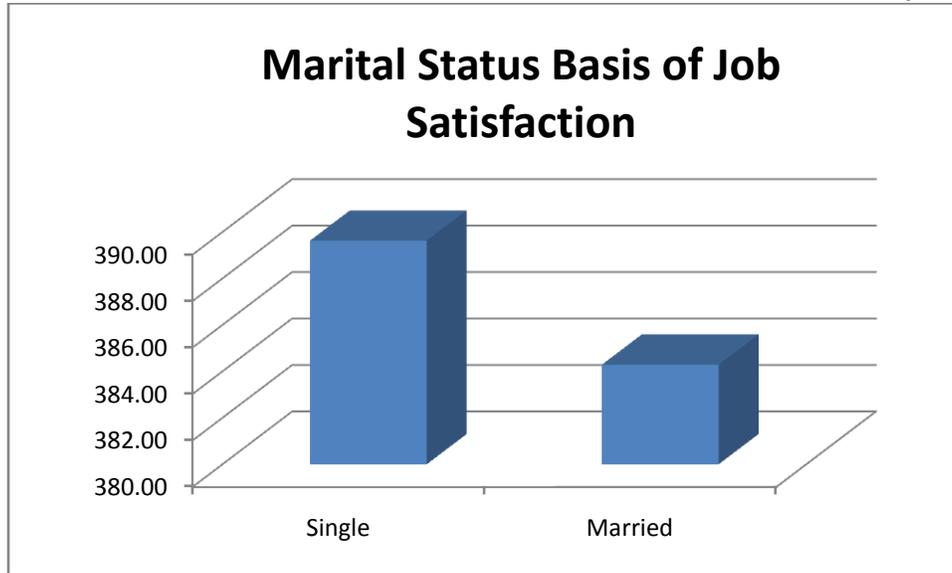
The graph shows response for the level of job satisfaction of PEMAC teachers. The male PEMAC teachers have greater job satisfaction in comparison to female teachers.

Job Satisfaction Level of Single and Married PEMAC Teachers

Table - 4

	No.	Means	SD
Single	8	389.63	49.97
Married	42	384.29	33.51

The table (4) shows that there is a difference in job satisfaction between single and married PEMAC teachers. However, the mean score of job satisfaction among single teacher is higher than the married teachers.



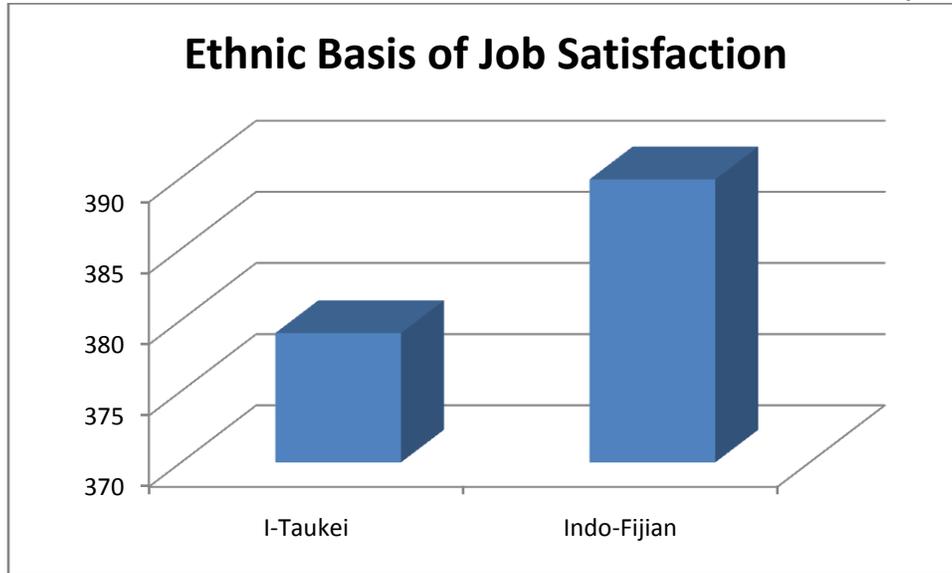
The graph shows response for the level of job satisfaction of PEMAC teachers on the basis of the marital status. The single PEMAC teachers are more satisfied than the married teachers.

Job Satisfaction Level of I-Taukei and Indo-Fijian PEMAC Teachers

Table - 5

	No.	Means	SD
I-Taukei	22	379.091	41.106
Indo-Fijian	28	389.893	31.4894

The table (5) shows that there is a difference in job satisfaction between i-Taukei and Indo-Fijian PEMAC teachers. However, the mean score of job satisfaction among Indo-Fijian teacher is more than i-Taukei teachers.



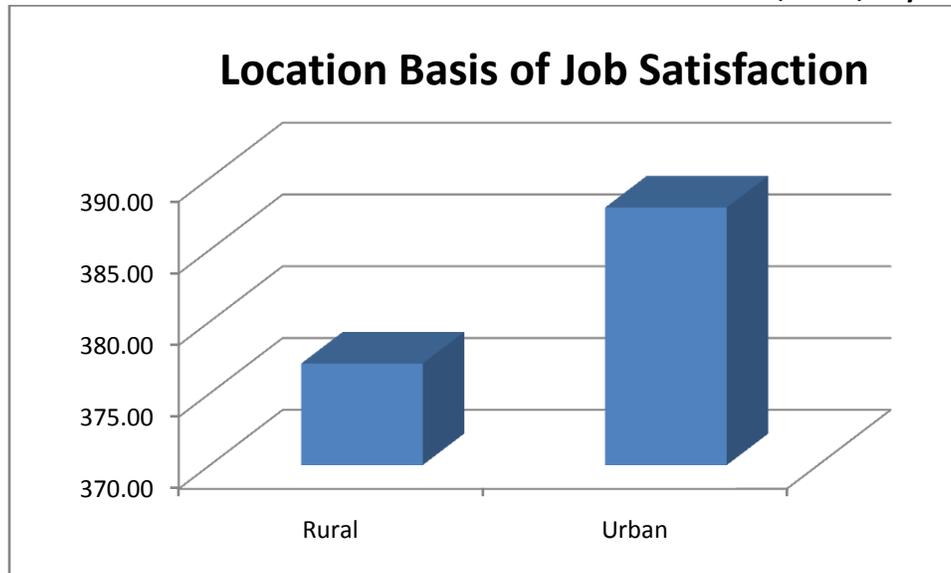
The graph shows response for the level of job satisfaction of PEMAC teachers on the basis of their ethnicity. The Indo-Fijian PEMAC teachers are more satisfied with their job than i-Taukei teachers.

Job Satisfaction Level of Rural and Urban PEMAC Teachers

Table - 6

	No.	Means	SD
Rural	13	377.08	33.91
Urban	37	387.95	36.86

The table (6) showed that there is a difference in job satisfaction between rural and urban PEMAC teachers. However, the mean score of job satisfaction among urban teacher is higher than the rural teachers.



The graph shows response for the level of job satisfaction of PEMAC teachers on the basis of their residential location. The urban PEMAC teachers are more satisfied with their job than the rural teachers.

CONCLUSION

It is important for school administrators to understand the factors that contribute to teacher job satisfaction as well as the practices that they have in place in their school. On the basis of data analysis we can conclude that overall PEMAC teachers are satisfied with their jobs, out of fifty teachers there are thirty eight percent teachers are very satisfied and sixty two percent PEMAC teachers are satisfied with their jobs. Moreover, male teachers, single teachers, Indo-Fijian teachers, and urban teachers are more satisfied with their job than their counter parts (Male v/s Female, Single v/s Married, i-Taukei v/s Indo-Fijian and Rural v/s Urban). In view of ongoing changes in schools and curriculum as well as the working conditions of PEMAC teachers, identifying factors influencing job satisfaction has become increasingly important for teachers. Job satisfaction can be an important strategic concern since it is closely associated with teachers' work motivation and performance, factors that ultimately affect student learning.

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A Study on Achievement Motivation of Kabaddi and Handball Players

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Abstract

The purpose of this research study was to measure the achievement motivation level for the kabaddi and handball players. The study was formulated based on the simple random sampling. The samples were selected from the 80 Kabaddi and 80 Handball players of University and pre-university level of Dharwad district. The questionnaires, which were used to measure achievement motivation, were standard questionnaires and they considered reliable. As the same subjects were used to measure for achievement motivation of ability with questionnaires by the same investigator were considered reliable. The achievement motivation questionnaire inventory developed by M.L Kamalesh for Statistical analysis 't' test were used. The results of the study found that The University Handball and kabaddi players have significant higher achievement motivation as compared to Pre-University level players. The University level Kabaddi players have significant higher achievement motivation as compared to Pre-University level Kabaddi players. The University level Handball players have significant higher achievement motivation as compared to Pre-University level Handball players. The Kabaddi and Handball players of both University and pre-University level have similar achievement motivation scores.

Key words: Kabbadi, handball, fitness, performance

INTRODUCTION

Achievement Motivation defined as the need to perform well or the striving the success as need to perform well or the striving for success and evidenced by persistence and effort to achieve high performance in sports. Motivation is based on your emotions and achievement related goals. Achievement Motivation is the desire to excel at task.

Sport Psychology is the scientific study of people and their behaviors in sport. The role of a sport psychologist is to recognize how participation in sport exercise and physical activity enhances a person's development. Beginning in 1970 Sport psychology became a part of the curriculum on university campuses. Today, sport and exercise psychologists have begun to research and provide information in the ways that psychology will being and vigorous physical activity are related.

Achievement Motivation form to be the basic for good life. People who are oriented towards achievement in general, enjoy life and feel in control, being motivated keeps people dynamic and gives them self respect.

They set modernly difficult but easily achievable targets, which help them, achieve their objectives. They do not set up extremely difficult or extreme easy targets by motivated people prefer to work on a problem rather than leaving the outcome to chance. It is also seen that Achievement Motivated sports persons seem to more concern with their personal achievement rather the rewards of success.

METHOD

The study was formulated based on the simple random sampling. The samples were selected from the 80 Kabaddi and 80 Handball players of University and pre-university level of Dharwad district. Taking into consideration of the importance of variable and the feasibility criteria for these variable were selected for the investigator. The reliability of data was censured by establishing the instrument reliability and subject reliability. The purpose of this research study was to measure the achievement motivation level for the kabaddi and handball players. The questionnaires, which were used to measure achievement motivation, were standard questionnaires and they considered reliable. As the same subjects were used to measure for achievement motivation of ability with questionnaires by the same investigator were considered reliable. The achievement motivation questionnaire inventory developed by M.L Kamalesh. The procedure adopted for the selection of subjects, selection of variable collection of data, statistical techniques to be employed for analyzing the data have been described. The subjects for this study were selected from university and pre university Kabaddi and Handball games. 80 subjects of Kabaddi and 80 subjects of Handball players were selected.

Analysis of Data and Results of the Study

Table-I; Results of t test between University and Pre-University level players (Kabaddi and Handball) with respect to their achievement motivation

Level	N	Mean	SD	t-value	P-value
University level	80	24.73	4.06	7.1588	0.00001*
Pre-University level	80	20.29	3.78		

*p<0.01

From the results of the above table, it can be seen that, a significant difference was observed between University and Pre-University level players (Kabaddi and Handball) with

respect to their achievement motivation scores ($t=7.1588$, $p<0.05$) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the University level players have significant higher achievement motivation scores as compared to Pre-University level players.

Table-II, Results of t test between University and Pre-University level Kabaddi players with respect to their achievement motivation

Level	N	Mean	SD	t-value	P-value
University level Kabaddi players	40	24.60	4.28	4.4931	0.00001*
Pre-University level Kabaddi players	40	20.55	3.76		

* $p<0.05$

From the results of the above table, it can be seen that, a significant difference was observed between University and Pre-University level Kabaddi players with respect to their achievement motivation scores ($t=4.4931$, $p<0.05$) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the University level Kabaddi players have significant higher achievement motivation scores as compared to Pre-University level Kabaddi players.

Table-III, Results of t test between University and Pre-University level Handball players with respect to their achievement motivation

Level	N	Mean	SD	t-value	P-value
University level Handball players	40	24.85	3.87	5.6097	0.00001*
Pre-University level Handball players	40	20.03	3.83		

* $p<0.05$

From the results of the above table, it can be seen that, a significant difference was observed between University and Pre-University level Handball players with respect to their achievement motivation scores ($t=5.6097$, $p<0.05$) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the University level Handball players have significant higher achievement motivation scores as compared to Pre-University level Handball players.

Table-IV, Results of t test between Kabaddi and Handball players of both University and pre-University level with respect to their achievement motivation

Players	n	Mean	SD	t-value	P-value
Kabaddi players	80	22.58	4.49	0.1928	0.8474

Handball players	80	22.44	4.53		
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From the results of the above table, it can be seen that, a non-significant difference was observed between Kabaddi and Handball players of both University and pre-University level with respect to their achievement motivation scores ($t=0.1928$, $p>0.05$) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the Kabaddi and Handball players of both University and pre-University level have similar achievement motivation scores.

Table-V, Results of t test between Kabaddi and Handball players of University level with respect to their achievement motivation

Players	N	Mean	SD	t-value	P-value
Kabaddi players of University level	40	24.60	4.28	-0.2740	0.7848
Handball players of University level	40	24.85	3.87		

From the results of the above table, it can be seen that, a non-significant difference was observed between Kabaddi and Handball players of University level with respect to their achievement motivation scores ($t=0.1928$, $p>0.05$) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the Kabaddi and Handball players of University level have similar achievement motivation scores.

Table-VI, Results of t test between Kabaddi and Handball players of Pre-University level with respect to their achievement motivation

Players	N	Mean	SD	t-value	P-value
Kabaddi players of Pre-University level	40	20.55	3.76	0.6188	0.5378
Handball players of Pre-University level	40	20.03	3.83		

From the results of the above table, it can be seen that, a non-significant difference was observed between Kabaddi and Handball players of Pre-University level with respect to their achievement motivation scores ($t=0.6188$, $p>0.05$) at 5% level of significance. Hence,

the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the Kabaddi and Handball players of Pre-University level have similar achievement motivation scores.

CONCLUSION

The University Handball and kabaddi players have significant higher achievement motivation as compared to Pre-University level players.

The University level Kabaddi players have significant higher achievement motivation as compared to Pre-University level Kabaddi players

The University level Handball players have significant higher achievement motivation as compared to Pre-University level Handball players.

The Kabaddi and Handball players of both University and pre-University level have similar achievement motivation scores

The kabaddi and handball players of university level have similar achievement motivation scores

The Kabaddi and Handball players of Pre-University level have similar achievement motivation scores.

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Impact methods of competition in the development of the most important physical abilities and motor skills and basic football junior

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ABSTRACT

The importance of research using methods of competition (team, doubles - Comparative, and individual) that are more influential in the development potential of the youngsters if accompanied by the type of activity skills football, through the best investment of time and effort as well as their contribution in enriching the coach-style the practical success of which he could keep up the training process and the scientific development of this game.

The game of football and one of the games, which include a large number of basic skills which are required to coach connected to the player and developed well in order to raise the performance skills to him, and this is through the use of fashion style and appropriate consistent with the tendencies of the players and their desires and reach their level of able and high ranking of efficiency, effectiveness and access to the desired goals and it has to be the coach of the research on the best approach that suits the nature of the player and the training environment and in provoking motivated teenager, and that achievement has, using a variety of means to lift the state of boredom, for him during training, resulting from the use of one style have dysfunctional to the development required, because the player is affected by the methods of training followed by the coach and the players that create innovation and competition and the desire to evolve.

1 - Definition of research

1-1 Introduction to the research and its importance:

The game of football and one of the games, which include a large number of basic skills which are required to coach connected to the player and developed well in order to raise the performance skills to him, and this is through the use of fashion style and appropriate consistent with the tendencies of the players and their desires and reach their level of able and high ranking of efficiency, effectiveness and access to the desired goals and it has to be the coach of the research on the best approach that suits the nature of the player and the training environment and in provoking motivated teenager, and that achievement has, using a variety of means to lift the state of boredom, for him during training, resulting from the use of one style have dysfunctional to the development required, because the player is affected by the methods of training followed by the coach and the players that create innovation and competition and the desire to evolve.

The importance of research using methods of competition (team, doubles - Comparative, and individual) that are more influential in the development potential of the youngsters if accompanied by the type of activity skills football, through the best investment of time and effort

as well as their contribution in enriching the coach-style the practical success of which he could keep up the training process and the scientific development of this game.

1-2 Problem:

Is the phase of the youngsters to football transition in their lives, as characterized by many physiological changes with the greatest impact in their lives in the future, and that is a noted researcher that some of the basic skills of players emerging in the school football club al-Hilla, which require physical and motor to develop form that is appropriate and required by the game and that as a result of the use of training methods increase the burden on the coach training process in terms of follow-up to each player and correct the errors that accompany the performance skills that he is doing.

For this researcher selected three methods of competitive is the (collective, doubles - Comparative and individual), to develop the training process in terms of speed in the development of basic skills for football and mastery as well as the development of physical abilities and motor escort and performance-related skills and try to avoid deficiencies in training and up to the level of the best of performance for all young players.

1-3 Research Objectives:

- 1 - Know the impact of competitive methods (mass, doubles - Comparative per capita) in the development of the most important physical abilities and motor skills and basic football junior school career at Hilla sports.
- 2 - Knowing the best tactic in the development of the most important physical abilities and motor skills and basic football skills of the sample selected.

1-4 Research Hypotheses:

- 1 - There is positive impact of aggressive competition in the development of the most important physical abilities and motor skills and basic skills of the junior football (research sample) and to varying degrees.

1-5 Fields of research:

1.5.1.b human domain: juniors School spherical Club Hilla Mathematical Reconstruction (14-15-16) years in the province of Babylon.

1.5.2.a temporal domain: 28/05/2009 until 09/16/2009.

1-5-3 spatial domain: Golf Club Hilla sports.

2 - Theoretical studies

The choice of the appropriate method by coach through which to be able to communicate the skill to a teenager better than others, and the training modules should be to not apply according to the style and even one to be more influential and effective, according to some criteria, which include (possibilities, the situation of climate, the capacity of learner, the type of game, the nature of skill .. and others)

The coach gives each style multiple choices of conduct training in order to choose those most suited to the conditions that have it or through this concept puts coach on track to deliver the desired objectives.

The sports competitions of indicators important and basic, which can not be any sporting activity to succeed without them, where is characterized by hardship and struggle and effort, and this feature is to force the individual to be used as the maximum physical abilities and skills and tactical required by the attitudes of the many and variable, leading to the development of these capabilities and develop when an individual or group , where (Manele) that athletic competition is the basic shape of the life of the field and therefore it must be a fundamental duty on the physical education and sport can bring, especially construction includes diverse personalities.

We have noted (Brownal) the importance of competition and the extent of its contribution to the development of skills and abilities of the individual and to any game, because the element of competition in the training module will increase the motivation of the players and help the coaches in judging the potential of the players in the application of the facts and principles they learned in the training modules.

The game of soccer specific requirements of the basic the different and wide, A good running quickly and stop and walk due to back and jump and catch the opponent and almost ball feet, head and roll away and these all require the capacity of physical high for their implementation and ownership of player fitness that help him in the face of the physical demands as well as for maintaining the capability art during the time of the full game.

3 - Research methodology and procedure of the field:

3-1 Research Methodology

Experimental method was used to fit the nature of the research:

3-2 research community and appointed by:

The research community of players school career at Hilla Sports / Babil province, a game of football and Reconstruction (14-15-16) year's (52) players. Were excluded (4) players only and the selection (48) for the player as a sample of the research are the proportion of (92.31%) of the community were divided randomly three groups and also set out the agenda (1)

Table (1)

Shows the number of members of three research groups and percentage.

Research groups	the age of 14 years old	15 years old	the age of 16 years	Total	Total members of the sample	Total members of the Society	Segregates	Ratio
Competitive collective	3	6	7	16	48	52	4	%92.31
Doubles competition	3	6	7	16				
Individual competition	3	6	7	16				

3-3 Procedures Search Field

3-3-1 homogeneity of the sample

Was conducted homogeneity of the sample in the variables age, height weight, age of training) and appeared to have the value (P) group of variables and by sequencing (0.000, 2.991, 1.223, 0.000) all of which are less than the value of (P) spreadsheet of (3.23), indicating that he does not have a significant difference between any of these variables to the three research groups as homogeneous, indicating the scale (2)

Table (2)

Shows the homogeneity of the sample in the variables (age, height, weight, age training)

Variables	the unit of measurement	p calculated value	P tabulated	denotation
The age	month	0.000	3.23	Non. significant
Tall	cm	2.991		
Weight	KG	1.223		
old training	month	0.000		

3-3-2 Equal sample :

Table (3) Equal sample in the variables selected and the results showed that the value calculated for all variables are less than the value (P) and the spreadsheet of \$ (3.23) under level of denotation (0,05) and my degree of freedom (45.2) indicating there is no significant difference in any of the three research groups equal physically, physically and skills.

Table (3)
Shows equal sample of the research variables selected

Variables	the unit of measurement	p calculated value	p tabulated value	Denotation
Fatalism explosive	cm	031.3	3.23	Not significant
Speed of transition	Second	058.2		Not significant
Fitness	Second	144.9		Not significant
Speed endurance	Second	1.768		Not significant
endurance	minute	1.695		Not significant
Compatibility	Second	2.307		Not significant
Flexibility	Second	0.488		Not significant
Handling	Second	0.588		Not significant
trundle	Second	3.107		Not significant
goals	degree	0.753		Not significant

3-3-3 exploratory experiment

Exploratory experiment was conducted on 28-29-30/5/2009.

3-3-4 scientific bases for the tests:

Was the adoption of scientific bases in the process of applying the tests, despite being rated for the purpose of tests to determine the process of these tests and selected through.

A - sincerity test: was the use of truth content or content experts have agreed to achieve the purpose for which it has developed for it, as well as suitability for the age group under discussion.

B - Stability tests: it was found that tests of physical and motor skill and enjoyment high, because all the values of (t t) larger than the calculated value of \$ Indexed (2,16) and the degree of freedom (13) and at the level of significance (0,05) .

T - objective tests: the data showed that all tests are objective and they are of high significance because the values of (t t) larger than the calculated value (t t) larger than the calculated value (v t) (2,16) at the level of significance (0 0.05) and the degree of critical (13).

3-3-5 pretest :

Tests were conducted during the tribal days (11-12-13/6/2009)

3-3-6 implementation of the training curriculum

Training curriculum has been implemented on Monday, 06/15/2009)

3-3-7 post tests:

Posteriori tests were conducted during the days (14-16/9/2009)

3-4 statistical methods:

Was the use of statistical methods using the program (SPSS)

4 - Results, analysis and discussion:

4-1 the results of tests of physical and motor skills and in accordance with the methods of the three

Table (4)
Shows the results of tests of collective-style competition

parameters of statistical Variables	sample size	pretest		post test		value of T calculated	Tabulated value	significance
		mean	Std.v	mean	Std.v			
The explosive power of the two legs	16	1.60	0.06	1.90	0.08	11.326	2.13	Sig.
Speed the transition		5.14	0.58	4.12	0.30	6.19		Sig.
Fitness		11.52	0.55	9.51	0.36	10.87		Sig.
Endurance speed		24.66	1.08	19.73	0.94	20.58		Sig.
General endurance		4.53	0.03	3.83	0.32	8.43		Sig.
Compatibility		9.38	0.73	5.38	0.50	20.16		Sig.
Flexibility		19.62	1.31	25.56	1.79	14.04		Sig.
Handling		11.63	0.50	20.06	2.52	13.35		Sig.
Trundle		15.69	10.98	11.69	0.76	15.48		Sig.
goals		5.50	1.03	11.75	1.53	13.30		Sig.

Under the degree of freedom (15) and the level of significance (0.05) .

Through our observation of the results of tests-style competition for the collective and set out in

Table (4) we find that all significant differences, it reached a value (v) calculated for all variables greater than the value (T) indexed the (2.13) and the degree of freedom (15) and under a level of (0.05), which indicates the existence of significant differences in favor of the post tests.

The researcher attributed this development to the collective style of competition makes the learner to work within a group of players cooperate and build the basis from which to benefit from the capabilities of players within the same group so as to lead the integration of these capabilities in the outcome of one united together to achieve the ultimate goal.

Table (5)
Shows the results of tests manner doubles competition (comparative)

parameters of statistical Variables	sample size	pretest		post test		value of T calculated	Tabulated value	significance
		mean	Std.v	mean	Std.v			
The explosive power of the two legs	16	1.61	0.07	1.98	0.07	14.147	2.13	Sig.
Speed the transition		5.22	0.48	3.94	0.10	10.88		Sig.
Fitness		11.38	0.62	10.01	0.77	8.41		Sig.
Endurance speed		25.30	1.49	21.91	0.94	14.27		Sig.
General endurance		4.63	0.23	4.15	0.11	10.42		Sig.
Compatibility		9.83	0.99	6.17	0.17	14.14		Sig.
Flexibility		19.06	1.77	27.56	0.89	15.97		Sig.
Handling		11.19	1.38	16.19	1.17	9.39		Sig.
Trundle		15.08	0.95	12.70	0.57	12.32		Sig.
goals		5.00	1.32	9.56	0.96	11.48		Sig.

Under the degree of freedom (15) and the level of significance (0.05)

Through the values set out the agenda (5) shows that there are differences of as significant for all variables-style competition Doubles - Comparative) as the value of (T) calculated greater than the value spreadsheet of \$ (2.13) and the degree of freedom (15) and the level of significance of (0.05), indicating There are differences in favor of the check post administration.

That you get this development comes from the fact that the players work against each other in order to achieve the goals of the learner and this requires each learner to work hard and be faster than his colleague in the accomplishment of duty motor and to be more precise it.

Table (6)
Shows the results of tests manner individual competition

parameters of statistical Variables	sample size	pretest		post test		value of T calculated	Tabulated value	significance
		mean	Std.v	mean	Std.v			
The explosive power of the two legs	16	1.59	0.11	1.82	0.34	9.66	2.13	Sig.
Speed the transition		5.37	0.74	4.46	0.34	5.42		Sig.
Fitness		11.72	0.55	10.52	0.35	8.89		Sig.
Endurance speed		25.56	1.54	22.69	1.09	11.92		Sig.
General endurance		4.68	0.32	4.27	0.08	6.16		Sig.
Compatibility		9.88	0.25	7.15	0.48	26.53		Sig.
Flexibility		19.06	2.25	22.13	1.09	4.50		Sig.
Handling		11.50	1.41	15.13	0.89	9.39		Sig.
Trundle		15.88	0.92	13.86	0.49	9.89		Sig.
goals		5.06	1.39	7.31	0.70	5.73		Sig.

Under the degree of freedom (15) and the level of significance of (0.05)

Seen from the table (6) that the value of (T) calculated for all variables are higher than the value of indexed amount (2.13) and the degree of freedom (15) and below (0.05), which indicates the existence of significant differences in favor of the post test tests the style of individual competition.

This development was the result of the findings of the player through the same self-assessment exercise of his activity any self-learn where each player according to his own abilities and what they were a mile and the desire of being a player is the focus of the training process.

And to identify any of the three research groups, the most sophisticated in the variables researched researcher has resorted to the use of test Tiouki (HSD), the results showed:

1 - way more than the collective comparative method in the variables of fitness, endurance speed, endurance Assembly, compatibility, handling, rolling and scoring.

While the comparative method than the collective capacity in the explosive of the two men and flexibility.

2 - than on the individual style of collective variables in the explosive capacity of the two men, the transition speed, agility, speed endurance, general endurance, compatibility, flexibility, handling, rolling and scoring)

3 - way more than doubles (comparative) on the individual variables also in the explosive power of the two men, the transition speed, agility, endurance speed, compatibility, flexibility, rolling, and scoring).

4 - did not show significant differences in the variables of endurance between the public and handling technique doubles and singles.

5 - Conclusions and recommendations

5-1 Conclusions :

1 - that the three methods of competition have a positive effect in the development of physical attributes and motor skills and basic football, but to varying degrees.

2 - The preference for the style of competition in the development of collective variables Fitness, Mtaulp speed, endurance Assembly, compatibility, handling, rolling and scoring.

3 - that the style of the doubles competition - had a comparative advantage in the development of (the explosive power of the two men, the transition speed, flexibility) for the rest of the other methods.

4 - that the style of individual competition was less influential in the development of methods to search all variables.

5-2 Recommendations:

1 - The need to use methods of competition (collective - Doubles - Comparative and individual) in developing the components of fitness as well as the basic football skills to young men.

2 - emphasis on the use of collective style of competition in the development of physical fitness and basic skills of football for young men.

3 - the need for change and diversification in training methods to make the process of developing skills more interesting.

4 - further studies by methods of competition in other age groups to see its influence in the physical variables and motor and skill of soccer players.

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Effect of Aerobic Exercise and Yogasanas on Body Fat among Obese Men

By

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ABSTRACT

The purpose of the study was to find out the effectiveness of Aerobic exercise and Yogasanas on morphological variable among obese men. To achieve the purpose one hundred and twenty male were selected from Puducherry and their age range between 20 to 40 years. The morphological variable are body fat is been measured, before and after the experimental treatment for twelve weeks. Descriptive statistics will be applied to process the data before employing the inferential statistics. Since the testing programme (pre-test and post-test) will be conducted for four different groups (Yogasanas group , Yogasanas plus Aerobic exercise group, Aerobic exercise group and control group) following inferential statistics will be applied in morphological variable will be analyzed by using ANCOVA. Although both the Yogasanas plus Aerobic Group, when practiced separately, were found useful for reducing obesity, there seems to be many advantages which are complimentary to each other. Therefore, a combined approach on the basis of the principles of Yogasanas plus Aerobic Group may prove better in controlling the obesity.

Introduction

Obesity, defined as an excess of adipose tissue in the body, is currently considered a public health problem worldwide (Galuska, et. Al.,1996; Hodge, et. Al.,1996; De Onis 2000) Obesity and overweight develop when there is a disparity between energy intake and expenditure (Ogden et. al., 2003; Troiano, et.al., 1955) and are related to health risks and problems in children (Morgan, et. al., 2002). In developed counties, the prevalence of obesity has greatly increased in all population groups, particularly in high socioeconomic level populations. Obesity is the metabolic disorder mostly found in infants, children and adults in higher middle class society. Investigations (Ghala, 1997; George, Thorn and Chill, 1977; Simon and Johns, 1984) have revealed that the obese persons are more prone to fractures and severe injuries. Then it reduces the efficiency of the obese. Emotional and other psychological disturbances are also mostly associated with obesity. Obesity is observed more in women than in men. Frequent use of oral contraceptive pills is also an important factor noticed in obese women. Regular alcohol intake and lack of physical activity is the predominant cause in obese administrative people. Hereditary tendencies towards over eating and lethargic behavior are one of the causes of the obesity. Ventro-medial nucleus of hypothalamus and feeding center in the lateral hypothalamus area regulate the food intake. Lesions in this area may lead to obesity as the satiety center is not functioning and therefore there is no control on the intake of food.

METHODS

Subjects:One hundred and forty four obese men selected as samples for the experimental study. These subjects age ranged between 25 to 40 years. For this, a purposive sampling technique was

used. Further, the sample subjects were randomly assigned into almost four equated groups, viz., three experimental groups (Group I:n₁=37): (Group II:n₂=35): (Group III:n₃=42) and one control group (Group IV:n₄=37). All these subjects were residing within radius of one to three kilometers range in grater Puducherry. The research scholar made sure from the subjects that the entire groups were ready to go through the experimental treatment. Finally it was decided to select 120 subjects for the post test having 30 subjects in each group for data collection after 12 weeks experimental training. Body Fat % was assessed by using a Large Skin Fold Caliper and skin-fold measurement (nearest to 0.05 mm) was taken from four sites viz., biceps, triceps, sub-scapular and supra-iliac regions, from right side of the body.

PILOT STUDY

To ensure the consistency in the intensity and repetition in the experimental treatment a pilot study was conducted. The pilot study was conducted on twenty randomly selected subjects from yogasanas and aerobic exercises group. The average time and repetition time were calculated for yogasanas and also on aerobic exercises separately. Further it was also worked out for the maximum training load for yogasanas and also on aerobic exercises.

Daily Administration of training interventions

Training programmes on Yogasanas and Aerobic exercises were scheduled separately. Although attendances of the subjects were taken regularly, the percentage of attendance of majority of the participants after completion of training was found more than 95%. In fact, some of the subjects were dropped out because of their inability to continue training. Any questions asked by the subjects had been clarified. They were also motivated properly to undergo the training schedule.

Yogasanas training

Yogasanas training were imparted to the Yogasanas Group (with strictly vegetarian diet as per the principals of Yogasanas) at Puducherry. The yogasanas practices, their sequence and daily schedule extras, was prepared on the basis of traditional yogic texts and was common for both these groups. The asanas are Shuddhi Kriyas, Vaman, Neti, Vasra dhauti, Kapalabhati, Ardhalasana, Sarvangasana or Viparita Karani, Matsyasana, Pavan muktasana, Supta Vakrasana Naukasana, Vakrasana, Gomukhasana, Vajrasana, Tadasana, Chakrasana, Kati Vrikshasana, Hastapadasana, Anulom, Vilom, Ujjayi pranayama, Bhastrika Prasayama, Suryabhedan Pranayama. The duration of the practical class was one hour. Such practical classes were held in the morning on all 6 days of a week, except holidays. The Yogasanas teachers were after the training. It was supervised by the research fellow.

Aerobic exercises

Formal aerobic exercises will be divided into different levels of intensity and complexity. This allowed participants to select their level of intensity according to their fitness level. Many gyms offer a wide variety of aerobic exercises for participants. Each pattern is designed for a certain level of experience. Following Dance-Group were included in one hour programme of aerobic exercises for these obese persons for 3 to 5 minutes each with the help of western music. The exercises are basic Warm up stepping, basic V step, basic L step, basic A step, straddle step Jump and turn Jump and bend forward Climbing action with a right leg and raising

hands above head Climbing action with a left leg and raising hands above head Climbing action with right leg and clap Climbing action with left leg and clap.

Statistical Analysis

Descriptive statistics was applied to process the data before employing the inferential statistics. Since the variable of varied nature (morphological) along with programme (pre-test and post-test) was conducted for four different groups (Yogasanas Group, Aerobic exercises group and Yogasanas plus Aerobic exercises Group and Control Group) ANCOVA was applied. Scheffe's post hoc test for variable was applied to see the significant improvement, if any, as a result of three different training interventions.

Results

In Body fat (%), the Adjusted recovery of Ordered Means of “Yogasanas training Group,” “Aerobic exercise training Group”, “Yogasanas plus aerobic exercise training Group” and “Control Group” as presented in TABLE VIII were 26.46, 23.28, 19.68 and 31.54 respectively (Where, a = Yogasanas training Group, b = Aerobic exercise training group, c = Yogasanas plus aerobic exercise, and d = Control group). The statistical significance of Scheffe's Post Hoc test presented revealed that. Control group showed increasing trend in Body fat, although not significant (CD=0.10, $p>0.05$). “Yogasanas training” showed significantly better result over the “Control” in reducing Body fat (CD=0.30, $p<0.05$). “Aerobic exercise training” was found significantly better than the “Control” in reducing Body fat (CD=0.36, $p<0.05$). “Yogasanas plus aerobic exercise training” showed significantly better result than the “Control” in reducing Body fat (CD=0.42, $p<0.01$). “Aerobic exercise training” was found significantly superior to “Yogasanas training” in controlling Body fat (CD=0.25, $p<0.05$). “Yogasanas plus aerobic exercise training” showed significant superiority over the “Aerobic exercise training” (CD=0.37, $p<0.05$) and “Yogasanas training” (CD=0.41, $p<0.05$) respectively in controlling Body fat. The result summarizes that all the three stimuli could help for controlling in body fat. However, effect of individual training stimulus revealed that “Aerobic exercise training” was found better than “Yogasanas training,” whereas the combined training intervention i.e., “Yogasanas plus aerobic exercise training” was found more effective in reducing body fat (figure 1).

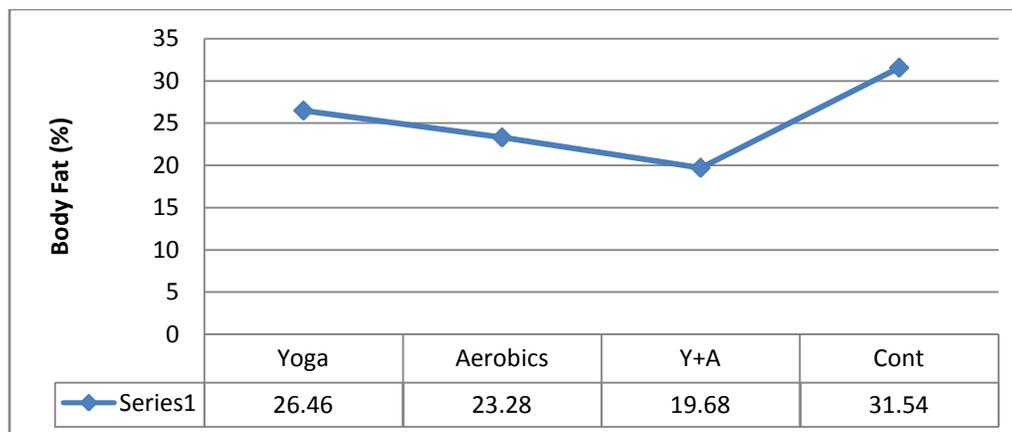


Fig. 1

DISCUSSION OF RESULTS

Yogasanas has a hoary past and it was evolved from our Indian *Rishi* Culture. In the past many scientific investigations on Yogasanas and allied disciplines have already been done separately to record its positive effect on one's health and fitness. However, nowadays, Aerobic exercises are being popular among the mass and could claim amazing impact on health and fitness of common mass. Ample research is available on "Yogasanas" and "Aerobics" for human health and obesity, however, information about the effect on morphological variable of obese subjects is meager in literature. The research design followed was a true experiment (randomized control). The result of pilot experiment on 20 obese males (Yogasanas group, Aerobics group, Yogasanas plus Aerobics group, and Control group) for a period of 15 days revealed a mild reduction in body fat. This result gives an insight to the present investigator to conduct this experiment with more data on selected morphological variable considering a true experimental design. The appearance of such results of combined training intervention in body fat may be due to fact that Yoagasanas practices might have enhanced micro circulation so that the nutrition as well as oxygen reaches to the deep muscles of heart, whereas the components of aerobic perhaps enhanced macro- circulation of blood. Thus, Aerobic exercises and Yogasanas plus aerobic exercises training might have helped to reduced Body fat with an improved trend among the male obese.

Conclusion

Thus, the result and discussion as presented above revealed that combination of Yogasanas and Aerobic exercises training intervention was found useful in reducing body fat and cardiovascular efficiency during rest condition of obese male.

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An Integrated Approach Of Isolated And Combined Aerobic And Anaerobic Interval Training For Improvement of Stride Length And Stride Frequency of Soccer Players

By

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ABSTRACT

Purpose: The study is to find out the effect of isolated and combined aerobic and anaerobic interval training on stride length and stride frequency of Soccer players. **Method** :To achieve this purpose, 45 women Soccer players who participated in the Anna University, Tamilnadu, India. Intercollegiate Tournament was selected as subjects and were randomly divided into three equal groups of fifteen each, such as an anaerobic interval training group (group-I), anaerobic interval training group (group-II) and combined aerobic-anaerobic interval training group (group-III). The training program was conducted three days per weeks for a period of six weeks. Stride length and Stride frequency was selected as dependent variables. All the subjects of the three groups were tested on selected criterion variables at prior to and immediately after the training program. The concepts of dependent test were employed to find out the significant improvement due to the influence of training programs on all the selected criterion variables. The analysis of covariance (ANCOVA) was also used to analyze the significant difference, if, any among the experimental groups. **Result(s):** The result of the study revealed that combined group was higher than aerobic interval training and anaerobic interval training groups. **Conclusion:** It was concluded that when experimental groups were compared with each other, the combined aerobic – anaerobic interval training program was found to be greater than the aerobic and the anaerobic interval training programs on the development of stride length and stride frequency. High intensity, combined aerobic – anaerobic interval training program can be carried out in a more soccer specific way than plain running.

Keywords: Stride length, Stride frequency, interval training

INTRODUCTION

Soccer is a game which calls for strenuous continuous thrilling action and therefore appeals to the youth of the world. It is one of the world's most popular games comprising of two teams trying to kick or head a ball to opposing goals (Pick,1952).

Soccer is one of the most popular sports in the world in terms of spectator sports and players participation. It is fast, quick and attractive. It is considered as a strenuous game because the game demands a high degree of fitness as well as intelligence and alertness of mind speech, strength, ability, balance and flexibility are the basic qualities for all the elite players.

Sportsmen undergo various types of training to improve their performance and physical fitness. Training means a systematic scientific programme of conditioning exercise and physical activities designed to improve the physical fitness and skill of the players (**Edward and Fox, 1984**).

Speed of muscle contraction would appear to be an innate quality, but speed of movement used in sprints or running in any game such as Soccer can be improved through training in the proper techniques and through continued practice in the co-ordination of movements.

Speed is the most important skill for all the Soccer players. Speed is one of the main requisites which enable the players for higher performance in certain motor tasks. Especially it is very essential for forward players, when they get solo balls that time speed is necessary for scoring the goal. Hence the following speed parameters namely Maximum speed, Stride length and Stride frequency have been selected as dependent variables.

METHOD

Forty five (N=45) women Soccer players who participated in the Anna University, Tamil Nadu, India, Intercollegiate Soccer Tournament held during the year 2012-2013 were selected as subjects and their age ranged from 17-21 years. The selected subjects randomly assigned into three groups of fifteen each, namely, aerobic interval training group (group-I), anaerobic interval training group (group-II) and combined aerobic-anaerobic interval training group (group-III). The training period was limited to one hour per day for three days per week for six weeks. The dependent variables selected for this study were Stride length and stride frequency. The data on Stride length and stride frequency was assessed by 50 meters run test(**Seagraves, 1996**). The selected dependent variables were assessed prior to and immediately after the training period.

ANALYSIS OF THE DATA

The data collected from the aerobic interval training group, anaerobic interval training group and combined aerobic-anaerobic interval training group prior and after experimentation on selected variables were statistically examined by analysis of covariance (ANCOVA) was used to determine differences, if any among the adjusted post test means on selected criterion variables separately. The level of significance was fixed at 0.05 level of confidence to test the 'f' ratio obtained by analysis of covariance.

Table – I

The Summary of Mean Dependent ‘t’ Test for the Pre and Post Tests on Stride Length and Stride Frequency of Experimental Groups

CRITERION VARIABLES	Aerobic Interval Training Group				Anaerobic Interval Training Group				Combined Aerobic Anaerobic Interval Training Group			
	Pre test	Post test	t- test	MI	Pre test	Post test	t- test	MI	Pre test	Post test	t- test	MI
Stride Length	1.56	1.60	3.15*	2.63%	1.54	1.60	2.65*	3.96%	1.55	1.65	3.15*	6.45%
Stride Frequency	3.74	3.81	7.84*	1.87%	3.65	3.82	10.54*	4.66%	3.53	3.80	6.60*	7.65%

* Significant at .05 level.

(Table value required for significance at .05 level for ‘t’-test with df 14 is 2.15)

M.I= Magnitude of Improvements.

From the Table – I the dependent ‘t’ test value among aerobic interval training group, anaerobic interval training group and combined aerobic and anaerobic interval training group on Stride length and stride frequency were 5.92, 4.45, 8.18, 14.05, 4.65, 29.39, 8.29, 4.02 and 12.88 respectively. Since the obtained ‘t’-test value of the Experimental groups were greater than the table value 2.15 with df 14 at .05 level of confidence, it is concluded that aerobic interval training group, anaerobic interval training group and combined aerobic and anaerobic interval training group had registered significant improvement in performance of Stride length and stride frequency.

From the table it is also observed that the magnitude of improvement (MI) of Stride length and stride frequency due to the influence of aerobic interval training, anaerobic interval training and combined aerobic-anaerobic interval training are 0.51%, 1.70%, 5.29%, 13.75%, 4.56%, 29.45%, 18.08%, 8.13% and 29.54% respectively. It indicates that the combined aerobic-anaerobic interval training programme had registered better percentage of improvement in developing the Stride length and stride frequency.

The analysis of covariance on of Stride length and stride frequency of aerobic interval training group, anaerobic interval training group and combined aerobic and anaerobic interval training group have been analyzed and presented in Table – II.

Table –II
Analysis of Covariance on Selected Variable of Experimental Groups

Adjusted Post-test Means				Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
Criterion Variable	Aerobic Interval Training Group	Anaerobic Interval Training Group	Combined Aerobic - Anaerobic Interval Training Group					
Stride Length	1.57	1.59	1.63	Between	0.237	2	0.119	108.18*
				With in	0.046	41	0.0011	
Stride Frequency	3.74	3.64	3.53	Between	0.33	2	0.16	16.46*
				With in	0.41	41	0.01	

* Significant at .05 level of confidence

(The table value required for Significance at 0 .05 level with df 2 and 41 is 3.23)

From table – II, the obtained value of 'f' - ratio for Stride length and stride frequency, for adjusted post test means were 108.18 and 16.46. The obtained 'f' - ratio value of the Experimental groups were greater than the table value of 3.23 for df 2 and 41 required for significant at 0.05 level of confidence. The results of the study indicated that significant differences exist among the adjusted post test means of aerobic interval training group, anaerobic interval training group and combined aerobic and anaerobic interval training group on the development of Stride length and Stride frequency. To determine which of the paired means had a significant difference, Scheffe's test was applied as post hoc test and the results are presented in Table III.

Table-III

The Scheffe's Test for the Differences between the Adjusted Post Test Paired Means on Selected Variable

Adjusted Post-test means				Mean Difference	Confidence Interval
Criterion Variables	Aerobic Interval Training Group	Anaerobic Interval Training Group	Combined Aerobic - Anaerobic Interval Training Group		
Stride Length	1.57	1.59		0.02*	0.02
	1.57		1.63	0.06*	0.02
		1.59	1.63	0.04*	0.02
Stride Frequency	3.74	3.64		0.10*	0.09
	3.74		3.53	0.21*	0.09
		3.64	3.53	0.11*	0.09

Table III shows that the mean difference values of Stride length between aerobic interval training and anaerobic interval training groups, aerobic interval training and combined aerobic - anaerobic interval training group and anaerobic interval training and combined aerobic - anaerobic interval training group (0.02, 0.06 & 0.04), Stride frequency between aerobic interval training and anaerobic interval training groups, aerobic interval training and combined aerobic - anaerobic interval training group and anaerobic interval training and combined aerobic - anaerobic interval training group (0.10, 0.21 & 0.11), respectively, is greater than the confidence interval value (0.02 & 0.09) respectively, which was significant at 0.05 level of confidence.

RESULTS AND DISCUSSION

The result of the study revealed that all the experimental groups have significantly improved the selected dependent variables due to the influence of the selected training means. It implies that the selected training programmes namely aerobic interval training, anaerobic interval training, and combined aerobic - anaerobic interval training have significantly improved the selected dependent variables namely Stride length and stride frequency. which are very essential for the soccer players to put up their maximum effort during practice and competition.

Further it is found that the combined aerobic- anaerobic interval training has significantly improved the selected dependent variables when compared to the isolated aerobic interval training and anaerobic interval training program.

Interval training helps to improve performance. The majorities of people who do this training improve both speed factors and speed parameters remarkably. The goal of interval training is to improve time and pace objectives to get body accustomed to the high performance required when competing. *Thomas (1984)* proved that interval training gained more aerobic capacity than continuous training. According to *Helgeurd (2001)*, interval training caused changes in the performance characteristics of athletes in competitions and *Sokmen, et al., (2002)*, concluded that interval training produced greater anaerobic benefits than continuous work.

From the findings of this study and the reference cited it is clearly understood that interval training is the best method to improve both speed parameters. In India most of the soccer players are concentrating only on developing the Soccer specific skills rather than developing the physical fitness qualities. This may be one of the reason by which the Indian Football team would not have been able to perform well in the International arena. Hence, it is recommended that systematically and scientifically designed programme of interval training with both aerobic and anaerobic types shall be incorporated in the preparation of Soccer players for developing basic physical fitness qualities which in turn increase the Soccer performance.

The adjusted post test mean values of aerobic interval training group, anaerobic interval training group and combined aerobic and anaerobic interval training group on stride length and stride frequency were graphically represented in the Figure-I and Figure-III respectively.

Figure-I

The Adjusted Post test Mean Values of Aerobic Interval Training Group, Anaerobic Interval Training Group and Combined Aerobic - Anaerobic Interval Training Group on Stride Length

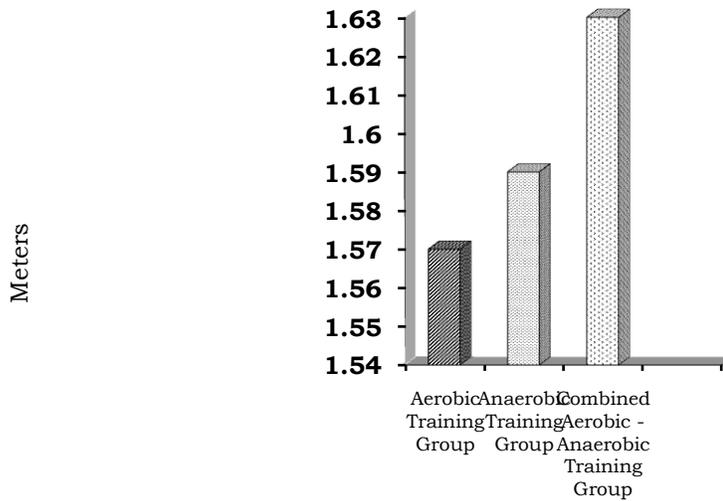
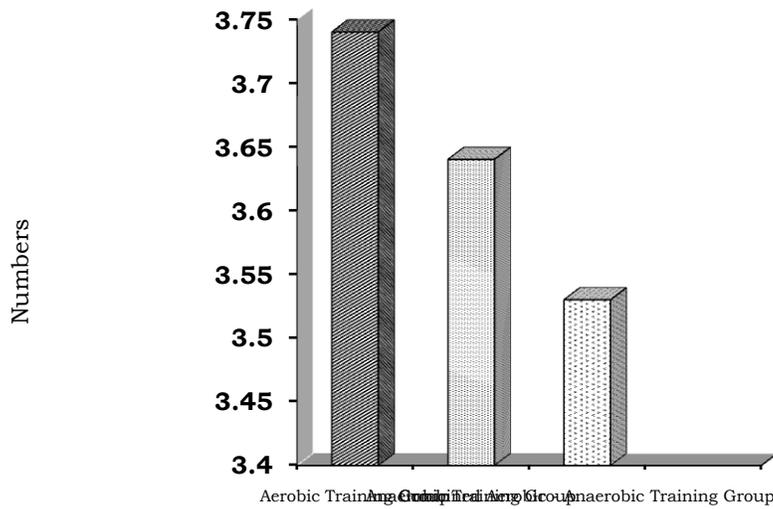


Figure-II

The Adjusted Post test Mean Values of Aerobic Interval Training Group, Anaerobic Interval Training Group and Combined Aerobic - Anaerobic Interval Training Group on Stride Frequency



CONCLUSION

From the analysis of the data, the following conclusions were drawn.

1. The aerobic interval training programme had registered significant improvement on the selected criterion variables namely stride length and stride frequency.
2. The anaerobic interval training programme had registered significant improvement on the selected criterion variables namely stride length and stride frequency.
3. The combined aerobic - anaerobic interval training programme had registered significant improvement on the selected criterion variables namely stride length and stride frequency.
4. When the experimental groups were compared with each other, the combined aerobic – anaerobic interval training programme was found to be greater than the aerobic and the anaerobic interval training programmes on the development of selected criterion variables namely stride length and stride frequency.

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Evaluation of Anthropometric Measurements, Body Composition and Somatotyping of High Jump And Shot Put Athletes

By

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ABSTRACT

The purpose of the study was to compare the anthropometric characteristics, body composition and somatotyping in male of High Jump (N=10) and Shot Put athletes (N=10) of different colleges affiliated to Karnatak University, Dharwad st: Karnataka, The age of athletes was between 18 to 25 years. All subjects were assessed for height, weight, breadths, girths and skinfold thickness. Percentage of fat was calculated from the sum of 4 measurements of skinfold thickness. The independent samples t-test revealed that in High jump athletes had significantly higher height ($p<0.01$), Weight ($p<0.01$), body mass index ($p<0.05$), total leg length ($p<0.01$), total arm length ($p<0.01$) as compared to Shot Put athletes. But their weight ($p>0.01$) was significantly lower as compared to Shot Put athletes. The Shot Put athletes had significantly greater in two girths, bi-humerus ($p<0.01$) and bi-femur ($p<0.01$) diameters, as compared to high jump athletes. Whereas High Jump athletes had lean body mass ($p<0.01$) and mesomorphic score ($p<0.01$) as compared to Shot Put athletes. Whereas the Shot Put athletes were found to have significantly higher % body fat ($p<0.05$) and Mesomorphic ($p<0.01$) score than the high jump athletes. It is concluded that in most of the parameters there were significant differences between high jump performers and shot put performers, and the high performer athletes showed better anthropometric measurements and somatotyping scores.

Keywords: Somatotype, Anthropometry, Body Fat, High Jump, Shot Put, Body Mass

INTRODUCTION

In the endeavor to achieve excellence in sport, all of the possible concomitants of performance have been subject to scientific research. Modern sport science is characterized by the purposefulness of its endeavour to improve elite athletes and to discover talents as precisely as possible. There is evidence to support the concept that an individual's physique greatly limits or enhances successful participation in physical activity (WILMORE e HASKELL, 1972; WILMORE e BROWN, 1974; FAHEY et al., 1975; WICKKISER e KELLY, 1975; PIPES, 1977). Elite and world class athletes have different physiques than individuals in the non athletic population (TANNER, 1964). The body composition and anthropometry of elite athletes has been the subject of much research. The practicing athletes might be expected to exhibited structural and functional characteristics that are specifically favourable for the sport and thus separate him from the general population and athletes involved in other sports. Such differences in body physique might reflect (a) genetic characteristics that have been selective in determining athletic pursuit and (b) changes due to the conditioning effect of high level of training.

Specific physique or morphological features play a major role, arguably critical role in competition success. The size, shape and proportions of athletes are important considerations in player performance and better the performance more critical the relationship (BELL e RHODES, 1975; TORIOLA et al., 1987). In track and field athletics, several papers have investigated anthropometric variables in relation to event participation (De GARRY et al., 1974; THORLAND et al., 1981; CARTER et al., 1982; KELLET et al., 1983; HOUSH et al., 1984; HOLLINGS e ROBSON, 1991; LANGER 2007) etc. However few studies have investigated the track and field athletes in India. The present study, therefore, is an attempt to investigate physical characteristics, body composition and somatotyping of high jump and shot put athletes of different colleges affiliated to Karnatak university, Dharwad St:karanataka, India.

Material and Methods:

The present study was conducted on 20 Field Athletes (N=10 high jump and N=10 shot put). The age of athletes was between 18 to 25 years. The data of athletes were collected during the various inter-collegiate Athletic Meets. The height of the subjects was measured with stadiometer to the nearest 0.5 cm. The weight of subjects was measured by using Digital Weighing machine to the nearest 0.5 kg. Body mass index (BMI) was calculated by the following formula:

BMI (Kg/m²) = (Body mass in kg)/ (Stature in m²) (Meltzer et al., 1988)

Skinfold measurement by means of Lange skinfold caliper with proper anatomical mark sites of Biceps Triceps, Subscapular, supraspinale, and medial calf. Breadth measurement by means of harpendan caliper at Humorous and Femur breadth. Girth measurement by means of Gulick Tape Arm Girth and Calf girth. The somatotype was determined from the following equations (Heath and Carter, 1990)

1. **Endomorphy** = $0.1451x - 0.00068x^2 + 0.0000014x^3 - 0.7182$

Where, x = The sum of triceps, subscapular and supraspinale skin folds.

2. **Mesomorphy** = $0.858(A) + 0.601(B) + 0.188(C) + 0.161(D) - 0.131(E) + 4.5$

Where,

A = Humerus breadth (cm)

B = Femur breadth (cm)

C = Corrected arm girth [Arm-girth(cm)-(Triceps SF(mm)/10)]

D = Corrected calf girth [Calf girth (cm) - medial calf SF(mm) /10]

E = height (cm)

3. **Ectomorphy** = (Height (cms) x Weight (kgs) - 0.333)

Percentage Body Fat as estimated from the sum of skin folds was calculated using equations of Siri (1956) and Durnin and Womersley (1974).

The regression equations for the prediction of body density from the log of the sum of skin fold thickness at four sites in mm are as follows:

- For 17 to 19 years age group:
Body Density (gm/cc) = $1.1620 - 0.0630(X)$ (Durnin and Womersley, 1974)
- For 20 to 29 years age group:
Body Density (gm/cc) = $1.1631 - 0.0632(X)$ (Durnin and Womersley, 1974)

Where,

$X = \log (\text{Biceps} + \text{Triceps} + \text{Subscapular} + \text{Suprailliac})$.

% Body Fat = $[4.95 / \text{Body density} - 4.5] \times 100$ (Siri, 1956)

Total Body Fat (kg) = (% Body fat/100) x Body mass (kg)

Lean Body Mass (kg) = Body mass (kg) – Total body fat (kg)

Statistical analysis:

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

Results:

Table 1: Anthropometric Measurement of High Jump Athletes and Shot put Athletes

Variables	High Jump athletes		Shot Put athletes		T-Value
	Mean	SD	Mean	SD	
Height (cm)	175.60	1.65	171.40	1.30	5.30 **
Weight (Kgs)	66.25	2.79	61.60	4.60	3.69 **
BMI (KG/M ²)	20.80	0.83	19.66	1.49	2.11 *
Leg Length (cm)	98.70	1.05	94.40	.86	5.34 **
Arm Length (cm)	80.57	.81	78.25	0.59	4.64 **
Upper Arm Girth	26.50	0.46	24.00	1.72	4.43 **
Thigh Girth	45.78	1.28	50.55	1.81	4.90 **
Calf Girth	31.00	0.64	34.30	1.80	3.66 **
Bi Condylar Humerus Breadth	6.60	0..75	6.93	0.11	7.68 **
Bi Condylar Femour Breadth	8.86	0.13	9.68	0.35	7.01 **

(* indicates $p < 0.05$ ** indicates $p < 0.01$)

The high jump athletes were significantly taller ($p < 0.01$) than shot put athletes. Where as shot put athletes were heavier ($p < 0.01$) as compared to high jump athletes. The shot put athletes had significantly greater value of body mass index ($p < 0.05$) as compared to high jump athletes. Leg length ($p < 0.01$) and arm length ($p < 0.01$) were found significantly higher in high jump athletes when compared to the shot put athletes. Shot put athletes had significantly greater upper arm ($p < 0.01$), thigh ($p < 0.01$) calf ($p < 0.01$) circumferences, Bi-humerus ($p < 0.01$) and Bi-femur ($p < 0.01$) diameters as compared to high jump athletes.

Table 2: Components of Body Composition of High Jump Athletes and Shot put Athletes

Variables	High Jump athletes		Shot Put athletes		T-Value
	Mean	SD	Mean	SD	
Body Density	1.07	0.002	1.06	0.0017	2.41 *
% body Fat	12.56	1.04	13.55	0.77	2.41 *
Total Body Fat (kg)	8.72	1.00	8.56	0.99	0.37
Lean Body Mass (kg)	54.60	2.004	59.44	3.71	4.50 **

(* indicates $p < 0.05$ ** indicates $p < 0.01$)

Table 2 presents the various components of body composition of the high jump athletes and shot put athletes. The shot put athletes were found to have significantly higher body density ($p < 0.05$) and % body fat ($p < 0.05$) than the high jump athletes, whereas high jump athletes had significantly higher lean body mass ($p < 0.01$) as compared to shot put.

Table-3: Somatotyping of High Jump Athletes And Shot Put Athletes

Variables	High Jump athletes	Shot Put athletes	T-Value
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	Mean	SD	Mean	SD	
Endomorphy	2.29	0.19	2.56	0.20	3.02 **
Mesomorphy	2.76	0.19	1.56	0.90	4.09 **
Ectomorphy	3.95	0.46	4.38	0.86	1.39

(** indicates $p < 0.01$)

Table 3 shows the somatotype scores of the high jump performer and Shot put athletes.

The Shot Put athletes had significantly higher mesomorphic score ($p < 0.01$) as compared to high jump athletes, whereas the high jump athletes had significantly higher Ectomorphic score ($p < 0.01$) than the shot put athletes.

Discussion:

The results of the present study show that the high jump & shot put athletes competing in the inter collegiate Athletic Meet differed in most of the somatometric variables studied with regard to their performance level. The height of the high jump athletes in the present study is greater than the Indian high jumpers reported by Sodhi (1991) and is comparable with the jumpers from New Zealand (HOLLINGS & ROBSON, 1991) and Olympic level jumpers studied by de Garry et al. (1974) and Carter et al. (1982) whereas the high jumpers in the present study are shorter than Czech, Slovak and Danish high jumpers (LANGER, 2007). The high jump athletes have less % body fat than shot put performer high jumpers, whereas they have greater lean body mass (muscle mass) as compared to low athletes and therefore achieve better performance since more the lean body mass the greater will be the energy output and higher will be the cardio respiratory fitness (BANDYOPADHYAY & CHATTERJEE, 2003; CHATTERJEE et al., 2005). The somatotype scores of high jump athletes are 2.2-2.7-3.9 which accords with the somatotyping scores of Olympic level jumpers ranging between 2-5-3 and 2-3-5 reported by Tanner (1964). The high jumpers in the present study are ectomorphic mesomorph. The endomorphic, mesomorphic and ectomorphic scores of jumpers are comparable with the high jumpers from Czechoslovakia, Denmark and Czech Republic (LANGER, 2007).

Conclusion:

Considering that in most of the parameters there were significant differences between high jump athletes and shot put athletes. The shot put athletes showed better anthropometric measurements and somatotyping scores, it is concluded that various anthropometric characteristics, components of body composition and somatotyping scores has clear impact on the performance of the athletes. This investigation indicate the need for further research on the effect of diets and training regime on body composition since it is associated with athletes performance.

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SPORTS PHILOSOPHY

By

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Abstract

Sports and games are a significant aspect of the lives of all people, because all of us like to revel in the play phenomenon. These opportunities are normally considered pursuits that provide people's lives with significant meaning. In the philosophy of sport, students examine the nature and values of human movement utilizing the non-empirical methods of philosophers. Areas of emphasis include:

- the ethics of sport
- mind-body holism and its implications for professional practice
- the significance of tacit knowledge
- comparisons of sport with art
- the unique values of games and play

Key words: Ethics sport philosophy skill-learning

Objectives

- understand the major issues involved in philosophy of sport and sport ethics (specifically race, class, sex, gender, and various other perspectives from around the globe)
- continue inquiry into issues related to sport philosophy and sport ethics that will inform the students' professional growth
- Be able to engage in respectful dialectical exchanges on issues in philosophy of sport and sport ethics

Outline of the paper

First section deals with the introduction

Second section deals with the relationship to practice

Third section deals the methodology

Fourth section deals with the review of literature

INTRODUCTION

The philosophy of sport is concerned with the conceptual analysis and interrogation of ideas and issues of sports and related practices such as coaching, sports journalism and sports medicine. Generally, it is concerned with articulating the nature and purposes of sport. The philosophy of sport is never fixed. As shown below, its methods require of scholars in the philosophy of sport to develop inherently self-critical thinking, continuously challenging their own preconceptions and guiding principles both as to the nature and purposes of philosophy and of sports. The philosophy of sport not only gathers insights from the various fields of philosophy as they open up our appreciation of sports practices and institutions, but also generates substantive and competing views of sport itself:

- Aesthetics (e.g. can aesthetic sports have objective judging?)
- Epistemology (e.g. what does knowing a technique entail?)
- Ethics (e.g. what, if anything, is wrong with gene doping?) • Logic (e.g. are constitutive and regulative rules distinct?) • Metaphysics (e.g. are humans naturally game playing animals?) • Philosophy of education (e.g. can dominant models of skill-learning account for phenomenological insights?)
- Philosophy of law (e.g. can children give consent to use performance enhancing drugs?)
- Philosophy of mind (e.g. is mental training distinguishable from mere imagination?)
- Philosophy of rules (e.g. can constitutive and regulative rules of sport be fully distinguished?)
- Philosophy of science (e.g. is it true that only natural sciences of sport deliver the truth?)
- Social and political philosophy (e.g. are competitive sports hostage to a capitalist world-view?)

Within these diverse premises of philosophy, there has been a tendency for one philosophical tradition to dominate i.e, analytical philosophy. This is not to deny that continental philosophy has developed a philosophy of sport literature.

Given that philosophical research is intrinsically related to the expression of ideas, the idiom of that expression somewhat shapes the boundaries of what can be said. In contrast to the idea that the biomedical sciences of sport represent a universal language housed in technical rationality ('the' scientific method) philosophers working in the continental tradition have largely developed research within the fields of existentialism, hermeneutics and phenomenology. Although the label is itself driven by geographical considerations (the work emanated from communities of scholars in France, Germany and elsewhere in continental Europe), one finds philosophers of sport right across the globe drawing upon those traditions. Similarly, analytical philosophy though the dominant tradition in Anglo-American philosophy is misleading in the

sense that some of its founding fathers were indeed from continental Europe. The drawing of distinctions to represent our experience of sports worlds, however, is common to all schools or traditions of sport philosophical endeavour. Given the dominance of the analytic tradition – and the English-speaking counterparts of it – a few more specific words are required in order to make sense of recent developments in the philosophy of sport.

Many philosophers argue now that we are in a period of post-analytical philosophy. What this means is not entirely clear. We are living through a period of exciting intellectual development in the subject which is very much reflected in the Philosophy of Sport. While the careful attention to conceptual analysis will always be an essential component of the philosophers' toolkit, research-driven analyses of the key concepts of sports, games and play, have to a clear extent declined. Of much greater prevalence in the contemporary literature has been the development of substantive axiological issues ranging from social and political philosophy of sport to the rapidly growing field of ethics of sport.

Philosophers have been clear about the need to abandon the aim of neutrality traditionally found in much analytical philosophy in favour of arguing for substantive positions in relation to the 'commodification' of sports, their 'commercialization', and their 'corruption'. The development of substantive normative positions has proceeded in addition – rather than in opposition - to the careful articulation of precisely what those concepts logically entail. If these debates have also raged in the social scientific literatures then it is clear that academics in this portion of the philosophy of sport have made their own important contributions, premised on a clear understanding of the potentially diverse conceptualizations of sport. Similarly, in ethics, philosophers of sport have attempted to argue for the aptness of different moral philosophical theories to capture sports' nature and the nature of sporting actions therein. In these fields, philosophers have generated new ideas about the contested nature of sports ethics itself – whether as contract, duty/obligation, utility or virtue. In doing so, they have often connected with the empirical research of other bodies of knowledge, which would have been unimaginable to the 'ordinary language philosophers', who saw themselves as neutrally dissecting the language of others.

II. The practice of Sport philosophy and its relationship to ethics of sport

A rise in the positive affirmation of sports and physical activity has affected and brought change to the position of physical education and youth sports. Physical education and youth sports no longer remain as a mere education for the "physical," but serve to advance individuals to develop other abilities such as cognitive and social skills. This holistic approach to physical education and youth sports creates the opportunity and potential for children and youth to initiate sports for life. Consequently, physical education has the potential to affect one's quality of life by cultivating a healthy body and mind

Analysis of various approaches to the practice of sports : There are three main factors.

First, many countries are apparently in a transitional period from sports skills-oriented physical education programs to health-oriented objectives. It has been considered that this change of perspective was occurring only in countries concerned with overcoming obesity and overweight to improve the health of children and youth. However, Physical education and health perspectives of best practice illustrates that this concern is no longer limited to certain countries, but to the majority of countries. Therefore, physical education and youth sports now require educators that have knowledge beyond sports and physical activities that is based in new educational practices.

Second, the change of view in physical education and youth sports is reflected in new and renewed policies. Hence there is a need to introduce the active change and involvement of policy makers to pursue and improve physical education and youth sports according to more contemporary goals and objectives. Such goals and objectives encourage participants in physical education and youth sports programs to pursue sports for life. This factor illuminates that policy makers play a vital role in creating and providing the environment in which these ends can be achieved. In some countries, the benefit of the school–community cooperation model to physical education and youth sports is now more formally emphasized.

Third, the need and importance of gathering and sharing knowledge of physical education and youth sports of other countries other than one's own is highlighted. Globalization emphasizes that we can improve together by learning from each other from the past and present for a stronger future in physical education and youth sports. Physical Education and health perspectives and best practices share this worldwide knowledge.

The role of sport in contemporary society is being increasingly recognized as it can divert disaffected youth from engaging in anti-social behaviour paving way to the development of active lifestyles and the promotion of national talent. The importance of sports coaching extends to all levels of sporting achievement and all disciplines. It can enhance the quality of the experience gained by performers and helps participants achieve their potential in sport.

Among the different sub-disciplines of philosophy that are worked by philosophers of sport, in the last decade there is little doubt that the sub-field 'ethics of sport' has seen the most growth and activity. Typically, some confusion surrounds the precise nature and scope of the concept 'sports ethics' itself. While it is both difficult and undesirable to police language and to prescribe usage that dissipates conceptual confusion effectively, it may be helpful to observe some important distinctions before describing the work of philosophers in the area of 'ethics of sport'. In the first instance, the words 'ethics' and 'morality' are used interchangeably in everyday language. Many mainstream philosophers have come to question the concept 'morality' as a peculiarly Western convention whose ambitions to universalize guides to right conduct were overly ambitious in scope.

METHOD

This section presents a critical account of the sports philosophy, qualitative methodology and sports coaching research, in order to challenge assumptions about the nature of qualitative data analysis. The key argument presented is that qualitative data analysis should have less to do with ‘method’ and more with philosophy, where ‘practical reasoning’ counterfeits a dialectical relation between the intellectual and practical in the analytical process. This argument is illustrated with reference to published empirical work in the field of sports coaching research.

A review of Research methodology literature has shown that the growing consensus among researchers seems to point towards the complimentary value of the two approaches i.e inductive and deductive. Gray (2009) posits that the inductive and deductive process is not mutually exclusive. This is buttressed by Saunders et al.(2008) who argue that it is perfectly possible and often advantageous to combine induction and deduction within the same piece of research. According to Gray (2009), the deductive approach moves towards hypothesis testing, after which the principle is confirmed, refuted or modified. It seeks to explain causal relationships between variables (Saunders et al, 2008).

Saunders et al. (2008) argue that a topic for which there is a wealth of literature from which you can define a theoretical framework and hypothesis is lends itself more readily to deduction. There is limited literature in the areas covered by the reviewed dissertations .This explains the extensive application of deduction can be viewed as being out of sync with this reasoning.

Gray (2009) argues that the inductive approach starts with the collection of data, after which the data are analyzed to see if any patterns emerge that suggest relationships between variables. The results are then used to construct generalizations, relationships and even theories. The adoption of the inductive approach in 45 % of the studies is appropriate since it complies with the views of

Saunders et al. (2008) who note that researchers into topics that are new, exciting much debate and on which there is little existing literature work inductively by generating data and analyzing and reflecting upon what theoretical themes the data are suggesting.

The study was conducted to assess the philosophical and methodological challenges facing sport and business management student researchers in Zimbabwe. Document analysis was used to collect data by reviewing the methodologies used by one hundred undergraduate and postgraduate students from seven Zimbabwean Institutions in their final year research projects between 2005 and 2013.

The results show that in most of the studies, the selection of research methodology was out of sync with the nature of the research problem and the use of positivist research tended to dominate. The results strongly mirror the incompatibility thesis.

Research Design

The results show that the candidates whose work was reviewed in this study utilized a variety of Research Designs. This conforms to the results of a review of the works of Crotty (2007),

Saunders et al.(2008) and Denscombe (2010)which shows that scholars disagree about the number and sequence of the research stages. However, it was observed that most candidates concentrated on discussing the primary research strategy, the data collection process, the sampling procedures, and the data analysis procedures. Very few studies paid attention to such important research foundations as the Research Purpose, Philosophical aspects, the Research Approach, and the Time Horizons

IV. Review of literature in ethics of sport

In the sports related literature, most of what is called ‘ethics’ is simply social science by another name. It is better, perhaps, to call it social scientific descriptions of ethically problematic practices, persons or policies. The older label ‘descriptive ethics’ was designed to capture precisely such operations. Here researchers seek to describe that portion of the world that is ethically problematic by the received methods of social science; observation, ethnography, interview, questionnaire and the like. The most common examples of ‘ethics’ in sport that spring up in casual conversations, as well as the academic literature, are matters of equity (i.e. social justice in terms of unequal pay for male and female sports stars) and/or of access (for example, with respect to racism or disabled sportspersons), deviant sub-cultures and practices (for example, so-called football ‘hooliganism’ and cheating, sexual abuse/harassment or doping), the prevalence of sport as a site of child abuse and exploitation, homophobia, and so forth.

Boxill, J. (Ed.) (2003) Sports Ethics: an anthology. Oxford: Blackwell

The thirty-five essays in this anthology aim to illustrate the broad range of ethical issues in sport. It is divided into eight sections of varying size that examine the relationship between sport and education, sportspersonship, competition, drugs, violence, gender, race, and role models. It draws upon the philosophical analysis of many authors in the sport arena including, philosophers, psychologists, sociologists, coaches, and journalists. Although it does have a bias towards a US perspective on these issues, it is designed to appeal to undergraduates and academics, and will also be of interest to those working within the sport arena who are concerned with relating ethical theory to practice.

Part One: Sport & Education

- Relativism, and Moral Education (Robert L. Simon)
 - Why Everyone Deserves a Sporting Chance: Education, Justice, and School Sports (Janice Moulton)
 - Moral Development and Sport: Character and Cognitive Developmentalism Contrasted (Carwyn Jones, and Mike McNamee)
 - Philosopher in the Playground: Notes on the Meaning of Sport (Peter Heinegg)
 - Foul Play: Sports Metaphors as Public Doublespeak (Francine Hardaway)
- Part Two: Sport & Sports personship
- Sportsmanship as a Moral Category (James W. Keating)
 - Three Approaches Toward an Understanding of Sportsmanship (Peter J. Arnold)
 - Deception, Sportsmanship, and Ethics (Kathleen M. Pearson)
 - On Sportsmanship and "Running up the Score" (Nicholas Dixon)

- Sportsmanship and Blowouts: Baseball and Beyond (Randolph M. Feezell)

Part Three: Sport & Competition

- The Ethics of Competition (Jan Boxill)
- On Winning and Athletic Superiority (Nicholas Dixon)
- In Defense of Winning (R. Scott Kretchmar)
- Winding Down, Looking Ahead (Dean Smith)
- Personal Best (W. M. Brown)
- Fair Play as Respect for the Game (Robert Butcher, and Angela Schneider)

Part Four: Sport & Drugs

- Good Competition and Drug-Enhanced Performance (Robert L. Simon)
- Enhancing Performance in Sports: What is Morally Permissible? (Laura Morgan)
- Sports and Drugs: Are the Current Bans Justified? (Michael Lavin)

Part Five: Sport & Violence

- What is Sports Violence? (Michael Smith)
- Values and Violence in Sports Today: The Moral Reasoning Athletes Use in their Games and in their Lives (Brenda Jo Bredemeier, David L. Shields, and Jack C. Horn)
- Violence and Sports (Robert E. Leach)

Part Six: Sport & Gender

- Sex Equality in Sports (Jane English)
- Human Equality in Sports (Peter S. Wenz)
- Gender Equity and Inequity in Athletics (Robert L. Simon)
- Title IX and Gender Equity (Jan Boxill)
- Why Women do Better than Men in College Basketball, or "What is Collegiate Sport for, Anyway?" (Nicholas Hunt-Bull)
- Women, Self-Possession, and Sport (Catharine MacKinnon) • Stronger Women (Mariah Burton Nelson) • The Sports Closet (Liz Galst)

Part Seven: Sport & Racial Issues

- Racial Differences in Sports: What's Ethics Got to Do With It? (Albert Mosley)
- Race and College Sport: A Long Way to Go (Richard E. Lapchick)
- Sport and Stereotype: From Role Model to Muhammad Ali (Mike Marqusee)

Morgan, W. J., Meier, K. V. and Schneider, A. J. (eds) (2001) Ethics in Sport, Champaign, Illinois: Human Kinetics

This collection is similar to Morgan and Meier (1988) and Morgan and Meier (1995) in that it draws upon key articles from the *Journal of the Philosophy of Sport*, but it focuses specifically on ethical topics rather than philosophy of sport as a whole. The book contains twenty-nine chapters divided into the following five parts:

- Fair play, being a good sport, and cheating: at what price victory?
- The limits of being human: the case of performance-enhancing drugs
- Women in sport: gender equity and gender identity
- Animals and their use in sport: where do we draw the moral line?
- The social ethics of sport: is sport good for society?

McNamee, M. J. and Parry, S. J. (eds) (1998) Ethics and Sport, London: Routledge

This volume was the first international edited collection of essays in the ethics of sports and made a very significant contribution to establishing the field of sports ethics. Its scope was broad and included topics from East and West but also included representatives from a variety of philosophical perspectives and it attempted to explore the links between sports ethics and what is sometimes referred to as ‘mainstream’ philosophy, various traditional contexts for sports ethics i.e, Physical Education and Coaching and to raise contemporary issues with some philosophical depth. It was only partly intended as a teaching resource, operating at a fairly advanced level, but the paucity of available literature at the time meant that it became used internationally as an undergraduate text also. Since then, with the development of many more resources, it tends to be used as a text in graduate classes. This text is reviewed in Reid, H. (1999) ‘Ethics and Sport’, *Journal of the Philosophy of Sport*, vol. XXVI: 113-16

Suits, B.(2005)*The Grasshopper; Games, Life and Utopia*, Peterborough, Ontario: Broadview

This text was first published in 1978 by the University of Toronto Press. The 2005 edition contains an introduction by Thomas Hurka and two appendices by Suits, ‘The fool on the hill’ and ‘Wittgenstein in the meadow’. This is the most widely discussed book in the philosophy of sport, yet it was not really conceived as a book in the philosophy of sport. Suits’s primary concern is to respond to Wittgenstein’s claim that it is not possible to define terms such as ‘game’. Suits disagree, and define games as ‘the voluntary attempt to overcome unnecessary obstacles’. Suits explain sport as a subset of games; they are games which require physical skill, have stability and a wide following. Suits also makes the additional claim that games should be thought of as central to any conception of Utopia. All this is done through the medium of a dialogue between the Grasshopper of Aesop’s fable and his disciples (the most prominent of which is named Skepticus) on the nature of the good life.

This text is reviewed by both J. S. Russell and Steven Edwards in *Sport, Ethics and Philosophy*, vol. 1, issue 1 pp. 105-112.

Review Essay: ‘Ethics and Sport’, *Journal of the Philosophy of Sport*, vol. XXVI: 113-16

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Effect of Yoga on Depression, Self Concept and Mental Health of College Normal Health Students

By

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ABSTRACT

Introduction: Mental health refers to the overall well-being of an individual. It is about the balance of the Social, Physical, Spiritual and Emotional aspects of life. Our Mental Health is characterized by our personal growth, sense of purpose, self-acceptance, and positive relationship with other people. It is also highly affected by environmental factors like our family life, social life, and our life at work. Our general well-being is decreased by any negative experiences in any of these areas. Among the most common Mental Illnesses or Mental Disorders are Anxiety and Depression. Yoga is best known for its poses or Asanas.

Aims & objective: The main objective of the study was to assess the effect of yoga training on depression, self-concept and mental health. **Hypothesis:** Hypotheses of the study there will be difference in between control group and experimental group (Yoga Training) on the dimension of depression, self-concept and mental health. **Materials and Methodology:** 40 normal health students were selected. 20 Experimental group of normal health students and 20 controlled group of normal health students. Age group was between 18 to 22 years. Both groups were given pretest in three dimensions, i.e., Depression, Self-concept and Mental Health. A yoga module consisting of yoga asanas, pranayama, meditation, 30 min of yoga training given daily for one month. For the both groups pre and post tests conducted. **Results:** After regular practicing the positive effect of yoga to reduce depression, self-concept and mental health of normal health students. Yogic exercise can be improved in the experimental groups to reduce depression, self-concept and mental health.

Key Word: Yoga and Psychological Behavioral.

INTRODUCTION

Mental health refers to the overall well-being of an individual. It is about the balance of the social, physical, spiritual and emotional aspects of life. Our Mental Health is characterized by our personal growth, sense of purpose, self-acceptance, and positive relationship with other people. It is also highly affected by environmental factors like our family life, social life, and our life at work. Our general well-being is decreased by any negative experiences in any of these areas. Among the most common Mental Illnesses or Mental Disorders are Anxiety and Depression.

Mental Health is a concept that refers to the psychological and emotional well-being of a person. Being mentally healthy generally means that you are able to use your emotional capabilities to function well in society and go through everyday life with little or no difficulty. Some factors that can affect your mental health are your family life, social life, and life at work. Having negative experiences in any of the said areas can deteriorate the condition of your mental health. Yoga is best known for its poses or [Asanas](#). These reach deep into the yogi's body, massaging

important internal organs. Asanas help cleanse and maintain the nervous and circulatory systems, which automatically result in a healthier body and mind. Breathing Exercises or Pranayama can also help in keeping a person healthy by supplying a fixed amount of oxygen to the muscles and internal organs. However, Yoga should not be treated as the sole remedy for mental illnesses. You should first seek assistance from a professional if you experience any of the symptoms mentioned above. Yoga can only help facilitate the recovery from some dangerous side effects of these mental illnesses. It should always be accompanied by proper medication and psychological counseling.

.DerebailGururaja et.al.Effect of yoga on mental health: Comparative study between young and senior subjects in Japan. Conclusion Decrease in Salivary amylase activity may be due to reduction in sympathetic response. Reduction in State and Trait anxiety score signifies that yoga has both immediate as well as long-term effect on anxiety reduction. Thus yoga helps to improve the mental health in both the groups.

BalajiBharadwaj (2012) Proof-of-concept studies in Yoga and mental health. Clinical trials of Yoga in psychiatric disorders are fraught with difficulties in standardizing the instruction of Yoga, ability to blind the allocation in a foolproof manner; defining the interventions for the control arm and the question of how much did the patient involve himself in it. A 'proof-of-concept' study based on neurophysiologic principles will be a useful foundation to larger clinical trials of Yoga in specific psychiatric disorders. It will help to match specific Yogic techniques to specific disorders. It may also warn against certain techniques that can precipitate a disorder. Such studies can also help allay doubts that the 'response' seen to a particular form of Yoga was merely due to 'expectancy effects' where the participants were expecting Yoga to be helpful and therefore there was an improvement in symptoms. Biological markers are likely to be resistant to such effects.

Jadhav S G Impact of yoga practices on self-concept. Research studies have proved that the practice of Yoga brings profound change in an individual. Yoga is a way of life & teaches us how best to live for the well-being of the individual and development of a healthy society. Positive changes in the life style of the individual can be brought through practicing it. Yoga develops the physical, mental, intellectual, emotional and spiritual component which helps in building up a sound personality. Self-Concept is the sum total of a person's perception, feelings and beliefs about himself. It is the basis for all motivated behaviors. The present study is an attempt to assess the impact of Yoga on Self-Concept. The sample consisted of 50 Naturopathy and Yogic Science college students (Yoga practice group) and 50 Medical Colleges (MBBS) students both male and female. Personal information schedule and Mukta Rani Rastogi's Self-Concept Scale (1979) was used as measuring tools. Statistical 'T' test & ANOVA was employed for analyses of the data. Results revealed that Naturopathy and Yogic Sciences students have better Self-Concept compared to MBBS students. Dimension wise analysis also revealed that Yoga practitioners differ on all the ten sub-dimensions and overall Self-Concept compared to non-practitioners of Yoga.

OBJECTIVE AND AIM OF THE STUDY: The main objective of the study was to assess the effect of yoga training on depression, self-concept and mental health.

HYPOTHESIS: There will be difference in between control group and experimental group (Yoga Training) on the dimension of depression, self-concept and mental health.

Materials and Methods: 40 normal health students were selected. 20 Experimental group of normal health students and 20 controlled group of normal health students. Age group was between 18 to 22 years. Both groups were given pretest in three dimensions, i.e., Depression, Self-concept and Mental Health. A yoga module consisting of yoga asanas, pranayama, meditation, 30 min of yoga training given daily for one month. For the both groups pre and post tests conducted.

TOOLS:

1) **Depression Scale:**

Depression scale develops and standardized by Dr. Shamim Kareem & Dr. Rama Tiwari (1986).

2) **Self-Concept Scale:**

Self-concept scale develops and standardized by Dr. Raj Kumar Saraswat.

3) **Mental Health Inventory:**

Self-concept scale develops and standardized by Dr. C G Deshpande.

VARIABLES:

Independent variable: Groups: a) Experimental b) Controlled

Dependent variable: Personality characteristics

1. Depression
2. Self-Concept
3. Mental Health

STATISTICAL ANALYSIS AND DISCUSSION:

Table No. 01

Dimensions	Pre Test of Experimental group		Post Test of Experimental group			
	Mean	SD	Mean	SD	DF	t
Depression	148.71	21.03	109.93	19.85	18	5.99**
Self-Concept	98.58	15.49	134.69	18.03	18	6.81**
Mental Health	27.38	8.21	41.83	6.68	18	6.10**

Shows table no 01 pre-test experimental group of normal health students and post-test experimental group of normal health students the difference between the two mean is highly significant ($t = 5.99$, $df = 18$, $P < 0.01$) dimension of depression.

Both groups difference between the two mean is highly significant ($t = 6.81$, $df = 18$, $P < 0.01$) dimension of self-concept.

Both difference between the two mean is highly significant ($t = 6.10$, $df = 18$, $P < 0.01$) dimension of mental health.

Table No. 02

<i>Dimensions</i>	<i>Pre Test of Controlled group</i>		<i>Post Test of Controlled group</i>		<i>DF</i>	<i>t</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>		
<i>Depression</i>	<i>158.10</i>	<i>9.28</i>	<i>163.30</i>	<i>10.10</i>	<i>18</i>	<i>0.55</i>
<i>Self-Concept</i>	<i>125.29</i>	<i>11.41</i>	<i>118.20</i>	<i>6.88</i>	<i>18</i>	<i>0.80</i>
<i>Mental Health</i>	<i>26.13</i>	<i>4.62</i>	<i>28.29</i>	<i>5.71</i>	<i>18</i>	<i>1.31</i>

Shows table no 02 pre-test Controlled group of normal health students and post-test Controlled group of normal health students the No difference between the two mean is ($t' = 0.55$, $df = 18$, $P < NS$) dimension of depression.

Both groups difference between the two mean is No difference between the two mean is ($t' = 0.80$, $df = 18$, $P < NS$) dimension of self-concept.

Both difference between the two mean is No difference between the two mean is ($t' = 1.31$, $df = 18$, $P < NS$) dimension of mental health.

Results:

Results are showing the Effect of Yogic Exercises were Positive on depression, self-concept and mental health of normal health students. Yogic exercise can be improved in the experimental group to reduce depression, self-concept and mental health. **REFERENCE:**

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EFFECT OF AEROBIC TRAINING ON BODY MASS INDEX OF THE SEDENTARY OBESE WOMEN FROM PATAN TALUKA (BLOCK)

By

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ABSTRACT

There are many drastic changes in each and every field. Due to Information technology and the facilities like Internet the whole world is just at click distance. Every Profession has many benefits because of this quick and easy access to reach the proper subject. Physical Education and Sports is growing field in the world. The words like fitness, smartness, beauty etc. are related with health of human being.

There are many questions, like, Can the thin or fat women, without glowing skin and low or high body weight look really beautiful? Or Can beauty is related to face? Or Can Personality is related to height, weight or color of a skin? Absolutely the answer to all the above questions is - no. If the women are not healthy and free from disease, she cannot look charming and attractive. She has to take training to become slender and supple. Aerobic training is one of the best training methods for it.

After all, the beautiful women are basically a human being. So the fitness, free from disease and accepted aging changes in the body can be decorated with the treatments. Then only she can look quite smart. Women in the real sense of their natural delicate style are genius. That is why it is rightly said that the aerobic training is best for fitness.

Here in this paper the aim of the study is to investigate the effect of aerobic training on the body mass index on sedentary obese women from Patan Taluka(Block). Forty obese women were selected randomly and equally divided in two groups- Control and Experimental group. The Experimental group was administered and given aerobic training for five days/ week for a period of 10 weeks. The control group was not involved in any aerobic activity regarding body health. Once in two weeks the load was increased. The Body Mass Index (BMI) was selected as variable. With the collecting data, the “t” ratio was analyzed. It is very interesting that the BMI is positively influenced. The aerobic training helped the subjects to decrease the Wight and BMI slightly. To decrease the magnitude of obese training of aerobic exercise is needed.

Keywords-- Fitness, Spontaneous activity, aerobic training, Information technology and Body Mass Index (BMI)

INTRODUCTION

We know that Sports and Physical Education is an indispensable area for the development of personality of individual. The role of sports leader is mandatory by activity, which is continues process regarding sports expression with skill, strength, speed, suppleness, stamina and money. These are the main roots of the good Leadership. Necessity is the mother of invention. Human beings are the most vital part of the organization. Effective use of the human force depends upon the administration. We can get the results from the people in the organization in two ways by exercise of authority and by getting support of the people. The second method

has a better and greater effect over the motivation of people. It is possible only when one of them becomes leader in real sense. Sports as a form of social activity has become an integral part of educational process, many people participates in sports activity for health and fitness. We know that diet plays a vital role in the maintenance of good health, preventions and cure of diseases. The body can't perform metabolic, hormonal, physical, mental or chemical functions without proper diet. 'The science which deals with importance of diet and its effects on the body is Dietetics.'

Nutrition is the process of taking food into the body and absorbing the nutrients from those foods. Good nutrition is also concerned with Protein, Carbohydrate, Lipids, Vitamins, Minerals and other supplementary content in appropriate quantity required for healthy growth. It helps us to maintain health, strength and physique. The present generation is in constant quest for a remedy of every malady. Many physicians have manufactured the modern ultra drugs from the point of view of the weight reducing effects of common women. The weight reducing capacity of the women is minimum as compare to men. Reducing weight can be a natural activity and an enjoyable pastime for those women who are suffering from other diseases.

Obese women who lead a fairly comfortable and carefree life may not have trim figure and good health. The women require actual participation in the sports activities which are easy to do in daily life. Competition has created a tendency towards more brainwork than physical work for a larger group of people in every field. They most probably take up tension-ridden jobs which results in obesity in human being. Aerobic exercise does not mean that one should do hard or strenuous exercises every morning which may result loss in body weight. Aerobic activity includes following items walking, swimming, cycling, rowing, skating, jogging, rope climbing, skipping, hopping with one leg etc. Walking is the best aerobic exercise that even a heart patient can do. Most of the obese women have at least some minor heart and lung ailments.

Material and Method:-

The aim of the study is to investigate the Effect of Aerobic Training on the Body Mass Index on Sedentary Obese Women. Forty common women were selected randomly and equally divided into two groups- Controlled and Experimental groups. The Experimental group was administered and given aerobic training program for five days in a week for a period of 10 weeks. The controlled group was not involved in any aerobic activity, regarding body health. Once in two weeks the duration of aerobic training was increased. The Body Mass Index (BMI) was selected as variable. With the collecting data the 't' ratio was analyzed. Due to the training program given to sedentary common women from Patan Taluka (Block). It was very interesting that the BMI is positively influenced. The aerobic training helped the subjects to decrease the weight and BMI slightly according to that extent. To decrease the magnitude of obesity mild training of aerobic is needed.

The subjects were given warming up exercise for a period of ten minutes before starting the training session. It included jogging, stretching, rotation at various joints, walking on heels and toes, forward bend, and backward bend, side word stretch, hip joints, stretching of calf and quadriceps muscle groups and Sit-ups and push-ups. The details of the training schedule are given below.

WEEKS

TRAINING SCHEDULE IN MINUTES

First two weeks	5 min. stretching, 5min. jogging and 5 min. walking.
Three to four weeks	5 min. stretching, 5min. jogging and 10 min. walking.
Five to Six weeks	10 min. stretching, 10min. jogging and 15 min. walking.
Seven to Eight weeks	10 min. stretching, 15min. jogging and 20 min. walking.
Nine to Ten weeks	10 min. stretching, 20min. jogging and 25 min. walking.

After the training session the subjects were asked to go for limbering down exercises. This includes slowly jogging, stretching, walking rotation, standing as well as sitting exercises and so on. The BMI of the subject was calculated by measuring the height in meters and body weight in kilograms. The following equation was used to calculate the Body Mass Index.

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)}^2}$$

$$\text{S.D} = \frac{\text{Sum X}}{\text{Sum FI}} \\ X_1 - X_2$$

$$\text{T} = \frac{\text{Sum X}}{\text{S}_{X_1 - X_2}}$$

Conclusion dependent BMI values are as Anorexia < 17.5 to 19.1 is under weight, < 19.1 to 25.8 is desirable or normal weight, < 25.8 to 27.3 is overweight or marginal weight, < 27.3 to 32.3 is obese or over weight

< 32.3 to 35 is very obese or very over weight. < 35 to 40 severely obese weights.

< 40 to 50 morbidly weight. < 50 to 60 super morbidly weigh. To compare the mean difference between initial and final scores of experimental and control group test was employed with Body Mass Index.

Results:-

Table1: Mean standard deviation, standard error and t ratio of Experimental and control groups in Body weight and Body Mass Index.

Variables	Groups	No.	Mean	Mean-diff	SD	SEM	T
Body weight	Experimental	20	Initial 87.65	1.15	3.40	0.83	8.45
		20	Final 86.50				
	Control	20	Initial 89.15	0.79	2.38	0.57	
		20	Final 88.26				
Body Mass Index	Experimental	20	Initial 29.79	0.47	0.58	0.10	5.53
		20	Final 28.32				
	Control	20	Initial 30.10	0.02	0.69	0.10	
		20	Final 30.08				

In table no. 1 't' value for experimental group in the case body weight was 8.45. This is significant in statistical terms. As well as in the case of controlled group, the 't' value calculated was 1.40 which was lower than the required table value. This shows that significant reduction in the body weight of the experimental group can be acquired by training program. The calculated value for experimental group in Body Mass Index is 5.53 which is slightly higher than

the required table value at 0.01 levels. In the case of controlled group the calculated 't' ratio was 1.50 which is lower than the required value. This again shows that the significant reduction of the Body Mass Index is observed in the experimental group.

The yellow fats which are accumulated in men while giving aerobic exercise reduces in large quantity but in case of the women the white fats does not reduce firstly in large quantity. That is why we see that the significant reduction of the Body Mass Index in the experimental group is less as compared to men. On the other hand body weight was deducted in the large scale. Abstinence of reducing weight comes to those once only when they do the exercises properly by heart and with innermost desire.

Discussion:-

All the subjects of the experimental group involved in this study have undergone regularly aerobic training program for a period of ten weeks. From the table it is evident that in the case of Body Mass Index there were significant changes noticed after ten weeks. In the controlled group no changes were seen in the Body Mass Index. From the findings it is very clear and interesting to know that the sedentary obese women have positive influence upon their Body Mass Index due to the training program given to them. The aerobic training helped the subjects to decrease the weight and also helped them to keep the heart healthy

Conclusion:-

Health is the important factor of each and every human being. For good health everybody should work and must engage themselves in exercise.

Women from the Patan Taluka (Block) which is rural and comes under hilly region situated in Satara District from Maharashtra state, India, were participated in the aerobic exercise resulted in the improvement of the Body Mass Index as per the calculation of the 't' ratio.

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IMPACT OF YOGIC PRACTICES ON SELECTED FITNESS VARIABLES AMONG ENGINEERING STUDENTS

By

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ABSTRACT

In general yoga is beneficial for one and all. Physical, physiological, and psychological aspects will be improved through yogic practices and in general has lot of benefits. (Kaukab Azeem 2011), globally yoga benefits one and all. Yoga is system of attaining perfect mental and physical health. The purpose of this study was to find out the impact of Yogic practices on selected fitness variables on participants from pre to post test. A group of 30 male subjects at the Yoga, health and fitness centre, India were randomly selected as subjects; age of the subjects was between 18 to 21 years. Pre and post tests were administered on the subjects for selected fitness variables: flexibility, muscular endurance, resting pulse rate and breath holding time. Sit & reach test was conducted to find out the flexibility, sit ups test for 30 sec consider for muscular endurance. The numbers of pulse beats per minute were recorded to find out the pulse rate, Breath holding time was recorded in seconds to find out breath holding. The Yogic practices were engaged for 12 weeks, 4 days training in a week & one day rest, 40 minutes of training per session. The statistical tools of mean, SD and 't'-test were used for the analysis of the data by using SPSS 16. The results of this study had shows that the effect of yoga on the flexibility from pre to post test on the participants had shows a significant improvement, with the mean and S.D being (16.2, 3.4) and (19.3, 3.4) respectively. With regard to muscular endurance with the mean and SD in the pre and post test were (16.2, 5.1) and (20.1, 4.0), which is significant. The resting pulse rate had shown improved performance with the mean and S.D in the pre and post test were, (71, 1.6) and (68.3, 1.1), which is significant. Regard to Breath holding time of the subjects had shows improvement in the performance from pre to post test with the mean and S.D being (10.2, 1.4) and (12.2, 0.9) respectively. It is concluded that the impact of yoga practices had showed a significant improvement with regard to selected fitness variables among the participants.

Keywords: Fitness, yoga, health, training

INTRODUCTION

In general yoga is beneficial for one and all. Physical, physiological, and psychological aspects will be improved through yogic practices and in general has lot of benefits. Yoga training is only one of its kind types of exercise which emphasizes in improving health and sports performances. The branches of yoga are yoga of postures, yoga of self control, yoga of services, yoga of rituals. The benefits of yoga are enormous, which emphasizes in improving physical, physiological, and psychological aspects. Yoga awareness is essential and vital for persons

before starting any program in improving sports performance, and health. Exercise, diet, breathing, relaxation techniques, medication, and thinking positively are the principles of yoga. With a sensible approach one can be benefited with out any side effects. If one follows insensible approach of yoga practices may leads to side effect on the human body. Always has to train under the guidance of a professional yoga teacher which gives him good results with safe and proper way. (Kaukab Azeem 2011), globally yoga benefits one and all. Yoga is system of attaining perfect mental and physical health. (Kaukab Azeem, 2012), Yoga exercises were practiced over thousands of years. Yoga is beneficial for one and all. Yoga training is a very unique exercise and also helps in improving sports performance. Flexibility is the ability of a person to move the body and its parts through as wide a range of motion as possible without undue strain to the articulations and muscle attachments. Muscular endurance is also plays an important role in the performance of individuals in various sports and games. Muscular endurance is an important fitness component and helps individuals in performing high performance. Resting pulse rate is taken usually in the early morning when an individual rise in the morning, the numbers of pulse beats per minute were recorded to find out the pulse rate. Breath holding time is the duration of voluntary holding of the breathing after maximum inhaling; breath holding time was recorded in seconds to find out breath holding.

The purpose of this study was to find out the effect of Yogic practices on selected fitness variables on the participants from pre to post test.

Method: A group of 30 male students at the yoga, health, and fitness centre, Hyderabad, India were randomly selected as subjects; age of the subjects was between 18 to 21 years. Pre and post tests were administered on the subjects for selected fitness variables flexibility, muscular endurance, resting pulse rate and breath holding time. Sit & reach test was conducted to find out the flexibility, sit-ups test for 30 seconds consider for muscular endurance. The numbers of pulse beats per minute were recorded to find out the pulse rate, Breath holding time was recorded in seconds to find out breath holding. The Yogic practices were engaged for the 12 weeks, 4 days training in a week & one day rest, 40 minutes of training per session. The statistical tools of mean, standard deviation and 't'-test were used for the analysis of the data by using statistica software.

Results: The below tables from 1 to 4 shows the analysis of data pertaining to the effect of yoga practices on selected fitness variables among the participants.

Table -1

Sl. No.	Flexibility (Sit & reach test)	No. of Subjects	Mean	SD	P -value
1	Pre-test	30	16.7	3.4	0.000
2	Post-test	30	19.3	3.4	

't'-test for dependent samples marked difference are significant at $p < 0.05$

Table-1: Flexibility (sit & reach test)

The mean, Standard deviation and t-test of the flexibility from pre to post test had shows encouraging result. Mean and Standard deviation of the participants were (16.7, 3.4) and (19.3, 3.4) respectively. The data clearly shows that the effect of yoga practices with regard to flexibility of the subjects had shows greater improvement from pre to post test, which is significant at ($p < 0.05$).

Table -2

Sl. No.	Muscular Endurance	No. of Subjects	Mean	SD	p-value
1	Pre –test (Sit-ups 30 sec)	30	16.2	5.1	0.000
2	Post- test (Sit-ups 30 sec)	30	20.1	4.1	

't'-test for dependent samples marked difference are significant at $p < 0.05$

Table-2:Muscular Endurance (sit-ups 30 seconds)

The mean, Standard deviation and t-test regard to muscular endurance of the male participants had shows improvement. Mean and Standard deviation of the subjects were (16.63, 5.09) and (20.10, 4.03) respectively. The data clearly shows that the effect of yoga practices had shows improvement from pre to post test with regard to muscular endurance (sit-ups test for 30 seconds), which is significant at ($p < 0.05$).

Table -3

Sl. No.	Resting Pulse rate	No. of Subjects	Mean	SD	P- Value
1	Pre –test	30	71	1.6	0.000
2	Post-test	30	68.3	1.1	

't'-test for dependent samples marked difference are significant at $p < 0.05$

Table-3:Resting Pulse Rate Results

The mean, Standard deviation and t-test of the resting pulse rate of the subjects had shows insignificant improvement from pre to post test. Mean and Standard deviation of the participants were (70.493, 1.509) and (68.224, 1.096) respectively. The data clearly shows that the effect of yoga practices on resting pulse rate of participants had shows significant improvement from pre to post test, which is insignificant at ($p < 0.05$).

Table -4

Sl. No.	Breath holding time	No. of Subjects	Mean	SD	P- Value
1	Pre-test	30	10.2	1.3	0.000
2	Post –test	30	12.2	0.9	

't'-test for dependent samples marked difference are significant at $p < 0.05$

Table-4:Breath Holding Time

The mean, Standard deviation and t-test of the breath holding time of the participants had shows improvement from pre to post test. Mean and Standard deviation of the subjects were (10.2, 1.3) and (12.2, 0.9) respectively. The analyzing data shows that the impact of yoga practices had a profound effect on breath holding time of the subjects, which is significant at ($p < 0.05$).

Discussion: During playing or training needs lot of skills, flexibility, power, speed, muscular endurance to perform well. Athletes need lot of strength, and muscular endurance, apart from flexibility, to compete in various sports and games. Apart from the physical performance one has to emphasize on the physiological variables to excel, greater performance to reach their goals. From the results of the study, the above tables showed that there was a significant difference in the flexibility of the male subjects, the data clearly speak greater performance from pre to post test .In case of flexibility which is an important for the sports men to perform well in various sports & games. With regard to muscular endurance (sit ups for 30 seconds) improved significantly from pre to post test. The effect of yoga on the participants had shown greater performance from pre to post test. Athletes regularly include sit-ups exercises in their schedule, to strengthen abdominals and lower back muscles. From the analysis, it revealed that the effect of yoga on the participants had shows significant difference regard to resting pulse rate among the participants which is very encouraging. Furthermore with regard to (breath holding time in seconds), the effect of yoga practices had shows improved performance among the subjects from pre to post test. The following studies were in the agreement of this study; (Jayesh D 2014) investigated an study on the subjects and divided into three groups, Yoga group, physical exercises group, control group. Yogic group had shows significant improvement with regard to vital capacity. (J.Mohan 2014, effect of yoga had showed significant improvement regard to resting pulse rate from pre to post test). (P.L.Naik, 2015) in an investigation found that the yogic practices on participants had showed significant improvement with regard to flexibility among the subjects. (Kaukab Azeem, 2011) had investigated a study on the effect of yoga practices showed a significant performance with regard to body mass index, flexibility and muscular endurance of the subjects from pre to post test, which is significant).

Conclusion: It is concluded that the impact of yoga practices on participants showed a significant performance with regard to the flexibility and muscular endurance from pre to post test. Furthermore Participants with regard to resting pulse rate and breath holding time had also shows improved performance from pre to post test.

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Factorial Validity for the Morale Sprit Scale: The Case for Physical Education Faculty Members at Jordanian Universities

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Abstract

The purpose of this study was to determine the construct validity of the morale sprit scale (MSS). Ninety faculty members from colleges of physical education at Jordanian universities were chosen to participate in this study. The design of this study was an ex-post facto. The MSS consists of (48) items that measure different dimensions of morale spirit among faculty members. Principle axis factoring with oblique rotation was utilized to uncover the underlying structure of the instrument. The findings revealed eight factor solution explaining (72.825%). Seven factors were accepted according to the conditions of accepting factors. The seven factors were named morale as reflection of faculty and department's administration, regulations and instructions, working environment and conditions, promotions and incentives and salaries, relations between the faculty member's, the trend toward the college and university, the trend toward self factors.

Keywords: Factorial Validity, Morale Sprit, Faculty Members, and Jordanian Universities.

Factorial Validity for the Morale Sprit Scale: The Case for Physical Education Faculty Members at Jordanian Universities

INTRODUCTION

Faculty retention is a major challenge to academic institutions. Competent and qualified positive relationship with his/her superiors and integrated with colleagues (Sherritt, 2001). The morale spirit represents the general feeling among individuals that expresses the extent of their happiness and satisfaction with work. It is due to the level of job satisfaction, while the higher degree of job satisfaction achieved higher morale spirit (Sherritt, 2001).

Faculty members are rarely satisfied with their own institutions. They see administrators as incompetent, communication as poor, and their influence as declining (Boyer, Altbach, & Whitlaw, 1995). This discontent with their institutions is in stark contrast to their satisfaction with their intellectual lives, the courses they teach, and their collegial relationships (Bowen & Schuster, 1986; Boyer et.al, 1995). Faculty members are dedicated to their work and they love what they do, but they often wonder if they would not be happier doing it somewhere else. The

extent to which faculty members actually act on their discontent and leave their institutions is an empirical question.

Despite the challenge of faculty retention and the considerable research devoted to faculty work lives, the accumulated work tends to be disjointed. Examinations include attention to faculty satisfaction (Boyer et al., 1995; Olsen, 1993; Olsen, Maple & Stage, 1995; Tack & Patitu, 1992), the decline in morale (Bowen & Schuster, 1986; Johnsrud & Rosser, 2002; Kerlin & Dunlap, 1993), rewards (Boyer, 1990), and motivation and productivity (Blackburn & Lawrence, 1995; Layzell, 1996). The need remains to reduce the complexity of such constructs as the quality of faculty work life, to clarify how perceptions of work life affect such outcomes as morale or satisfaction, and in turn, to determine what contributes to faculty intentions to leave.

The morale is composed of a large number of domains called morale factors. The most important of these factors were salary, stability of work, work conditions, estimates of the work done, fair efficient leadership, available opportunities, harmony with colleagues at work, social status, and do importance job (Al- Omari, 1990). Evans (2001) classified the previous factors to financial, psychological, and social factors.

Morale can be seen as a three dimensional aspect of job satisfaction that includes institutional regard, mutual loyalty, and quality of work (Johnsrud, Heck & Rrosser, 2000). Studies on faculty morale concluded that morale was not good among faculty members on most American campuses (Bowen & Schuster, 1986; Rice & Austin, 1988). According to Bown and Schuster (1986) the low morale was attributed to the following reasons: (1) deteriorating working and conditions, (2) inadequate income, (3) lack of employment mobility, and (4) different financial and incentives policies among different colleges.

Researchers have also debated whether morale is an individual perception or a collective propriety. This debate is confounded by mythological questions in choosing the proper unit of analysis (Zeitz, 1983), that is, should such constructs as morale be measured and analyzed at the individual level, group level, or as individual nested within group one test. Des Jarlais (1995) stated that variation in morale was almost entirely related to individuals own perception regardless of their college and academic unit. Conversely, Johnstrud et al. (2000) found that the morale varied at both the individual and institutional level among midlevel administrators.

In 1981, Heath claimed that teachers' morale could be deteriorated because intrinsic motivation and rewards were in decline. Low teacher morale comes from lack of appreciation of intrinsic rewards which come from helping children to develop and gaining parents and community respect and above all personal feelings of fulfillment of the ethics of the profession. Kerlin and Dunlap (1993) corroborated the negative impact of inadequate financial resources on faculty morale in a period of austerity and retrenchment. Their findings underscored the adverse impact of declining financial resources coupled with perceptions of inequities within the institution. Findings such as these are not surprising; it is understandable that retrenchment is demoralizing (Kissler, 1997).

What is more disheartening is the description by Secor (1995) of the contemporary academic department that has lost its sense of community, i.e., its common communal interest and purpose. Secor suggests that the contemporary academic department is more often characterized by politicization around academic issues and ideological stances, growing disrespect between young and old, and intense professional demands that breed tension and distrust. He raises the question as to whether the current demoralized spirit of faculty members has more to do with the intense pressures of their professional lives or with their disillusionment.

Many universities made enormous efforts to develop instructors' efficiency and productivity by providing the appropriate conditions, which urge them to increase productivity and raise their levels through a variety of procedures. However, many efforts still needed to raise the morale of employees at all levels especially in Jordan. Therefore, the purpose of the current study is to construct and validate the Morale Spirit Scale for faculty members in colleges of physical education at Jordanian universities using factorial methodology.

Statement of the Problem

Moral spirit research is well documented in Western literature. Many instruments have been developed abroad to measure morale spirit, especially the academic ones. However, no research instrument written in Arabic was found to measure the level of morale spirit among faculty members working in colleges of physical in Jordan. Therefore, the purpose of this study was to develop and validate the constructs of a well-established instrument for physical education faculty members in the Jordanian universities.

METHOD

Study Design

The design of this study was an ex-post facto, with data collected using survey methodology. The MSS was developed and administered to faculty members during the second semester of the academic years 2012/2013. The latent factor structure of the MSS was investigated using exploratory common factor analysis with oblique rotation.

Participants

In the current study, ninety faculty members from the total of 108 faculty members working at four colleges of physical education in Jordan participated in the study. Eighteen faculty members were excluded because of sabbatical, travel, and uncompleted response. Table (1) shows the distribution of the sample according to the variables of the study. Faculty members, who are considered an academic asset for higher education institutions, continue to leak out from academic institutions despite the enormous administrative efforts made to create better working conditions. One reason for such leak can be due to the morale spirit of faculty members. Morale spirit is a feeling that makes employee satisfied with his/her work, work with enthusiasm, and a

Table 1: Sample distribution according to the variables of the study

Variable	Level	N	%
Gender	Male	68	75.6%
	Female	22	24.4%
	Total	90	100%
University	University of Jordan	26	28.9%
	Yarmouk University	27	30.0%
	Mutah University	20	22.2%
	Hashemite University	17	18.9%
	Total	90	100%
Rank	Professor	17	18.9%
	Associate Professor	18	20.0%
	Assistant Professor	29	32.2%
	Lecturer	20	22.2%
	Assistant Lecturer	6	6.7%
	Total	90	100%

Instrument

The MSS developed by researchers was used in this study. It is a 48-item instrument that measures six domains of morale spirit among faculty members. The constructs for this instrument are morale as reflection of faculty and department's administration domain, the

relations between the faculty member's domain, promotions and incentives and salaries domain, working environment and conditions domain, regulations and instructions domain, the trend toward self and toward the college and university domain. Respondents were asked to rate items using a Likert-type scale with 1 = Strongly Disagree; 2 = Disagree; 3 = Neither Disagree nor Agree; 4= Agree; and 5 = Strongly Agree. All items have been drafted in positive direction.

Instrument Constructs Process

The following processes were utilized to prepare the MSS for faculty member in physical education colleges:

1. Review of previous educational research related to morale spirit such as Jawarneh, Khasawneh, Khasawneh and Edaeis, 2001; Kilani, 2010; Awdeh, 2010; Kharfan, 2007; Malkawi, 2006; Rifai, 2006; Zoubi, 1998; Al-Omari, 1990; Masaeed, 2004; Abu Al samen, 1994; Carroll 1993; McGrevin, 1984; Martin and Douglas, 2000; Redding, 1985; Yasaawy, 2001; and Evans, 2001.
2. According to the review, 60 items measuring seven domains of morale spirit for faculty members were proposed.
3. A panel of experts reviewed the items to ensure that they are appropriate to the morale spirit scale and its domains, and the extent, language clarity and probity. The experts were asked to provide any suggestions and make modifications on this instrument.
4. Based on the above, the final version of the MSS included 48 items measuring 6 domains related to morale spirit of faculty members.
5. The researchers ensured the scientific transactions for the instrument.

Instrument validity

To ensure the validity of the instrument, a panel of 15 experts reviewed the questionnaire. All experts hold a doctoral degree in different sport and educational fields of study. The experts were asked to review the instrument, identify any items they thought were ambiguous, ensure that the items are appropriate to the morale spirit scale and its domains, and the extent, language clarity and probity, and provide comments about the instrument. In the light of their notes, the researchers modified, delete and add items, separated and re-drafting some items, and merged some domains with each other. Thus, their adjustments to the instrument considered proof of content validity.

Instrument reliability

Reliability of the MSS was performed using cronbach alpha. It was applied on (30) faculty members from outside the study sample from colleges of education at Yarmouk, and the University of Jordan. The reliability coefficient was (0.85). This result is considered sufficient for the purposes of this study.

Data Collection Procedures

Once consent forms were received from deans, arrangements were made by the researchers to either visit each faculty and administer the surveys or delivered the appropriate number of surveys to the head departments so that they could administer the surveys at a time convenient to them. Surveys were sent to head department who chose to administer them along with a letter of instruction. A deadline was given to head departments who chose to administer the surveys during regular department meetings. The sample was comprised of faculty members who granted permission to participate in the study.

Faculty members were solicited on a voluntary basis after a full explanation of informed consent and confidentiality. Faculty members were also asked to sign a consent form, which further explained the study. All data were collected in a manner that insured anonymity of

participants and was treated confidentiality. The packets containing consent forms, questionnaires, and instructions were hand delivered immediately following to each department head who chose to administer the survey themselves. These department heads were able to administer the questionnaires during the second semester but before the deadline, which was May 1, 2013. Once faculty member completed the questionnaires, he delivered it to the department head and when all questionnaires were completed, they were returned to the researchers.

Data Analysis

Factor analysis was used. There are two types of factor analysis: exploratory factor analysis and confirmatory factor analysis. Exploratory factor analysis is primarily used in the early stages of instrument development when the researcher is trying to determine the underlying structure of the instrument. Confirmatory factor analysis is used to confirm the structure of the measuring instrument. Since this is the first time the MSS was used with a population in Jordan, the exploratory data analysis was more appropriate to use.

Factor analysis is a multivariate statistical technique used to examine the inter correlations among a large set of variables, and then attempt to find a smaller number of constructs that still capture those relationships (Ary, Jacob & Razaviely 1996; Benson & Nasser, 1998). The objective of exploratory factor analysis (EFA) is to “reduce the number of dimensions necessary to describe the relationships among the variables” (Gardner, 2001).

Principal component analysis is used for prediction (Hair, Anderson, Tatham, & Black, 1998; Nunnally & Bernstein, 1994) and for data reduction (Floyd & Widaman, 1995). It is less appropriate for exploratory use because: (a) it does not account for error variance and attempts to explain everything by placing ones on the diagonal of the correlation matrix as an estimate of communalities (meaning that all variance, even error, is appropriate to explain); and (b) it attempts to “represent all of the variance of the observed variables” (Floyd & Widaman, 1995). On the other hand, principal axis factoring (or common factor analysis) was more appropriate to use in this study because the purpose of the analysis is to uncover the underlying structure of the instrument. This method has the advantage of accounting for error variance when extractions are made, uses squared multiple correlations (SMC) of each variable with the remainder of the variables when calculating initial communalities, and places communalities on the diagonal of the input correlation matrix “to represent only the common variance of each variable” (Floyd & Widaman, 1995) and to remove the unique (error) variance.

Communalities are the percentage of variance in the variable accounted for by the common factors, which are then used to extract factors (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Floyd & Widaman, 1995; Hair et al, 1998). Finally, using principal axis factoring produces more accurate estimates of cross-loadings, communalities, factor loadings, and factor correlations than does principal component analysis because it accounts for error variance and uses the shared variance as an estimate of communalities on the diagonal of the correlation matrix (Fabrigar et al, 1999; Floyd & Widaman, 1995). The overall measure of sampling adequacy (MSA) for the whole data set and for individual items was used to determine the appropriateness of factor analysis. Hair et al (1998) suggested values above .90 to be excellent while values below .60 should be deemed unacceptable.

When determining the number of factors to extract, the visual scree plot and an eigenvalue greater than or equal to one was used (Benson & Nasser, 1998). An eigenvalue represents the total variance explained by the factor (Benson & Nasser, 1998). However, in this study, it was appropriate to explore alternative factor structures other than that suggested by the

eigenvalue greater than one criterion. This allowed for the exploration of factor structures that are more meaningful or conform more closely to established theory. Visual scree plots were consulted to determine the number of factors to extract. The visual scree plot separates the scree of trivial factors from the cliff of nontrivial factors (Benson & Nasser, 1998). As a general rule the scree plot usually results in at least one, and sometimes two or three more factors being considered significant than does the eigenvalue standard. Subjective evaluation and visual inspection were satisfactory determinants (Floyd & Widaman, 1995). Once the factors have been extracted, the next step is to rotate them as an aid in the interpretation of those factors. The main goal behind factor rotation is to produce a simple structure (Gorsuch, 1997) where each variable has the highest loading on its major factor, and the lowest loading on the remaining factors. Because the latent constructs in this study are expected to be correlated, a restriction placed on factors by orthogonal rotation, oblique rotation with direct oblimin was performed. With oblique rotation, the factor pattern matrix was used because the values are “standardized regression weights (betas) reflecting the relationship between the variable and a factor, after partialling out the relationship between the variable and the remaining factors” (Benson & Nasser, 1998). The pattern matrix was more appropriate to examine than the structure matrix because “we are interested in the unique variance accounted for by each factor” (Morgan & Casper, 2000). Finally, items were considered for retention on factors when they have a loading value above .30. In conclusion, the following data were reported: 1) the overall MSA value for the data to ensure the appropriateness of the data for factor analysis. 2) The initial communalities for all items as well as the ending communalities (after iteration and rotation). 3) The overall percentage of variance accounted for by all factors and by each factor separately. 4) Rotated factor loadings for each factor. 5) Factor correlation matrix. 6) Cronbach’s alpha was calculated on each of the factors (Cronbach, 1951). According to Benson and Nasser, (1998) coefficient alphas greater than .70 are acceptable for early stages of scale development. 7. Descriptive statistics including the mean and standard deviation on each of the factor subscales was calculated.

RESULTS

The purpose of this study was to determine the construct validity of the MSS. Principle axis factoring was performed utilizing the oblique rotation method to uncover the underlying structure of the MSS in Jordan. The MSS consisted of 48 items measuring six construct domains: morale spirit as reflection of faculty and department's administration domain, the relations between the faculty member's domain, promotions and incentives and salaries domain, working environment and conditions domain, regulations and instructions domain, the trend toward self and toward the college and university domain.

Before conducting exploratory factor analysis, the data were screened in several ways to ensure their normality and appropriateness for factor analysis. With respect to normality, visual inspection of the histogram, mean, median, mode, skewness, and kurtosis for each item and for the whole data shows that the data were normally distributed. With regard to the appropriateness of the data for factor analysis, two statistical tests (overall Measure of Sampling Adequacy (MSA) and the Bartlett Test of Sphericity) were conducted.

An MSA value above .70 shows that there is meaningful variance to explain and that the data are suitable for factor analysis. According to Hair et al (1998), an MSA value below .60 is considered poor and potentially unacceptable, whereas values above .80 are considered meritorious. On the other hand, the Bartlett Test of Sphericity measures the “overall significance of all correlations within a correlation matrix” (Hair et al, 1998). The null hypothesis states that there is no factor structure for the data at hand, and then the goal is to reject the null hypothesis.

A p-value below .05 indicates that there is a factor structure for the data and it is appropriate to run factor analysis. The results of the MSA (.826) and the Bartlett Test of Sphericity ($p < .05$) indicated that the data were suitable for factor analysis. (Hair & et al, 1998).

To justify the application of factor analysis, it is important to ensure that the correlations of the data matrix for the variables have a substantial number of correlations above .30 (Hair et al, 1998). Visual inspection of the data matrix revealed a substantial number of correlations greater than .30. Finally, there are certain assumptions associated with factor analysis.

The faculty member's morale spirit scale asked respondents to reference their responses to morale spirit scale. This instrument contained 48 items. The overall MSA for this section was .826 indicating the data was appropriate for factor analysis. Before conducting factor analysis, the MSA value for each item was investigated. Exploratory factor analysis procedures were completed for the purpose of identifying the latent constructs underlying the data. The criteria for determining how many factors to extract included the eigenvalue greater than one rule, and a visual inspection of both the scree plot (Ary et al, 1996) and several trial solutions. The initial analysis was run without specifying how many factors to retain. This procedure resulted in eight factors explaining 72.825% of the common variance.

Based on the previous analysis and after consulting the scree plot, the next analysis was run by specifying eight factors to extract. Eight -factor solution appeared to provide a conceptual and theoretical representation of morale-spirit scale factors for faculty members in physical education colleges in Jordan University. The 8-factor solution explained 72.825% of the common variance and produced a more meaningful structure (see Table 2).

Table 2: Factor Loadings, Eigenvalue, and Variance Explained for the MSS Factors.

1 faculty and departments administration		2 regulations and instructions		3 working environment and condition		4 promotions and incentive and salaries	
Items	Loading	Items	Loading	Items	Loading	Items	Loading
7	0.834	37	0.717	26	0.862	24	0.878
6	0.779	36	0.689	27	0.827	19	0.861
1	0.774	35	0.644	25	0.758	18	0.803
3	0.756	33	0.639	31	0.732	23	0.780
2	0.710	38	0.622	30	0.645	22	0.715
4	0.683	39	0.598	28	0.638	21	0.453
5	0.679	34	0.584	32	0.632	20	0.429
9	0.634	17	0.537				
8	0.581	40	0.530				
Eigenvalue	6.676	Eigenvalue	5.519	Eigenvalue	5.467	Eigenvalue	4.683
% of variance	13.908	% of variance	11.499	% of variance	11.389	% of variance	9.757

Table

5 relations between the faculty members		6 the trend toward the college and university		7 the trend toward self		8 ignored factor	
Items	Loading	Items	Loading	Items	Loading	Items	Loading
14	0.733	46	0.852	45	0.780	41	0.603
13	0.731	47	0.842	44	0.733	42	0.599
15	0.725	48	0.653	43	0.680	11	0.471

10	0.651	42	0.397			12	0.409
12	0.620					29	0.397
11	0.597						
16	0.511						
29	0.418						
Eigenvalue	4.548	Eigenvalue	3.020	Eigenvalue	2.684	Eigenvalue	2.358
% of variance	9.475	% of variance	6.292	% of variance	5.593	% of variance	4.912

Moreover, the residual correlation matrix was examined and no meaningful residuals were found, suggesting that the 8-factor structure was appropriate and that no more factors could be extracted. These factors were described as follow:

1. Morale spirit as reflection of faculty and department's administration factor. The first factor included 18 items with a reliability estimate of .83 and accounted for approximately 13.908% of the total variance in all items. 9 items belong to first supposed domain that concern faculty and department administration. 6 items related to the fifth supposed domain that concern regulations and instructions. 2 items related to second supposed domain that concern to the relations between the faculty members. One item related to the third supposed domain that related to promotions and incentives and salaries. Because highest loading on this factor were the items pertaining to morale spirit as reflection of faculty and departments administration domain, so it can be labeled common morale spirit as reflection of faculty and department's administration factor.

This factor measures the ability of faculty and departments administration to provides following elements: trust and cooperation between employees, working according to the teamwork principle, justice and equality transaction, participatory of Administrative decisions, participate faculty members in programs and development plans, take relaxes positive a leadership pattern for employees, developing teamwork, an effective communication. So that it reflected to reinforcement the morale spirit for faculty members from the positive relation between them and faculty and departments administration.

2. Regulations and instructions factor. This factor included 15 items with a reliability estimate of .72 and accounted for 11.499 % of the total variance. 8 items related to the fifth supposed domain that concern regulations and instructions. 3 items related to the first supposed domain that concern morale spirit as reflection of faculty and department's administration domain. One item related to second, third, fourth, and sixth supposed factors respectively. Because highest loading on this factor were the items pertaining to regulations and instructions domain, so it can be labeled regulations and instructions factor.

This factor measures the following elements: the regulations and instructions take into account the progress of educational process, it is the only reference in the progress of matters, follow the informal transactions, the clarity of instructions, objectivity of employment system, and applied regulations without bias or discrimination. These elements enhanced morale spirit in effective form among faculty members, and this improved the educational processes through the clarity and reliability of the regulations and instructions for all.

3. Working environment and conditions factor. This factor included 11 items with a reliability estimate of .85 and accounted for approximately 11.389 % of the total variance. 8 items related to the fourth supposed domain that concern to working environment and conditions.

Tow items related to the third supposed domain that concern to promotions and incentives and salaries. One item related to the fifth supposed domain that concern regulations and instructions. Due to most of the items that achieved the highest loading on this factor were the items pertaining to working environment and conditions domain, so it can be labeled Working environment and conditions factor.

This factor measures the available sufficient number of classrooms, consider the terms of the classroom as ventilation, lighting and space, include necessary equipment to serve the educational process, the comfortable and appropriate of the college building for the nature of the work, available of tools and sports equipment, suitable faculty member offices, available of necessary public services and general cleaning. This considered most elements to develop the morale spirit and psychological status to the faculty member.

4. Promotions and incentives and salaries factor. This factor included 10 items with a reliability estimate of .85 and accounted for approximately 9.757 % of the total variance. 7 items related to the third supposed domain that concern to promotions and incentives and salaries. 3 items related to the fourth supposed domain that concern to working environment and conditions. This result is logical due to the effect of working environment and conditions on the promotions and incentives and salaries factor and its relation between them. Because the most of the items that achieved the highest loading on this factor were the items pertaining to promotions and incentives and salaries domain, so it can be labeled promotions and incentives and salaries factor.

In a review of the items of this factor it clear that it measure the following elements: the appropriate of salary and rewards with the volume of work, provided all forms of moral and financial incentives for faculty members, job security from the incentives and services offered at the university, an easy and fair promotion procedures at the university and college. That enhances morale spirit and developing the results and outcomes of educational process.

5. Relations between the faculty members factor. This factor included 9 items with a reliability estimate of .82 and accounted for approximately 9.475 % of the total variance. 7 items related to the second supposed domain that concern to relations between the faculty members. One items related to the fourth supposed domain that concern to working environment and conditions. One items related to the sixth supposed domain that concern to the trend toward self and toward the college and university. Due to the most of the items that achieved the highest loading on this factor were the items pertaining to relations between the faculty members domain, so it can be labeled relations between the faculty members factor.

In a review of the items of this factor it clear that it focus on developing ties of trust and personal relationships among faculty members, improved effective cooperation behavior, correspond with interests of positive colleagues suggestions, the participant in all social events, positive morale spirit prevails in discussion with colleagues, respect the opinions of colleagues at work, positive relationships between faculty members. These elements promote and reinforce the positive relationships between faculty members, which are reflected in the improvement of their morale spirit.

6. The trend toward the college and university factor. This factor included 6 items with a reliability estimate of .80 and accounted for approximately 6.292 % of the total variance. 5 items related to the sixth supposed domain that concern to the trend toward self and toward the college and university. One items related to the second supposed domain that concern to relations between the faculty members. Due to the most of the items that achieved the

highest loading on this factor were the items pertaining to trend toward the college and university factor domain, so it can be labeled trend toward the college and university factor. In a review of the items of this factor it clear that it focus on developing the following elements: reach to college on schedule, work attendance without absence, the importance of work in college and the university and outside. That considered most effective factors to increase the morale spirit for faculty members.

7. The trend toward self factor. This factor included 5 items with a reliability estimate of .80 and accounted for approximately 5.593 % of the total variance. 3 items related to the sixth supposed domain that concern to the trend toward self and toward the college and university. One item related to the fifth supposed domain that concern to regulations and instructions. One item related to the fourth supposed domain that concern to working environment and conditions. Due to the most of the items that achieved the highest loading on this factor were the items pertaining to the trend toward self domain, so it can be labeled the trend toward self factor. In a review of the items of this factor it clear that it focus on developing the following elements: faculty member never think to change his career, feels that his career gives him self-realization, and high social status of his career. Which is improve the morale spirit of faculty members and increase self confidence.
8. 8 items loading in this factor and accounted for approximately 4.192 % of the total variance. Two items have high loading and the other have higher loading in the previous factors where as lower loading achieved on this factor, therefore preferable to ignore this factor.

Items were retained on factors if they had a minimum factor loading of .30. Items with a multiple cross-loading of .30 and above on at least three factors were deleted from the factor. The .30 level is a generally accepted minimum factor loading because it indicates that approximately 10% of the variance for a corresponding variable has been explained by a factor (Tinsley & Tinsley, 1987). Kaiser criterion was used to determine significant derived factors based on that the significant factor is the factor had eigenvalues at least equal one. The accepted factors that have at least three significant items according to Gelevord criterion. Using these criteria, 41 items of the original 48 items were retained on the MSS and accounted for 72.825% of the total variance. Seven items were dropped because of low factor loadings or cross-loadings. All factors had acceptable reliabilities as estimated by Cronbach's Alpha. Scale reliabilities ranged from .70- .87, with an average alpha of .74. Which exceeded Nunnally and Bernstein' s (1994) suggested minimum reliability of at least .70 for instruments in early stages of development. For the morale scale (a) factor loadings reflected interpretable simple structures; (b) only items with loadings .30 or higher with non cross loading were included in the scales.

DISCUSSION

The purpose of this study was to establish a valid and reliable morale spirit scale for faculty members of physical education collages in Jordanian universities. The results of the factor analysis indicated that seven latent factors with 41 items emerged from MSS.

Factor analysis of MSS completed in this study identified a seven - factor solution as the most acceptable multiple dimension representation of the data. The seven factors identified were morale as reflection of faculty and department's administration, regulations and instructions factor, working environment and conditions factor, promotions and incentives and salaries factor, relations between the faculty member's factor, the trend toward self factor, and trend toward the college and university factor.

Results suggest that the MSS can provide reliable and internally consistent measurement for morale spirit for faculty members in Jordanian universities. These results are consistent with other cross-cultural instrument validation research done with the MSS. For example, Assaf and Assaf (2007) validated the MSS with the same factor analysis procedures and resulted in validation of the first five factors; the factors conducted similarly the factor in this study. The agreements in five factors the faculty and department's administration, regulations and instructions, working environment and conditions, and promotions and incentives and salaries, relations between the faculty members factors while in current study added the trend toward self and trend toward the college and university as a factors.

Recommendations for Future Research

The present research directed at improving the psychometric qualities of certain MSS scales is warranted. There is a need to increase the number of items on a few factors and avoid writing items that have negative connotations. Moreover, there is a need to validate the definition of each construct in Jordan by faculty members various methods such as interviews, focus groups, and surveys. The second recommendation, after the structure of the MSS has been enhanced, a confirmatory factor analysis (CFA) would be needed to fully confirm the latent structure of the MSS. CFA methodology is necessary to confirm that those items found to belong to a certain factor in the initial exploratory factor analysis actually exist. Once confirmed, the MSS can be explored with a different sample to ensure that the factor structure exists in the Jordanian culture. The third recommendation would be to establish the criterion validity of the MSS in Jordan by establishing its relationship with other important outcomes in learning process. Such procedures will add credibility to the measuring instrument by establishing its criterion validity. Furthermore, the convergent and divergent validity of the MSS can be established by establishing the relationship between the MSS constructs and similar other constructs. The final recommendation would involve comparing the responses from faculty members in Jordanian culture with those from the other cultures, after employing invariance testing techniques.

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Appendix(1)
Morale Spirit Scale

Construct	No	Items
Morale as reflection of faculty and department's administration	1	The Faculty administration treated faculty members justly and equally
	2	Faculty administration is keen careful on participation employees in development plans and programs
	3	Faculty administration use a positive leadership to deal with the employees
	4	Faculty members participate effectively in decision- making process
	5	The communication process with the Faculty administration is effective
	6	Faculty administration work as one team(teamwork)
	7	Faculty administration provides trust and cooperation between employees
	8	Faculty administration is devoted to enhance teamwork
	9	Faculty administration encourages creativity in various fields of work
The relations between the faculty members	10	Faculty members participate in all social events
	11	The opinions of colleagues are respected
	12	Positive spirit prevails in the discussion with colleagues
	13	Effective cooperation behavior is promoted between the colleagues
	14	Faculty members are keen to develop ties of trust and personal relationships among themselves
	15	Positive suggestions of colleagues met with consideration
	16	The relationships between faculty members are positive
	17	The faculty members working together effective teaching and research groups
Promotions, incentives and salaries	18	The amount of salary appropriate with the effort, thus enhancing the morale of faculty members toward the educational process
	19	The university administration interested in providing different kinds of

		incentives for the faculty members
	*20	Promotion procedures at the university and college are fair
	*21	Promotion procedures at the university and college are easy and accessible
	22	The incentives and services offered at the university make me to stay at work
	23	The system of salaries and incentives encourage effective contribution to achieving the goals of the faculty
	24	The rewards provided by the university match the volume of work
Working environment and conditions	25	There is an adequate number of classrooms
	26	Classroom have adequate space, areas, ventilation and lighting
	27	Classrooms have necessary equipment to serve the educational process
	28	The faculty offices are suitable and matching technical specifications
	*29	General cleaning services are available effectively
	*30	Tools and sports equipment that serve the educational process are available
	31	The faculty facilities and buildings are suitable for the work
Regulations and instructions	*32	The necessary public services are easily and smoothly available
	33	University and faculty administration issue clear rules and instructions
	*34	The college dependant sequence administrative in all informal transactions
	35	The recruitment system in the faculty take into account the scientific and administrative objective foundations
	36	The rules and regulations are the only reference in the progress of matters
	37	The rules and regulations take into account the progress of educational process
	38	Regulations and instructions encourages university employees to abide by
	39	Regulations and instructions are applied to everyone without bias or discrimination
	40	Laws, regulations and instructions for students are effective, and facilitate the progress of the educational process
The trend toward self and toward the college and university	41	The faculty member enjoys teaching at the university
	*42	Faculty member take all responsibilities in college and university
	43	The Faculty member feels that the social status of his career is high
	44	Faculty member feels that his job gives him self-realization/ recognition
	45	The faculty member never thinks to quit his job
	46	The faculty members arrive to the college on time
	47	Faculty members devote themselves to the work and don't absent
	48	Teamwork done by the faculty member is important within and outside the college and the university

* Items deleted because multiple cross – loading of (0.30) and above on at least three factors.

Effect of Fartlek Training on Selected Physical and Physiological Variables of Inter District Women Athletes

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ABSTRACT

Sports training are the basic form of an athlete's training. It is the preparation systematically organized with the help of exercise which is fact is a pedagogically organized process of controlling a athletes development. The purpose of the study was to find out the effect of fartlek training on selected physical and Physiological variables of Inter District women athletes. To achieve this purpose of the study 60 women athlete who was studying in different colleges in the Bangalore and Ramanagara district were selected as subjects at random. Their age ranged between the 18 to 21 years. The selected as subjects were divided into two equal groups 30 each namely experimental group and control group. Group I underwent physical training where as group II acted as the control group who maintained their daily routine activities and no special training was given to them. The following variables namely cardiovascular endurance, and agility were selected as physical variables and pulse rate were selected as physiological variables. The subjects of the groups were tested on cooper's 12 minutes run/walk and shuttle run, to record the heart beats per minute. The collected data were analyzed statistically though analysis of T-test to find out the significant differences.

Key words: Fartlek, Cardiovascular endurance, agility and pulse rate.

Physical fitness is a basic element in good performance. The improvement of sports standards mainly depends upon the fitness of participants at all levels. Particularly an athlete or a player has to keep a certain level of physical fitness to exercise is performance in all sports activities. Physical fitness has a most valuable place in every society for is close relation to every stage of life. This can be advice through mental social environmental and emotional condition by active participation in sports and games better. Fartlek training is combined aerobic and anaerobic endurance is accomplished in a varied pace run by interrupting steady, continuous running with occasional faster running or short sprints on varied terrains possibly natural training.

PURPOSE OF THE STUDY

The purpose of the study was assess the effect of fartlek training on selected physical and physiological variables of inter district women athletes.

HYPOTHESIS

There would be no significant difference in the cardiovascular endurance, agility and plus resting rate due to the fartlek training among inter district women athletes.

LIMITATION

Physical and Physiological variables are day to day life inter actions to the environment which could not be controlled and growth and development related intervening variables could not be controlled.

METHOD

In this study 60 inter district women athletes aged 18 to 21 years from different colleges in Ramanagara and Bangalore district, Karnataka were randomly selected as at method from total 100 women athletes respectively subject were divided into two groups. Group I Fartlek training was given for experimental, group II control group each group was measured on criterion variables the respective treatment program for five days a week for 12 weeks. The subjects of control group did not undergo any special training programmed apart for their regular physical program.

STATISTICAL TECHNIQUE

The analysis of T-Test was used to find out the pre-test and post-test significance difference among the two groups. The level of the significance was fixed at 0.05 level of confidence.

Table-1 Criterion variables and test

sl.no	Variables	Test/instrument	Unit of measurement
01	Cardio vascular endurance	Cooper's 12 minutes run/walk	Minutes
02	Agility	Shuttle run	Seconds
03	Resting Pulse rate	Record the heart beats	Per minute

RESULTS AND DISCUSSIONS

Table-II

Showing the summary of Means and t-test for the pre-test and post-test data on Cardio Vascular Endurance

Group	Test	Mean	Mean Difference	Standard Deviation	Obtained t-value	Required t-value
Experimental group-I	Pre-test	2066.44	251.53	357.98	0.001	1.990
	Post-test	2094.22				
Control group-II	Pre-test	2325.22	27.780	418.46	0.74	1.999
	Post-test	2576.76				

An examination of Table-II Indicated that the pre-test mean of control group was 2325.22 and post-test was 2576.76 the obtained t-ratio was 0.74. Since the obtained t-ratio was lesser than the tabulated value, indicating there was no difference in the control group. The pre-test mean of experimental group was 2066.44 and post test was 2094.22 the obtained ratio was 0.001 Since the obtained t-ratio was much higher than the tabulated value, mean difference between the groups were tested for significance.

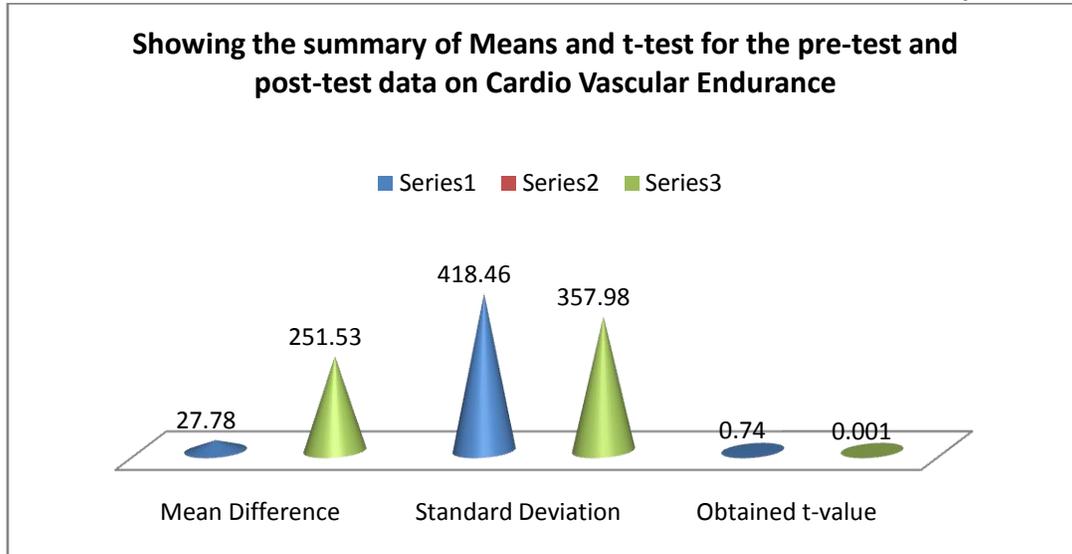


Table-III

Showing the summary of Means and t-test for the pre-test and post-test data on Agility (shuttle run)

Group	Test	Mean	Mean Difference	Standard Deviation	Obtained t-value	Required t-value
Experimental group-I	Pre-test	8.43	0.44	0.41	5.21	1.990*
	Post-test	8.00				
Control group-II	Pre-test	8.52	0.02	0.33	0.77	1.990
	Post-test	8.50				

*Significant at 0.05 level

An examination of Table-III Indicated that the pre-test mean of control group was 8.52 and post-test was 8.50 the obtained t-ratio was 0.77 Since the obtained t-ratio was lesser than the tabulated value, indicating there was no difference in the control group. The pre-test mean of experimental group was 8.43 and post test was 8.00 the obtained ratio was 05.21. Since the obtained t-ratio was much higher than the tabulated value, mean difference between the groups were tested for significance.

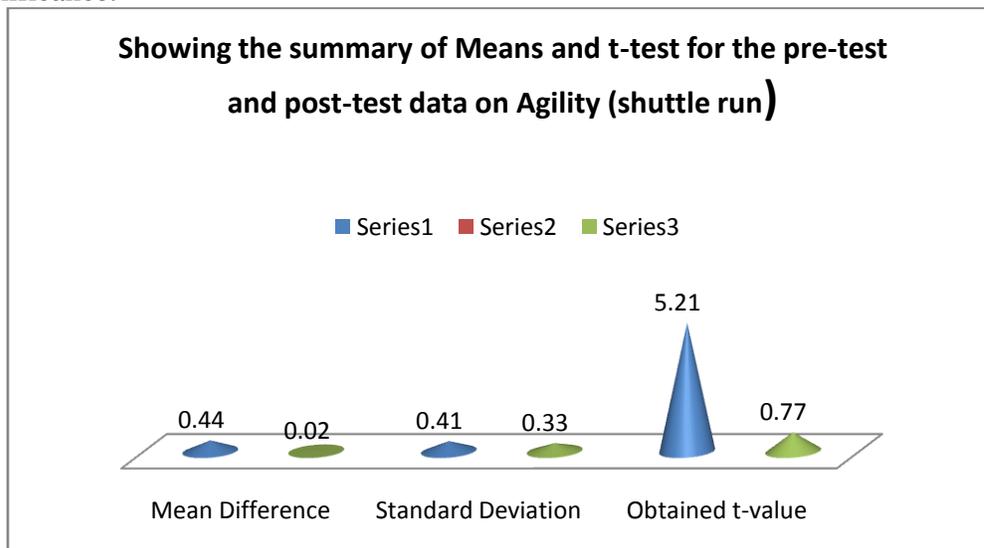


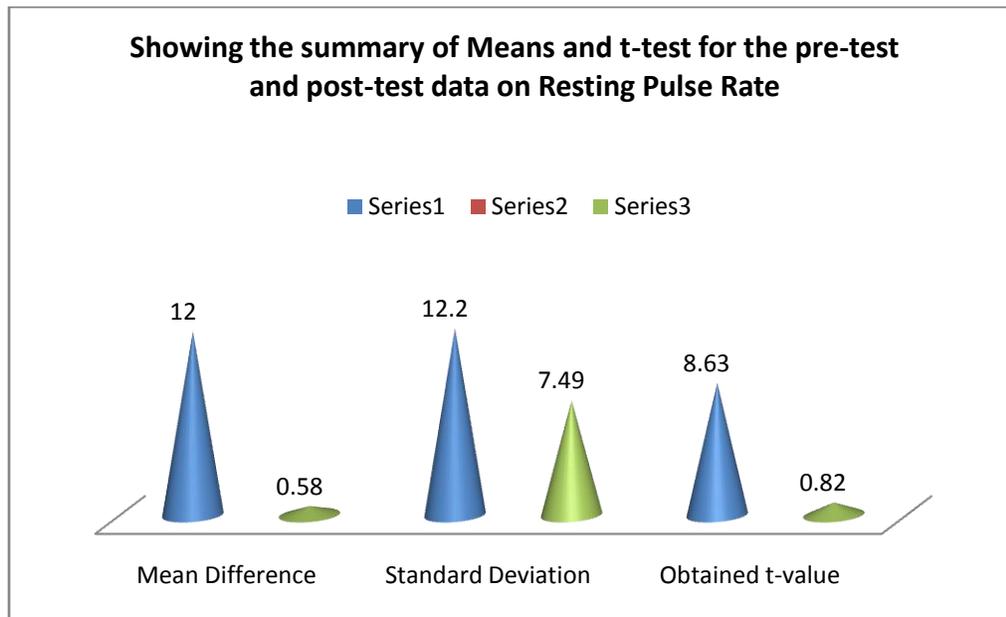
Table-IV

Showing the summary of Means and t-test for the pre-test and post-test data on Resting Pulse Rate

Group	Test	Mean	Mean Difference	Standard Deviation	Obtained t-value	Required t-value
Experimental group-I	Pre-test	82.13	12.00	12.20	8.63	1.990*
	Post-test	70.13				
Control group-II	Pre-test	81.16	0.58	7.49	0.82	1.990
	Post-test	81.73				

*Significant at 0.05 level

An examination of Table-IV Indicated that the pre-test mean of control group was 81.16 and post-test was 81.73 the obtained t-ratio was 0.82 Since the obtained t-ratio was lesser than the tabulated value, indicating there was no difference in the control group. The pre-test mean of experimental group was 82.13 and post test was 70.13 the obtained ratio was 8.63. Since the obtained t-ratio was much higher than the tabulated value, mean difference between the groups were tested for significance.



The results of the study have also indicated that practice of fartlek training after 12 week training had significant effect of, agility and Resting pulse rate but there was no significant difference in cardiovascular endurance.

CONCLUSION

1. The practice of Fartlek training improved the efficiency significantly in physical variables such as agility.

2. On the basis of the finding of the study it may be concluded that fartlek training could be very useful method of training to develop the fitness variables of cardiovascular endurance.
3. Fartlek training could be very useful method of training to develop the fitness.

RECOMMENDATION

Comparative study may be conducted to assess the efficiency of fartlek training and continuous running, fartlek training and interval training by choosing bio-chemical and neuro physiological.

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Effective Directorate Management of Sport Education Departments according to Vision, Mission, and Goals)(From Viewpoint of the Teaching Staff

Analytical Study in Al-Muastansiriya University/ College of Basic Education)(

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BAGHDAD – Iraq 2015

Part one:

1- Definition of Research

Introduction of research and its importance: 1- 1

University education seeks to encounter immediate and future challenges by increasing educational quality improvement, which has become the most important universities targets because it has close relate to society, that progress of societies, in fact, depends largely on results of research and consulting services and innovations that offered by these universities and their research centers and the ideas of their researchers.

To display a clear picture of the management bodies reality and educational institutions and effectiveness formation which have become a necessity for these institutions to survival in an period because of increasing competition to achieve exceptional performance in educational services.

The (organization's vision, mission and goals) which be the values and its title for identity, and taken into consideration in educational institution and educational management , as well as stick with them and applied it as the positive factors and effective to lead the educational process, certainly, what helps management in this manner, is realization , faith and confidence of their main tools who they are teaching staff and learners in that clear message, visions and goals of their organization phenomenon of their departments to ensure the achievement of set objectives, and goals that are primarily represent their wishes and aspirations.

The importance of study dealing with very importance topic that, namely, performance and effectiveness management leading to an directorate academic department in College of Basic Education in Al-Mustansiriya University in accordance with vision, message and goals data, therefore this topic is one topics worth and search for, by the fact that success of university's performance is linked to the successful performance in faculties and departments, as well as the importance of performance quality and its superiority has become the most important standards for higher education institutions to success in all educational services.

Research problem: 2-1

The researcher seeks in this research to achieve, as a faculty member, to viewpoint the reality of management in directorate department of physical education and its effectiveness in leading the department through vision clarity, message, and achieving desire goals in front of it colleagues. By the fact that the clarity of these three data and interconnection to deal with them as work evidence to constitutes an organizational culture that been lacked and most of us needed, and most of as suffer a lot of knowledge shortage and a sense of it in their daily and in future performance, certainly the present should be characterized by excellence performance, otherwise the confusion and chaos will appear in performance and achievement.

Research objectives: 1- 3

1- To prepare a questionnaire in accordance with the effective management to collect data on Vision, Mission and Goals.

2- Identify the level of effectiveness management in accordance with the vision, message and goals of physical education department.

4 Research fields:-1

-1 Human field 1- 4

Faculty members in physical education department at the College of Basic Education / Mustansiriya University.

1-4-2 Temporal field

Period from 1/03/2015 up to 1/04/2015

Spatial field 1-4-3

Physical education department offices at Basic Education /AL- Mustansiriya University.

Part Three

3- Research methodology and procedures:

. Research Methodology 3-1

The researcher used the descriptive approach and questionnaire manner for suitability and problem nature.

3-2 Sample Search

The sample was chosen randomly, as numbered of (32) teachers who hold master's and doctorate degrees, and scientific titles (lecture, lecture assistant, assistant professor, professor) except survey sample, which they were (4) teachers, and thus represented a sample rate (76.%) of the original population, of (42) teachers.

3-3- Tools methods and equipment

Tools and research mean 3-3-1

Observation, personal interviews, questionnaire, data collection forms, as well as the electronic calculator

3-4 Research Procedures

Preparation initial version of questionnaire: 3-4-1

1- The researcher follow scientific steps to design questionnaire form in light of latest studies sources and network information (the Internet) and directing personal interviews, and to determine (42 items) associated with field and research nature, the rate of (25 items) represents administration effective in functions of (planning, decision resolution, social and humanity relations, follow-up, evaluation), and (6 items) represents a vision, (5 items) represents the message, and (6 items) represents the goals), as well as these items presented to the experts, to form as a whole questionnaire (effective administration according to the vision, mission and goals), and they were identified alternatives answers (yes, sometimes, no) and graded (3,2,1)

3-4-2 The validity of initial items

To improve validity of questionnaire items (effective administration according to the vision, mission and goals), the researcher presented these items to (9) experts, and adopted the decision percentage validity of questionnaire items, and the percentage of agreement for items ranged between (80-90%). (1:35)

3-4-3. Exploratory experiment

The researcher conducting exploratory experiment on a sample of (4) teachers, at ten o'clock on Monday morning 9/03/2015, for purpose to ensure instructions and items questionnaire clarity.

1. Scientific basis of a questionnaire- 4-3 -3

Research questionnaire forms exposed to statistical analysis in order to account validity and reliability and which they are the most important characteristics of a questionnaire standard.

The validity is the basic characteristics that all need to constructed our tests and measurements, to examine this kind of validity the researcher prepared questionnaire and determine its items with the help of group of expert teachers in measurement and evaluation in sports management, science education and sports psychology (Appendix 1).

3-4-3-2 Questionnaire stability

Stability is necessary indicators of our scale, so the researcher rely on split half method to being only one test required, that this method is based on the scale fragmentation to un equal parts, after its application on one group, then divided the items into two halves, odd items and even items, then extracted correlation coefficient between total scores of these two halves by Pearson from raw values, the correlation coefficient between the two halves (0.84).

However, these values represent the stability of only one half the test, so it should be adjust the reliability of or corrected until we get the test coefficient to be became (0.913), which is a high stability coefficient, that will be reliable on it to estimate the stability of the test.(2: 253)

3-4-4 The main experience of questionnaire

The researcher applied his questionnaire as the primary form contains 42 items, with instructions (Appendix 2) on a sample of (32) teachers during the period (11 – 12\03\2015), and after the questionnaire applied reexamined again, all of which were incomplete answer. The total score was calculated from questionnaire and it was equal to the total number of items, that correctly answered by all teachers of experiment sample.

3-5 Statistical methods

The researchers depend in processing data on the following statistical methods :(the mean, median, weighted mean, standard deviation, and correlation coefficient and percentage).

Part Four:

4- The results analyzed and discussed:

1-44-1 The results are showing level detection of a sample of research and analysis axes

Table (1)

Shows the mean and standard deviation of questionnaire axes

Axis	Number of item	Total Score of Axis	Measuring unit	Sample size	Mean	Standard Deviation	Weighted Mean
management effectiveness	25	75	Degree	32	41.44	6.148	50
Vision	6	18	Degree	32	9.94	2.327	12
Mission	5	15	Degree	32	6.75	2.356	10
Goals	6	18	Degree	32	8.91	2.006	12

Table (1) shows that the mean of effectiveness management axis was (41.44) and standard deviation (6.148), and when compared it with the weighted mean axis of (50) shows that the sample mean was smaller than the weighted mean, and that the mean of vision axis was (9.94), standard deviation was (2.327) and when we compared with the degree axis of weighted mean (12), it shows that the sample mean was smaller than the weighted mean, and the message mean was (6.75) and standard deviation (2.356) and when we compared it with the degree of weighted mean axis (10) shows that the mean of the

sample was smaller than the weighted mean, and that the mean axis of goals was (8.91) and standard deviation (2.006) and when we compared it with weighted mean axis degree was (12) which shows that the mean of the sample was smaller than the weighted mean.

4-2- All axis were displayed in tables as seen in tables 2,3,4,5, and then analyzed them as follow:

Table (2)

Shows the axis results of administration effectiveness

T	N	Yes		Some times		No		Weighted Average	Relatively Importance
		Frequency	%	Frequency	%	Frequency	%		
1	32	2	6.25	9	28.125	21	65.625	1.406	46.875
2		7	21.875	5	15.625	20	62.5	1.594	53.125
3		8	25	7	21.875	17	53.125	1.719	57.292
4		3	9.375	7	21.875	22	68.75	1.406	46.875
5		2	6.25	12	37.5	18	56.25	1.5	50
6		5	15.625	8	25	19	59.375	1.563	52.083
7		1	3.125	30	93.750	1	3.125	2	66.667
8		1	3.125	15	46.875	16	50	1.531	51.042
9		6	18.75	6	18.75	20	62.5	1.563	52.083
10		8	25	6	18.75	18	56.25	1.688	56.25
11		3	9.375	12	37.500	17	53.125	1.563	52.083
12		2	6.25	18	56.25	12	37.5	1.688	56.25
13		4	12.5	3	9.375	25	78.125	1.344	44.792
14		5	15.625	4	12.5	23	71.875	1.438	47.917
15		0	0	0	0	32	100	1	33.333
16		2	6.25	6	18.75	24	75	1.313	43.75
17		4	12.5	3	9.375	25	78.125	1.344	44.792
18		5	15.625	3	9.375	24	75	1.406	46.875
19		2	6.25	8	25	22	68.75	1.375	45.833
20		3	9.375	2	6.25	27	84.375	1.25	41.667
21		1	3.125	9	28.125	22	68.75	1.344	44.792
22		3	9.375	5	15.625	24	75	1.344	44.792
23		5	15.625	2	6.25	25	78.125	1.375	45.833
24		6	18.75	6	18.75	20	62.5	1.563	52.083
25		7	21.875	8	25	17	53.125	1.688	56.25

Table (2) shows that the effectiveness management axis was relatively largest importance value for item 7 which was (66.667%) (Combining appropriate accurate data and information that help in decision-making), which achieved the highest answers in alternative (sometimes), while the smallest importance was relatively (33.333%) for item no. fifteenth (helps other individuals on a sense of been belong to the department in order to ensure job satisfaction in it), which achieved the highest alternative answers over (no).

Table (3)

Shows the axis results vision

T	N	Yes		Some times		No		Weighted Average	Relatively Importance
		Frequency	%	Frequency	%	Frequency	%		
26	32	2	6.25	7	21.875	23	71.875	1.344	44.792
27		4	12.5	9	28.125	19	59.375	1.531	51.042
28		5	15.625	2	6.25	25	78.125	1.375	45.833
29		2	6.25	4	12.5	26	81.25	1.25	41.667
30		5	15.625	5	15.625	22	68.75	1.469	48.958
31		1	3.125	4	12.5	27	84.375	1.188	39.583

Table (3) shows that the vision axis was the largest importance value (45.833%), in item no. twenty-eighth (the directorate consistent its vision with mission and goals), which achieved the highest answers over alternative (no), while the smallest relative importance was (39.583%) of item no. thirty-first (the directorate department engages its members in drawing vision and setting goals), which achieved the highest alternative answers (no).

Table (4)
Shows message axis results

T	N	Yes		Some times		No		Weighted Average	Relatively Importance
		Frequency	%	Frequency	%	Frequency	%		
32	32	2	6.25	1	3.125	29	90.625	1.156	38.542
33		8	26.667	2	6.667	22	68.75	1.563	52.083
34		6	18.75	4	12.5	22	68.75	1.5	50
35		4	12.5	5	15.625	23	71.875	1.406	46.875
36		3	9.375	6	18.75	23	71.875	1.375	45.833

Table (4) shows that the axis message was the largest importance (52.083%) in item no thirty (the directorate of the department shows the services which can provide to its members), which achieved the highest answers to the alternative (no), while the smallest relative importance was (38.542%) for the item no. thirty-two (the director of the department explain to his members and students the purpose of its existence), which achieved the highest answers over (no).

Table (5)
Shows the results of goals axis

T	N	Yes		Some times		No		Weighted Average	Relative Importance
		Frequency	%	Frequency	%	Frequency	%		
32	32	2	6.25	1	3.125	29	90.625	1.156	38.542
33		8	26.667	2	6.667	22	68.75	1.563	52.083
34		6	18.75	4	12.5	22	68.75	1.5	50
35		4	12.5	5	15.625	23	71.875	1.406	46.875
36		3	9.375	6	18.75	23	71.875	1.375	45.833

Table (5) shows that the largest importance item no. forty was (47.917%) (All seted goals are reviewed periodically for purpose of readjusted if necessary), which achieved the highest answers over alternative (no), while the smallest importance for item no. forty-first was (35.417%) (the department

directorates engage its members in writing department goals), which achieved the highest answers over (no).

4-3 Showing relationship of management effective results with his vision, mission and its goals:

Table (6)

Shows multi-link results between management effective and its vision, message and goals

Axes	Effective principle management of sport education departments			
	Multiple Correlation Coefficient	Sig	Statistical significance	Direction of the relationship
Vision	0.684	0.001	Function	Proportional
Mission				
Goals				

N = 4 level (0.05), a function of the degree of the relationship if (Sig) > or = (0.05)

Table (6) shows that the value of multi-correlation coefficient between the management effectiveness results with all axis's of vision, mission and goals were (0.684), and of the degree of (Sig) was (0.001) which is smaller than (0.05) and so the relationship is statistically significant and has positive direction.

4 Results Discussion: -4

Evidenced results from table (6) above, and the following results from tables (2,3,4,5), which belong management effectively of the department, the researcher can be deliberated as follows:

There were no any management effectiveness of directorate of sports education department, and the level of efficiency relatively modest, lack of ability and experience in planning functions, decision making, monitoring and evaluation, which constitute a whole effectiveness of the management, as well as the loss of harmony and lack of teamwork, which negatively reflected negatively on the performance and department creativity.

With regard to vision, mission and goals of directorate of sports education was ambiguous and lack of clarity, as well as did not adopted daily work performance approach directed the path of the directorate and all teachers and associates.

All knew with study proof and that positive relationship between management effectiveness and it competence with vision, mission and goals which all public institutions, educational institutions and private adoption are seeking to achieve performance quality and objectives service of the beneficiaries and the community.

Part Fifth:

5- Conclusions and Recommendations

5-1 Conclusions

Through display, analyze and discussion the results, the researcher reached the following conclusion:

- 1- The directorate of sport education department does not has effective management.
- 2- There is no clear vision for the future and in sport education department
- 3- There is no message reflecting actual performance in sport education department.
- 4- There are no drawn goals to pursue in sport education department.

5- There was significant correlation and positive relation between effective management and Vision, Mission and goals.

5-2 Recommendations:

- 1- Subjecting candidate persons who lomenta to direct sport education department to do management test.
- 2- Involve persons who tack over a position as a directorate at sport education department in developmental courses for administrative rehabilitation.
- 3- Adoption vision, mission and goals as framework in institutions and as organizational culture and all should respect it.

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Effect of Weight Training Exercise on the Selected Fitness Variables among Gym Students

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ABSTRACT

The purpose of the study was to find out the effect of weight training exercise on the selected fitness variables among gym students. A group of thirty gym students at Golden gym, health & fitness centre were selected randomly during the year 2014 and whose ages ranged between 18 to 24 years were selected as subjects. A 60 minutes weight training schedule four days in a week for 12 weeks was administered. The test considered were leg press 1RM, bench press 1RM, sit-ups for 30 sec, sit & reach test, and standing long jump. The statistical procedure used was mean, standard deviation and 't'-test. This study had revealed that the effect of weight training has insightful effect on the student's fitness performance. Muscular strength, muscular endurance, Flexibility (leg press, bench press, sit-ups test and sit & reach test had showed improved performances from pre to post test.

Key words: Gym, Weight training, muscular strength, exercises

Introduction

Weight training is a common type of strength training for developing the strength and size of the muscles. Weight training uses a variety of specialized equipment to target specific muscle groups and types of movement. Weight training prepares and gives solid base for trainers to go for the next level. (Kaukab Azeem, 2013), reveals that muscular strength includes a variety of training modalities, including body weight exercises, elastic bands, plyometric exercises for (upper and lower body), multi machines, free weight machines and hydraulic machines. (Kaukab Azeem 2015), stated that the exercise is a medicine and resistance training in particular is one of the most important medicine in controlling certain types of diseases, i.e., obesity, joint pains, muscle weakness, neuro-muscular coordination, etc. Weight training is beneficial for athletes and important and part of the athlete's training program. Upper body strength is very important and part of the training program for the following sports men and women globally i.e., cricketers, basketball players, boxers, baseball players, wrestlers, judo players, etc (K.Azeem, et.al 2006). The basic principles of weight training are essentially identical to those of strength training, and involve a manipulation of the number of repetitions reps, sets, rest, exercise types, and weight moved to cause desired increases in strength, endurance, and size. The specific combinations of reps, sets, exercises, and weights depend on the aims of the athletes performing the exercise; sets with fewer reps can be performed with higher weights. Flexibility is the ability of an athlete to move the body and its parts through as wide a range of motion as possible without undue strain to the articulations and muscle attachments. (Uppal, 2004), reveals that the flexibility is the range of motion around a joint, high flexibility helps in lowering the injuries in all stages of life. Muscular strength is a vital component of physical fitness and plays a crucial role in performance of athletes in the different sports and games. Muscular strength is the maximal capability to generate force. Muscular endurance is also plays an important role in the performance of individuals. (Hardayal Singh, 1991), stated that the Muscular endurance is the ability of the muscles to continue to perform without fatigue.

The purpose of the study was to find out the effect of weight training exercise on the selected fitness variables among gym students.

METHOD

A group of thirty gym students at Golden gym, health & fitness centre were selected randomly during the year 2014 and whose ages ranged between 18 to 24 years were selected as subjects. A 60 minutes weight training schedule four days a week, for 12 weeks was administered. The test considered were leg press 1RM, bench press 1RM, sit-ups for 30 sec, and sit & reach test. The statistical procedure used was mean, standard deviation, and 't'-test, with help of SPSS 16.

RESULTS AND DISCUSSION

The below table showing the analyzing details from pre to post test for the selected fitness variables i.e. incline leg press, parallel bench press, sit-ups test, and sit & reach test among the subjects.

Table-1

Test Items	Pre-test N=30		Post-test N=30		t-value	P-value
	Mean	S.D	Mean	S.D		
Incline Leg press Max 1 RM	71.2	11.7	77.2	12.0	6.00	0.000
Bench press Max 1RM	57.0	12.2	60.1	13.8	11.7	0.000
Sit-ups test (30 sec)	18.4	2.7	21.02	4.36	3.24	0.00
Sit & reach test	17.0	2.4	20.01	4.6	3.02	0.00

't'-test for the dependent samples marked difference were significant at $p < 0.05$

The analyzing of data reveals that the mean, standard deviation with regard to muscular strength (leg press 1RM) of the subjects from pre to post test were (71.2, 11.7) and (77.2, 12) respectively. The subjects with regards to bench press exercise shows mean, standard deviation from pre to post test were (57.0, 12.2) and (60.1, 13.8) respectively. With regard to muscular endurance (sit-ups for 30 seconds) the subjects from pre to post test shown mean and standard deviation were (18.4, 2.7) and (21.02, 4.36) respectively. The participants had shown improved performance pertaining to the flexibility from pre to post test with mean and standard deviation were (17.0, 2.4) and (20.01, 4.6) respectively. Initially the pre scores were low and the participants had showed improvement in the post test. It shows that the four days of weight training for 12 weeks is also beneficial in the improvement in the fitness among the individuals.

The following studies are in the agreement of this study;

(P.A.D Paul, 2014), studied an effect of 12 weeks of resistance training and free weight training program on muscular strength had showed improved performance among subjects. (Kaukab Azeem, 2014) investigate an study on untrained males, 2 days TR, 2 sets x 5 exercises for upper body, and improved from pre to post test by percentages; High pulley 67%, Incline chest press 58%, Sitting shoulder press 65.47, Sitting triceps extensions 58.63, Preacher curls 65.56 respectively. (Kaukab Azeem, 2014) investigate an study on untrained males, 12 weeks, 2 days TR, 2 sets, 05 exercises for lower body.

Intensity from low to high intensity and improved by percentages from pre to post test ;sitting calf raises 39%, standing leg curls 50%, adductors 54.17%, abductors 54.29, and leg extensions 58.57% respectively. (R.S.Varma, 2015) had studied on concurrent strength and plyometric training on selected motor fitness ie. Sit- ups test and others and find significant performance.

Conclusion

It is concluded that the effect of weight training on the gym trainers had shown enhanced performance from pre to post test in the selected fitness variables, which is significant i.e. Incline leg press 1RM, Parallel bench press 1RM, sit-ups for 30 sec, and sit & reach test. .

Acknowledgement

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Influence of Behaviour Therapy on Personality Dimensions of Adolescent Deviants

By

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ABSTRACT

The objective of this study was to find out the influence of behaviour therapy on personality dimensions of adolescent deviants. 30 adolescent deviants boys in the age group of 13 to 15 years on random basis were chosen from different schools in Kancheepuram district based on a questionnaire administered among class teachers. The selected subjects underwent behavioural therapy consisting of Yogasanas, Dance, Rhythmics, Community Singing, Social Skill Training, Major Games and Minor Games for a period of 6 weeks. The pre and post test scores were collected on selected Personality Dimensions using Personality Development Index (PDI) which was developed by Kaliappan(1993). The questionnaire aimed at collecting 10 distinct personality dimensions by scoring the filled up questionnaire based on the procedures suggested by the author. The results of the study proved that 6 weeks intervention contributed for the personality improvement of the adolescent deviants, such as, social concern ('t' 9.1), emotional adjustment ('t' 6.92), assertiveness ('t' 12.32), value & culture ('t' 5.14), self awareness ('t' 5.96), self confidence ('t' 5.82), inter personal relationship ('t' 5.40), and stress management ('t' 5.6). The improvements were statistically found significant at 0.05 level. The 6 weeks behaviour therapy failed to significantly alter leadership skill ('t' 1.03) and communication skill ('t' 2.03). It was concluded that the behaviour therapy suggested in this study can be implemented by school authorities and parents for adolescent deviants.

Key Words: Adolescent Deviants, Behaviour therapy, Personality Dimensions

INTRODUCTION

Adolescence can be a specifically turbulent as well as a dynamic period of one's life. It has been identified as a period in which young people develop abstract thinking abilities, become more aware of their sexuality, develop a clearer sense of psychological identity, and increase their independence from parents. G. Stanley Hall (1904) denoted this period as one of "Storm and Stress" and, according to him, conflict at this developmental stage is normal and not unusual. Margaret Mead, on the other hand, attributed the behavior of adolescents to their culture and upbringing, as the majority of problems associated with adolescence in Western society are not present in other cultures. (Hicks Harper, P.T. 2006). Adolescent psychology addresses the issues associated with adolescence, such as whether or not the aforementioned "storm and stress" is a normal part of this period. The American Psychological Association has a separate division dedicated to adolescence, and the psychologists specializing in this topic attempt to answer questions dealing with the age group. One issue in adolescent psychology discusses whether adolescence is in fact a discrete developmental period, a point along a continuum of human development, or a social construction. Adolescents are widely considered by the psychological establishment to be prone to recklessness and risk-taking behaviors, which can lead to substance abuse, car accidents, unsafe sex, and youth crime. There is some evidence that this risk-taking is

biologically driven, caused by the social and emotional part of the brain (amygdala) developing faster than the cognitive-control part of the brain. (Hicks Harper, P.T. 2006).

Deviance can be described as a violation of these norms. Deviance is a failure to conform with culturally reinforced norms. Some acts of deviance may be criminal acts, but also, according to the society or culture, deviance can be strictly breaking social norms that are intact. (Waksler FC et.al. 1982) Viewing deviance as a violation of social norms, sociologists have characterized it as "any thought, feeling or action that members of a social group judge to be a violation of their values or rules"; "violation of the norms of a society or group"; "conduct that violates definitions of appropriate and inappropriate conduct shared by the members of a social system"; "the departure of certain types of behavior from the norms of a particular society at a particular time"; and "violation of certain types of group norms where behavior is in a disapproved direction and of sufficient degree to exceed the tolerance limit of the community." (Karmen, et.al. 1983)

Behavioral psychology tend to be the most effective in altering behavior, most practitioners consider behavior modification along with behavior therapy and applied behavior analysis to be founded in behaviorism. While behavior modification encompasses applied behavior analysis and typically uses interventions based on the same behavioral principles, many behavior modifiers who are not applied behavior analysts tend to use packages of interventions and do not conduct functional assessments before intervening. (Martin, G., & Pear, J. 2007) Behavior modification is the use of empirically demonstrated behavior change techniques to improve behavior, such as altering an individual's behaviors and reactions to stimuli through positive and negative reinforcement of adaptive behavior and/or the reduction of maladaptive behavior through its "extinction", punishment and/or therapy. Behavior therapy does not involve one specific method but it has a wide range of techniques that can be used to treat a person's psychological problems. Behavior therapy breaks down into three disciplines: applied behavior analysis (ABA), cognitive behavior therapy (CBT), and social learning theory. ABA focuses on operant conditioning in the form of positive reinforcement to modify behavior after conducting a Functional behavior assessment (FBA) and CBT focuses on the thoughts and feelings behind mental health conditions with treatment plans in psychotherapy to lessen the issue.(Antony, M.M., & Roemer, E. (2003)

Personality refers to the distinctive characteristics of the person – characteristics that consistently manifest themselves in different situations. Personality represents the whole person, his physical, mental, social and emotional assets and liabilities and the way he/she puts it altogether into a pattern, which is characteristic of and peculiar to a particular individual. Dogra and Veeraraghavan (2000) compared the effectiveness of Psychological intervention, which included play therapy and counseling on two groups of children with aggressive conduct disorders. The intervention was successful in bringing about changes in the children who had conduct disorders. Gibbon S, et.al. (2010) evaluate the potential beneficial and adverse effects of psychological interventions for people with Antisocial personality disorder (AsPD) and found there is insufficient trial evidence to justify using any psychological intervention for adults with AsPD and suggested for further research is urgently needed for this prevalent condition. Jones AS, et.al. (2010) evaluated effectiveness of domestic violence (DV) interventions. indicated that the most abusive state is relatively stable and indicated a high probability of future physical assault and suggested evaluation based on complex outcomes may improve criminal justice intervention effectiveness, risk assessment, and risk management.

Behavior modification programmes have shown success in reducing recidivism for adolescents with conduct problems and adult offenders. However, the theoretical foundations laid proved that there was further scope for research in fining out the effect of behavioural therapy on personality dimensions of deviant boys. Hence, this research was attempted.

METHOD

For the purpose of the study, 30 adolescent deviant boys in the age group of 13 to 15 years on random basis. These subjects were chosen from different schools in Kancheepuram district based on a questionnaire administered among the class teachers. The selected subjects underwent behavioural therapy consisting of Yogasanas, Dance, Rhythmics, Community Singing, Social Skill Training, Major Games and Minor Games for a period of 6 weeks. The pre and post test scores were collected on selected Personality Dimensions using Personality Development Index (PDI) which was developed by Kaliappan(1993). The questionnaire aimed at collecting 10 distinct personality dimensions by scoring the filled up questionnaire based on the procedures suggested by the author. The pre and post scores on personality dimensions were statistically analysed using 't' test. In all cases 0.05 level was fixed.

RESULTS**Tab 1:Influence of Behavioural Therapy on Personality Dimensions of Adolescent Deviants**

S.No	Personality Dimensions	Tests	Mean	MD	SD	't'
1	Social Concern	Pre	30.967	9.467	5.698	9.10*
		Post	21.500			
2	Emotional Adjustment	Pre	41.03	14.17	11.22	6.92*
		Post	55.20			
3	Assertiveness	Pre	17.10	11.50	5.11	12.32*
		Post	28.60			
4	Value & Culture	Pre	36.23	8.37	8.91	5.14*
		Post	44.60			
5	Leadership Skill	Pre	20.53	0.90	4.79	1.03
		Post	21.43			
6	Communication Skill	Pre	19.63	2.70	7.28	2.03
		Post	22.33			
7	Self Awareness	Pre	17.77	5.07	4.65	5.96*
		Post	22.83			
8	Self Confidence	Pre	18.10	7.17	6.74	5.82*
		Post	25.27			
9	Inter Personal Relationship	Pre	22.17	8.47	8.59	5.40*
		Post	30.63			
10	Stress Management	Pre	34.37	10.97	10.73	5.60*
		Post	45.33			

Required table 't' value df (29,1), 2.05

DISCUSSIONS

This study analysed the personality dimensions of adolescent deviants through 10 distinct personality dimensions identified due to a well structured behaviour therapy which was an attempt in altering an individual's behaviors, reactions and personality to stimuli through positive and negative reinforcement of adaptive behavior and/or the reduction of maladaptive behavior. Six weeks behaviour therapy to the adolescent deviants significantly contributed for the personality improvement of the adolescent deviants, such as, social concern ('t' 9.1), emotional adjustment ('t' 6.92), assertiveness ('t' 12.32), value & culture ('t' 5.14), self awareness ('t' 5.96), self confidence ('t' 5.82), inter personal relationship ('t' 5.40), and stress management ('t' 5.6). The improvements were statistically found significant at 0.05 level. The results further showed that 6 weeks behaviour therapy failed to significantly alter leadership skill ('t' 1.03) and communication skill ('t' 2.03) as the obtained 't' values were less than the required 't' table value to be significant at 0.05 level. The findings of this study were in agreement with the findings of Dogra and Veeraraghavan (2000) that compared the effectiveness of Psychological intervention, which included play therapy and counseling on two groups of children with aggressive conduct disorders and found that the intervention was successful in bringing about changes in the children who had conduct disorders.

CONCLUSIONS

It was concluded that the behaviour therapy suggested in this study can be implemented by school authorities and parents for the benefit of adolescent deviants.

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Effect variance of muscle strength portion of the hamstring and quadriceps muscle groups on sports injuries

By

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Iraq

DEFINITION SEARCH

The integrity of sports is whether amateur or professional of the most important principles that must be observed by the coach during training and work on the player from injury you continue training units without interruption thus reaching the target immunization, and the most important scientific foundations of the training is to achieve a balance of power for the rider, especially in mobile joints also play a big role in these events the importance of the convergence of the muscles working and the adverse party per strength and play a large role in the amount of power produced, economic as well as not exposed muscle to sports injury, helping to continue to practice the sport in fitness development and achievement and the result of the importance of contraction process and extroversion between these muscle Hence it was necessary for training that includes all the muscles, both working and adverse Otherwise, the productive power of the muscle force be few, as well as the vulnerability of muscle adverse to injury during the performance and that many of the athletes exposed to, Irbid sports, especially in the background muscle of the thigh of the various individual events and the difference whether or young girls aroused the interest of the researcher to go into this problem and to identify the causes.

Research goals

- 1-Identify the level of force Sporting parties (**right and left**) and muscles working and the adverse party one for some individual Games and the difference for youth and girls.
- 2-find the percentage of the difference between the muscle and the second article of the thigh for some individual Games and the difference for young people, girls and compare to get to know the balance and muscle strength imbalance.

Research Methodology

The researcher used the **descriptive** survey manner for suitability with the nature of the research. Such research community all events the difference and individual youth and girls in teams of the University of Qadisiyah season school **2014-2015** The research sample was selected randomly Statistics They (the draw) by (12) player field games and track **and (12) player football** as well as for young people (**12 player**) Games track and field and (12 players) football.

4-1 display, analyze and discuss the power ratio between the muscles of the front and rear thigh individual events and the difference for young people. Table (1)

Table (1)

Shows indication of the difference between the percentages percent of measurements of muscle article and the second party per individual events for young people using the device (Danamumitr) (kg)

Variables		Muscle Article		Bending muscles		Differenc es between the percenta ges %	% The percentage difference	What should be the strength of the muscle minimal
		Mean	The standard deviation	Mean	The standard deviation			
Individual Events	Right thigh	40.1	1.14	31.6	3.01	78.80	21.20	36.09
	North thigh	34.9	1.51	27.8	2.52	79.66	20.34	31.41
Team Events	Right thigh	36	1.10	26.1	2.39	72.50	27.50	32.4
	North thigh	30.7	1.00	19.8	1.08	64.50	35.50	27.63

Is evident from the table above that circles to measure the strength of the front and rear thigh muscles of a man right and left and it was the percentage of difference of force between them amounted to **(21.20%) and (20.34%)** which shows that these muscles had lost balance them when the sample they some runner individual effectiveness (**100 m and 200 m and long jump, high jump**), putting the muscle of the background for sports injury during training or racing, which requires lifting the background muscle strength of the thigh of the right and the North as a minimum **(36.09 kg) and (31.41) kg** and the preservation of the front muscle of the thigh strength. This difference may be the main cause of injury to the muscles of many of the contestants during the race and training traction or rupture rear muscles especially depriving the rider from participating the race and achieve results also affect the speed dramatically and this was confirmed by **(Mackenzie Mackenzie 2007 m)**, "it is the most influential factor the enemy is the speed of the imbalance in the racial muscle strength and the ability to have two muscle groups working and the corresponding **(Kaladilh muscular front and rear)** for the same man. (12:14).

Circles to measure the strength of the front and rear thigh muscles of a man right and left for young people and for the games the difference was the percentage of difference in strength between them amounted to **(27.50%) and (35.50%)** which shows that these muscles had lost balance, including at the research sample who are some players exert effective difference **(soccer)**, putting the muscle of the background for sports injury during training or racing, which

requires lifting the rear of the thigh muscle strength as a minimum (**32.4 kg**) and (**27.63 kg**) and maintained on the front of the thigh muscle strength. This imbalance balance is the main cause of injury to many of the football players back muscles while kicking the ball or starting the ball or without, or increase the number of targeted training modules may be towards the front muscle of the thigh of the development is the main reason for creating this imbalance as the main and basic muscle to perform a lot of skills and requirements Other physical attributes with the player. Points (**Hani El-Deeb 2003**) on the importance of muscular balance tests where the index gives researchers to focus on areas of weakness and disruption of muscular balance out to become stronger by focusing on them. (5:16)

4-2 display, analyze and discuss the power ratio between the muscles of the front and rear thigh individual events and the difference for girls.

Table (2)

Shows indication of the difference between the percentages percent of muscle measurements and material adverse party to one of the activities of the difference for young people using the device (Danamumitr) (kg)

Variables		Muscle Article		Bending muscles		Differences between the percentages %	% The percentage difference	What should be the strength of the muscle minimal
		Mean	The standard deviation	Mean	The standard deviation			
Individual Events	Right thigh	30.10	1.14	24.30	0.90	80.73	19.27	21.87
	North thigh	28.80	0.75	23.80	1.08	82.64	17.36	21.42
Team Events	Right thigh	27.20	1.47	21.80	1.47	80.15	19.85	19.62
	North thigh	24.80	1.47	20.00	1.67	80.65	19.35	18

Is evident from the table above that circles to measure the strength of the front and rear thigh muscles of a man right and left and it was the percentage of difference of force between them amounted to (**19.27%**) kg and (**17.36%**) kg which shows that this balanced muscles, including when the sample they Some semifinalists (**100 m and 200 m and long jump, high jump**). The researcher explains that balance to occur as a result of what is owned by the girls of the high flexibility of a more youthful support force between the muscles and keeps them from being injured. This was confirmed by George (**George**) should be the proportion of the difference between muscle strength and the second article on the same joint operating ratio (**20%**) or less,

and this was compatible with the sample, which indicates the existence of a balance between these muscles. (13: 8-11)

It is clear from the above table that the circles to measure the strength of the quadriceps front and rear of a man the right and the north of the games the difference for girls and the percentage difference in power between them has reached (19.85%) kg and (19.35%) kg which shows that this balanced muscles, including when the sample they are some Players effectiveness difference (soccer). And explains the researcher this balance as a result of the weakness of the amounts of power to the players as a result of lack of exposure to the training modules in this regard as well as what is owned by the girls of the high flexibility of a more youthful supports muscle balance. This was confirmed by (Iqbal formal.2008) that some of the physical attributes of fungal make women less exposure to infection than men. (4: 4)

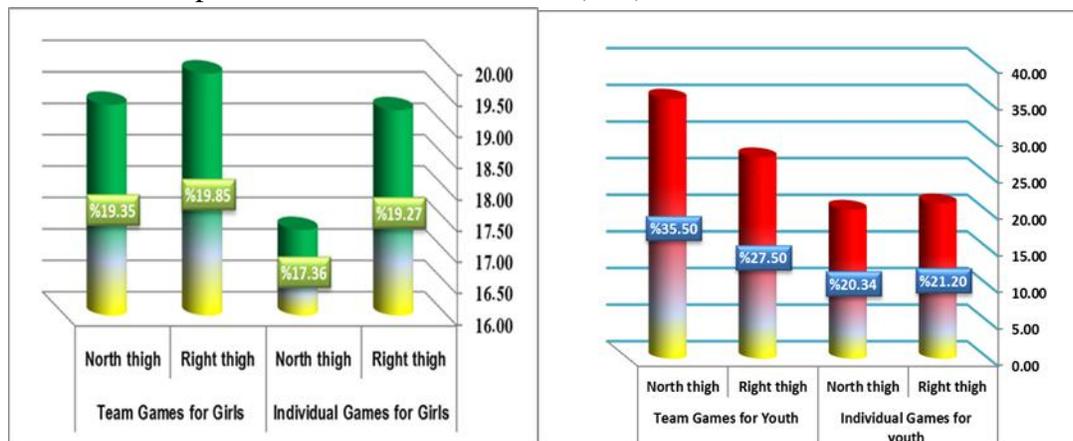


Figure 1 shows

Rates of muscle strength between the muscles and the second article of the difference in the thigh of one party (the north and right) for youth and girls individual and the team Games

Conclusions
 1. Several individual events (track and field) and the difference (football) for young people suffering from loss of balance by force between the front and rear of the thigh muscle in most Mtsabekayaa.

2. many individual events (track and field) and the difference (and football) Girls balanced by the force between the front and rear of the thigh muscle in most Mtsabqatha.

3. The high percentage of individual events and the difference for young people may be at the back muscle injury as a result of the imbalance of power.

Recommendations

1-interest tests to identify the balance of power between the muscles and especially individual events.

2-develop training programs to achieve muscle balance, especially in the core muscles working among the youth and the difference in individual events.

3- Other interesting physical qualities which works to support muscle strength and protect the muscle from injury and the most important flexibility.

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The Impact of Decision Review System in Cricket world Cup 2015

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ABSTRACT

The purpose of this study is to find out the impact of Decision Review System(DRS) at the recently concluded cricket world cup at Australia & Newzealand .This review will examine technology's influence throughout the cricketing world. It will also analyze current technological officiating methods concentrating on their level of success and how these could be imitated in cricket using valued perspectives both for and against technological involvement in cricket. The paper will also recognize each side of the argument in detail, finding out the factors that cause such strong opinions to be held around the debate of DRS technology.

Keywords: Hawk-eye, DRS, Snickometer

INTRODUCTION

The 2015 Cricket World Cup was the 11th Cricket World Cup, jointly hosted by Australia and New Zealand from 14 February to 29 March 2015. Fourteen teams played 49 matches in 14 venues, with Australia staging 26 while New Zealand hosted 23 games.[18]

India were the defending champions, having won the tournament in 2011. Tickets for the Pool B match between India and Pakistan, played on 15 February 2015, reportedly sold out within 12 minutes of going on sale.[13].

The International Cricket Council has sold the rights for broadcasting of the 2015 Cricket World Cup for US\$2 billion to ESPN Star Sports and Star Sports.[18]

Technology has been of great help in the training and judgment in most of the sporting events. The use of the IT in training as well in judgment is clearly brought out in the study and how the prospect of its use help in educating the coaches ,judges, trainers and in the evaluation of events.[4]

Officials for the 2015 Cricket World Cup were selected by the Umpire selection panel, Umpire selection panel selected 20 umpires to officiate at the World Cup: five were from Australia, five from England, five from Asia, two each from New Zealand and South Africa and one from West Indies. It also selected five match referees for the event..[18]

The umpire selection panel consisted of Geoff Allardice (ICC General Manager - Cricket), Ranjan Madugalle (ICC Chief Match Referee), David Lloyd (former player, coach, umpire and now television commentator) and Srinivas Venkataraghavan (former elite panel umpire). [18]

Out of the selected umpires, twelve of them belong to the Elite Panel of ICC Umpires while the remaining eight belong to the International Panel of Umpires and Referees.[18]

As a human an Umpire has to handle the pressure, need to make big calls. The major part is to manage the use of resource available in effective manner for the final verdict. Besides making decisions about legality of delivery, appeals for wickets and general conduct of the game in a legal manner, the umpire also keeps a record of the deliveries and announces the completion of an over in the game of the Cricket. [5]

METHOD

DRS

Decision Review System (DRS) allows captains of teams to challenge an umpire's on-field decision during a match. Each captain is given two unsuccessful reviews during each innings. It was brought into International cricket in 2009, for the first Test between New Zealand and Pakistan in Dunedin.

The DRS requires the use of two different broadcasting camera's in order to determine whether a decision is upheld or overturned. They are: Hawk Eye and Hotspot. [1] [3]

The Umpire Decision Review System (abbreviated as UDRS or DRS) is a technology-based system used in the sport of cricket. The system was first introduced in Test cricket, for the sole purpose of reviewing controversial decisions made by the on-field umpires in the case of whether or not a batsman had been dismissed. The system was first tested in an India v Sri Lanka game in 2008. The system was officially launched by the International Cricket Council on 24 November 2009. [1] [6] [8] During the first Test match between New Zealand and Pakistan at the University Oval in Dunedin. It was first used in One Day Internationals in January 2011, during England's tour of Australia. [12]

In Snikometer

The Snickometer is often used in a slow motion television replay by the third umpire to detect if the cricket ball touched the cricket bat on the way through to the wicketkeeper. The TV Umpire will listen and view the shape of the recorded sound wave. If there is a sound of leather on willow, which is usually a short sharp sound in synchrony with the ball passing the bat, then the ball has touched the bat. Other sounds such as the ball hitting the batsman's pads, or the bat hitting the pitch, and so on, tend to have a fatter shape on the sound waveform.

If, in the umpire's opinion, this is the case, and the ball was a legal delivery that was caught before touching the ground, then the batsman is given out by the umpire. The umpire does not have the benefit of the Snickometer, and must instead rely on his senses of sight and hearing, as well as his judgment. When the Umpire DRS (Decision Review System) was introduced to Test Cricket, Snicko was not considered accurate enough, and so another edge detecting tool Hot Spot was introduced.

The Role of DRS in CRICKET

Its major use in cricket broadcasting is in analyzing leg before wicket (LBW) decisions, where the likely path of the ball can be projected forward, through the batsman's legs, to see if it would have hit the stumps. Consultation of the third umpire, for conventional slow motion or Hawk-

Eye, on leg before wicket decisions, is currently sanctioned in international cricket even though doubts remain about its accuracy in cricket. [7]

The Hawk-eye referral for LBW decision is based on three criteria:

- Where the ball pitched
- The location of impact with the leg of the batsman
- The projected path of the ball past the batsman

In all three cases, marginal calls result in the on-field call being maintained.

In Hawk eye

All Hawk-Eye systems are based on the principles of triangulation using the visual images and timing data provided by a number of high-speed video cameras located at different locations and angles around the area of play. [15]

In Third umpire

In the case of a run out or stumping, a batsman may be declared "out" if the wicket is 'put down'. Whenever a TV umpire decision is signaled by an on-field umpire. The TV umpire gets access to Instant Replay to make his decision. The instant replays are also available for the TV/Internet viewers.

However, the live crowd does not get to witness it. Because in most of the cases, TV umpire decisions end up in a tight gap between out and not out. Live crowd will make their decision on the replay shown. However, the TV umpire is required to follow guidelines which may turn the decision to the other side. This could lead to major problems among the crowd and disrupt the game play.

In UDRS

A challenge is always used in situations that did or may result in a dismissal: for example, to determine if the ball is a legal catch (making contact with the batsman's bat or glove and not touching the ground before being held by a fielder) or if a delivery made the criteria for a leg before wicket dismissal (hitting the ground in line or on the off side and hitting the batsman in line with a path that would have hit the wicket).

The TV Umpire then reports to the on-field umpire whether his analysis supports the original call, contradicts the call, or is inconclusive. The on-field umpire then makes the final decision: either re-signaling a call that is standing or revoking a call that is being reversed and then making the corrected signal. Each team can initiate referrals up to the limit on unsuccessful reviews.

Under the DRS rule only clearly incorrect decisions are reversed; if the TV Umpire's analysis is within established margins of error or is otherwise inconclusive, the on-field umpire's original call stands.

RESULTS & DISCUSSION

The Decision Review System has evoked plenty of controversy in the World Cup 2015, but even its strongest critic will agree that the system has helped reduce errors. The effectiveness of the DRS was on display much earlier, in the first day of the tournament between Australia & England match(the Anderson run out episode) .

Along the way there have been problems, a lot of good has still come out of the system, though, and a fair number of decisions have been overruled already: an average of more than one decision per game has been overturned after the third umpire has taken a close look at the replays.

In 42 preliminary matches in the World Cup, the DRS have been used 70 times, of which the umpires' original decision has been reversed 17 times. For the purposes of this article, though, let's just look at the numbers in terms of the decision-making.

The success rate of **24.29 %** means a little more than one out of every four decisions reviewed goes in support of the team which asks for the review. That isn't a very high number, considering the fact that you'd expect a team to exercise that option only when they're fairly sure they've been wronged, but often teams have gone for that option out of sheer desperation, or when they have nothing to lose.

Table no: I, The table below shows the team wise number usage of reviews. [11]

TEAMS	BAT	BOWL	TOTAL	S	US	PERCENTAGE
AFGHANISTAN	5	2	7	1	6	14.29
AUSTRALIA	1	2	3	0	3	0.00
BANGLADESH	3	0	3	0	3	0.00
ENGLAND	3	1	4	2	2	50.00
INDIA	1	2	3	1	2	33.33
IRELAND	2	4	6	2	4	33.33
NEWZEALAND	1	3	4	2	2	50.00
PAKISTAN	1	3	4	0	4	0.00
SCOTLAND	2	3	5	0	5	0.00
SOUTH AFRICA	5	2	7	3	4	42.86
SRILANKA	3	4	7	2	5	28.57
UAE	3	4	7	1	6	14.29
WEST INDIES	2	5	7	3	4	42.86
ZIMBABWE	2	1	3	0	3	0.00
TOTAL	34	36	70	17	53	24.29

This also means the on-field umpire has got it right **75.71%** of the time, which is a reasonable percentage considering these are usually marginal decisions. Due to the imperfect technology, more than one incorrect decision hasn't been corrected despite the replays, but overall these numbers offer an idea of how the system has been used so far.

And now for the performances of the teams with respect to the DRS. All teams have a success rate of less than or equal to 50%, but the best among these are the Newzealand & the England, who've got two out four correct with 50% respectively.

The 5 teams with a 100% unsuccessful record were Australia, Bangladesh, Pakistan, Scotland and Zimbabwe. Afghanistan and UAE wouldn't have had too much experience of this system before the World Cup, but they've got the 14.29% success rate .

India haven't used the DRS much either, but their numbers aren't as good - only one correct out of three, India have a 33.33% success rate - India is against the DRS.

In a group match held at Manuka Oval, Canberra on 03 /03/ 2015 between Ireland & South Africa witnessed the reversal of three on-field decision .It's a record in ODI .[11]

If we look at the Dismissal Statistics, the total number of dismissal type in this event is as follows. [17]

Table no: II, Dismissal Statistics

Types of Dismissal	Number	Percentage
Catch	483	70.31
Bowled	95	13.83
Run out	36	5.24
LBW	48	6.99
Stump	07	1.02
Hit Wicket	02	0.29
Caught & Bowled	16	2.33
Total	687	100.00

Among the successful **17** decisions they were **9** for Caught behind and the remaining **8** were LBW decisions. Moreover, In the Unsuccessful **53** decision they were **43** LBW and **10** Caught behind. The total numbers of deliveries rapped on pads were 483, and the total numbers of LBW given were **48**, out which DRS declared out are **8**. Similarly, The total numbers caught out were 483, out which DRS referred were **19** and the review declared out are **9**.

CONCLUSION

Looking at these figures one concludes that **47.37%** of the catches and **16.67%** of the LBW's decision are solely based on DRS technology. If this review was not a part of this tournament then the results of these matches would have been different. The main objective of this study was to provide an argument of just how much the implementation of DRS technology in Cricket would benefit the game.

I believe I have provided a well-structured and informative document that will point out all the possible routes cricket can currently explore; expressing problems leaving the reader in little doubt where the future of technology in cricket should head.

While this study has shown that the technology is there to justify its involvement it has also justifies how technology can affect the game negatively. This negative impact may not be

directly linked to the number of ‘correct’ decisions that the new technology has enabled but more to the attitude change of a sport and its flow.

Often regarded as a gentleman’s game it now finds itself struggling to contain on pitch outbursts courtesy of its newly employed ‘challenge system’. However the examples contained within this report further prove that it is not just a case of saying yes or no and then allowing technology to be at the disposal of all decision making.

This paper has examined all the arguments against implementation and has answered each specific potential problem with the appropriate solutions. The key is implementing the technology in the correct way so that it is there to be at the aid of the on pitch official rather than dictating their decisions. You can’t say technology’s good or bad it’s just a tool, and it’s how the tool is implemented that determines whether you get a positive or negative outcome.

"It should be used like a spell-checker on your computer," Collins said. "It's not right all the time, but it's a useful adviser. [12]

Moreover, if there is a problem with the technology decision making, technology must get a chance to the fullest so as to come out thoroughly in having a say .Simply denying it is not the answer. In conclusion, yes cricket should see the implementation of DRS in all its format namely Test , ODI and T20 , moreover in under 19 & under 15 world cup too.

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Designing and standardizing the leading behaviour measure of sixers and their assistants participating in scouting camps .

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Chapter I

1. Research introduction

1. Research introduction and its importance

Clearly , leading topic has been prioritized by scientists from various fields. Therefore, it has been marked in individual life , introduced in varying approaches , considered as an indispensable stimulus , an active means in realizing goals of all institutes ,such as , military , economic , political , athletic institutes for its role in creative what is called a teamwork spirit . It contributes in guiding individual's behaviour , achieves a definite objective , plays a remarkable role in creating social cohesion and organizing their conducts. Executive leader must be skilled in dealing with people, has decision making ability , persuasive in his decisions . leader's success standard of an administrative work relies on his leading proficiency to the others .

1-The research problem:

The research problem can be shown in lack of leading behaviour scale of sixers and their assistants ,for identifying their leading behavior level , not knowing leading behavior level of sixers and their assistants of Iraqi scouting and sports activities directorates and its important and effective role in effecting the social ties through conducting scouting camps.

1-The research objectives:

1. Designing and standardizing the leading behaviour measure of sixers and their assistants participating in scouting camps.
2. Knowing leading behaviour level of sixers and their assistants participating in scouting camps.

The research fields:

1-4-1 Human field : Sixers and their assistants participating in scouting camps .

1-4-2 Spatial field:Gatherings and scouting camps held in Najaf, Qadysia and Karbala provinces.

1-4-3 Temporal field : From 14 /3 /2014 to 20 /11 /2014

Chapter three

Research methodology and its field procedures .

1-3 Research methodology

The researcher has used the descriptive approach by survey, for being convenient and study nature requires that.

2-3 Research sample :

Research community identified to sixers and their assistants numbered (190) distributed on 19 scouting education directorates from 14 Iraqi provinces. While participating in Al Saniya scouting camp held by Qadysia province Education Directorate, the sample research includes the following.

The research samples shown in Table I

Scale	Survey sample		Building & standardization sample		Application sample		Total
	Percentage	No.	Percentage	No.	Percentage	No.	
Leading behaviour	%31.58	60	%47.37	90	40	40	190

3- 3.The research devices and tools

-Foreign and Arabic references and sources - individual interviews - Data collecting form

- Calculator - Laptop - Digital timing watch -papers &pens

3. Research procedures steps :**1-1-4-3 building and standardizing leading behaviour scale producers of sixers and their assistants:-**

For achieving the research first objective concerning building and standardizing leading behaviour scale producers of sixers and their assistants , the researcher has followed the scientific steps :

2-1-4-3determinethe theoretical framework of leading behaviour scale of sixersand their assistants.**The sixers and their assistants' conforming and standardizing leading behaviour standard:**

For accomplishing the research first objective representing in conforming and standardization The sixers and their assistants' leading behaviour standard, The researcher follows the next scientific steps :

1-1-4-3: Identify the objective of leading behaviour standard to them : In this phase , the researcher aims at building leading behaviour standard sixers and their assistants in scouting camps held in Iraq.

2-1-4-3: specify the theoretical framework of leading behaviour standard of them : the researcher has taken in her account the valuable notes presented by experts and specialists concerning

Whether those fields are fit or unfit . For analyzing experts and specialists' views statistically as shown in table II , the researcher uses 2 value for showing their agreement about identical

Table 2 shows chi- square

NO	Fields	Fit	unfit	chi- square	Result
1	Democratic leading behaviour	19	1	16.2	Significance
2	Authoritative leading behaviour	19	1	16.2	Significance
3	Chaotic leading behaviour	15	5	5	Significance
Chi-square in score (1) and significance level equals 3.48					

Chi –square value of leading behaviour fields appears bigger than (3.84) in score (1) and significance level (0,05) shows that leading behaviour fields is significance level.

4-1-4-3 Initial preparation of scale formula :**1-4-1-4-3 Items scale preparation :**

After identification the objective of scale and specify its steps, the first step is to write (37) items distributed on the following three fields .

2-4-1-4-3 Identifying scale items writing and its way: The researcher has been able to obtain (37) items) . After the study to those items and analyzed and removing some similar , weak and unclear items , distributed on three fields , the democratic behaviour field contains (13) items , authoritative behaviour contains 12 items , finally , chaotic behaviour contains 12 items.

3-4-1-4-3 Identifying suitable items of leading behavior scale

After finalizing the scale item , the researcher presented these scale item to experts and specialists to determine items suitability , positive ones out of negative ones , if some items

required adjustment , move items form field to another , where the total number reaches to 37 as it is shown in table (3)

Table 3 shows the proposed leading behaviour fields and its items presented to experts and specialists

No	Fields	Positive items numbers	Negative items numbers	Total No
1	Democratic leading behaviour	13	-	13
2	Authoritative leading behaviour	7	5	12
3	Chaotic leading behaviour	7	5	12
Total results		27	10	37

Based on the experts and specialists views , some item have been adjusted. Chi –square test used for acceptance the scale items , where chi- square value was (3,84) that leads all items to be accepted as shown in appendix (1)

Preparing scale instructions.

Scale instructions has been presented to explain how to answer the question .Also it is mentioned that the way of answering does not rest on the correct answer or the incorrect answer ,but selecting the answer that applies to a sixer and her assistant . Answering all questions found in the scale openly , precisely is necessary ,their answers will be secret, where name writing is not required, because that is only for scientific research purposes

5-4-1-4-3 Selecting answer alternatives of standard:

The researcher has selected answer alternatives of standard which includes five choices because it is suitable for the research and gives more expression freedom in answer (always , often , sometimes , little , rare)

5-1-4-3 Survey experiment :-For making sure of scale instructions and test items are clear , knowing the required time of answers and scale application circumstances regarded to obstacles or difficulties , the researcher has applied the scale upon survey sample composed of 40 sixers and their assistants, randomly selected in 3 /14 /2014, in girl flowers camp in Karbala . After conduction this experiment it gets clear that scale instructions and test items are clear ,it takes about (20 -15 minute) to answer its items , so the scale and its items get ready to be applied upon structure sample.

6-1-4-3 The main experiment :The main experiment was conducted through applying the scale upon structure sample to conduct a statistical analyses process to its items in order to select fit items and remove unfit ones based on their distinctive power, to obtain honesty indications and steadiness of that scale. The scale applied upon sample consists of 90 sixers and their assistants (3 / 18 /2014) in Al Sanyia girl flowers camp held in Qadysia province, the experiment conducted at 10 : a.m at the same day .

7-1-4-3 Correction scale:-The test answers were corrected according to correction key prepared to that purposes .

8-1-4-3: Statistical analysis of scale items : the researcher follows two methods to analyze scale items statistically :

First : Discriminatory power : This method is considered one of the fittest method to discriminate items . Where the total scores that sixers and assistants arranged in descending order , after scale correction . 24 sixers and their assistants were selected to higher group and 24 to lower group , higher group and lower group represented by (27%) and eliminated (64%) from medium group . Kelly's research (1939) and Mihrinz's research(1973) stressed that (27 %) gives biggest size and discrimination , based on that each group includes 27 % . To calculate discrimination factor of each item out of 37 , T –test used to two independent samples by (SPSS),T-test value = 2-013 degree of

freedom =46 level of significance =0.05=1. It is shown that T-test ranges between(1610 -4.94) compared with T table values (2.013) when degrees of freedom (46) and level of significance (0.05). All items stay as they are , which numbered (37) item because of its discriminate significance (149 :1)

Second : Internal consistency coefficient : The value of this result was extracted by using Pearson correlation coefficient between each item and total score of scale to all individuals sample numbered (90) by using (SPSS)

,so the T- table ==0.20 degree of freedom =88 the level of significance =0.05

It is shown that correlation coefficients ranges between (0656 -0.169) , when compared with random value of correlation coefficient to all items (37) for statistic value.

9-1-4-3Psychometric properties of the scale:

Building the scale requires essential and significant conditions to ensure the scientific way to build it. Steadiness and honesty are considered important conditions to that scale .

1-1-9-1-4-3 scale validity : The researcher depends on two types of reliability to make sure of her scale validity as following :-

2-1-9-1-4-3 content validity :- Content validity accomplished when leading behaviour scale presented to a group of experts and specialists in

psychology , sport psychology and scouting education to approve essential components validity , its item validity , whether those items fit to measure to adjust , blend and move some items.

2-1-9-1-4-3 Construct validity : It is defined that range that is used to know test performance . the researcher uses the following ways to achieve Construct validity. (258:2)

First :Terminal group: The item ability to discriminate between sixers who have leading merit and those who do not is considered as a indicator to construct reliability. It is made sure of that in this scale when the discriminatory power was calculated to items by terminal group and using T –test.

Secondly : Internal consistency :

That can be achieved the measured thing includes an other branches tests and summing all these tests gives test grade .

2-9-1-4-3 Reliably :It is considered of the essential concepts, it have to be present in scales to be usable .

1-2-9-1-4-3 Split –half method

This method is characterized of time and effort sparing , where it requires one test . It is the most common method in educational and psychological test to find reliability and to achieve this method the items were divided to odd and even ones.

2-2-9-1-4-3 Cronbach Alpha

It is considered as the most common reliability scale and most suitable to scales .It depends on relating items each other and relates each item with the scale as a whole . Where the interrelation between items identifies Alpha .for calculating reliability with Cronbach Alpha , (SPSS) has been applied to the (90) individuals of research sample for that purpose. It show that Reliability is (0.85). When the researcher has finalized the scale , she applies it upon application sample composed of (600 sixers and their assistants in I scouting camp held in Al Najaf Province dates back in 12 /8 /2012 at 10 :a.m . The time ranged from 10 – 20 minute . so it has to transform raw score to standard score to reach standards (18:3).

3-2-9-1-4-3 Standard levels of sixers and their assistants' leading behaviour scale :

To identify those levels , the researcher selects five levels of leading behaviour scale and for transforming raw score to standard score to get Z-score .

Chapter 4:

Display , analyze and discuss the results .

1-4 the statistical estimates of sixers' and their assistants . The statistical estimates of application sample of 60 sixers and their assistants. individuals

Table (4) shows statistical description of research sample results

Variables	mean	Standard deviation	Skewness	Kurtosis	Lowest value	Highest value
Leading behaviour	149.9	18.24	-0.353	-0.656	109	181

Table 4 shows that mean of leading behaviour scale was (149.9) ,standard deviation was (18 .24) Skewness was (-0.353) . That means research sample individuals was presented normally , so it means that leading behaviour scale of inner structure concerning sixers and their assistants was correct .

2-4 Display , analyze and discuss leading behaviour level of sixers and their assistants.

After the completion of leading behaviour scale application of sixers and their assistants which includes 37 items and applied to 60 sixers and their assistants . When the researcher has finished the survey forms .the researcher obtained the following results after conducting arithmetic processes :

Table (5)

Variables	Mean	Standard deviation	MEAN	T –test		Level
				Resulted	Table value	
Leading behaviour scale	149.9	18.24	111	13.99	2	Significance

Table (6) shows leading behaviour level ,range , replication , mean , standard deviation

Levels	Range	Replication	Mean	Standard deviation
Weak	112 – 95	2	149.9	18.24
accepted	130 – 113	3		
Medium	148 – 131	17		
Good	166 – 149	18		
Very good	184 – 167	3		

The researcher tries to know the leading behaviour levels , range , replication of the research sample within the level and range they are in, to know its results . The table 3 shows that mean was (149.9),deviation (18 .24) , replication of weak level was 2 , the accepted level was (3), the medium level was17 , the good level was 18 , very good level was 3 .

The researcher thinks that generalize the democratic patron among sixers reflect the correct direction that scouting and leading process in scouting community which it is a part of Iraqi community heading toward democratic approach in administrating all institutes, prioritizes humanity relations , believes in partnership principle in decision making and contrives to reduce strict centralization through granting more jurisdictions to individuals .

Chapter Five

Conclusions & Recommendations

5-1Conclusions :

1- The current scale is considered as a tool for knowing the leading behaviour level of sixers and their assistants.

2- The research sample has included five levels of that scale , where it shows that the highest level was (very good) then (good) , (medium) (accepted) (weak)

3-The research sample shows that the result of leading behaviour level of sixers and their assistants was medium

5-2 Recommendations

1- Use the scale presented by the researcher as a scale to know the leading behaviour level.

2-Conducting similar studies for knowing the relation between The leading behaviour and the participating scout camp teams results.

3. Conducting similar studies for knowing social cohesion level and its relation with the participating scout teams in camps.

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Appendix (1) The final form of leading behaviour scale

N O	Item	alway s	often	sometim es	Little	Rar e
1	Encourages girl flower on conducting their works quickly and in a good way					
2	Helps girl flowers in solving their private problems.					
3	Calms the situation down when struggle occurs among girl flower.					
4	.Tries new thoughts with girl flowers					
5	.organizes relationships among girl flowers to ensure stability in their work in camp					
6	Always dedicates her time on providing awareness and advices to them in camp.					
7	Helps girl flowers in solving their private problems.					
8	Lets girl flower participate in selecting of what they have to do					
9	Considerate of girl flowers' abilities during they conduct their work					
10	Allocate an adequate listening time to girl flowers and to their proposals					
11	Contributes in					
12	Works on spreading cooperation spirits among girl flowers					
13	Encourages information sharing related to scouting camp.					
14	Makes sure that girl flower present their optimum energy in scouting work.					
15	Inconsiderate to girl flowers' opinions in taking decisions					
16	Holds her views ,considers view exchanging is time waste					

17	Doesn't convince of any excuse or cause when sixers lose in camp					
18	Puts a new way to face girl flowers in camp					
19	Her responsibility confined only on obtaining good results of sixers					
20	Holds girl flower responsible when sixer defeated					
21	Follows scouting work standards					
22	Determines her girl flower colleges regardless relationship among them					
23	Considerate to girl flowers' feelings					
24	Allows no discussions and talks at scouting work.					
25	Prefers dealing with girl flowers strongly and strictly					
26	Does not train sixers on new plans and ways					
27	Does not listen to girl flowers' new views and thoughts					
28	Cares only in relaying camp administration 's decisions					
29	Cares to achieve extinguished results to ensure camp administration 's approval					
30	Tries to find justifications when sixers loses					
31	Sociable with all girl flowers					
32	Changes her views to cope with girl flowers'					
33	Not inclined to be strict with girl flowers who don't work hard					
34	Having girl flowers participate in decisions making					
35	Punctual in meetings					
36	Tries to prevent any problems happen among girl flowers					
37	Pay no attention to administration's approval or dis approval to sixer's results					

Effect of Staircase Training Programme on Physical Fitness Variables of Men Hockey Players

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ABSTRACT

The purpose of this study was to find out the effect of staircase training programme on physical fitness variables of men hockey players. 40 college level hockey players were selected from Perunthalaivar Kamarajar Govt. Arts College, Puducherry. Their age group ranged from 18 to 25. They were divided into two equal groups at a random basis, in which Group I named as experimental group and Group II named as control group. The following variables are used speed- 50 meter dash, Agility -4 x 10 yards Shuttle Run, Endurance - 600 yards. Flexibility- sits and reach test. The initial and final tests were conducted on the above variables for both experimental and control groups. No treatment was given to control group whereas experimental group were given staircase training for 6 weeks. After 6 weeks of treatment the post test was conducted again for both groups. The 't' ratio was used to find out the difference between two groups. It was concluded that there is a significant improvement on physical fitness variables namely Speed, Agility, Endurance and flexibility due to 6 weeks of staircase training.

Keywords: Speed, Agility, Endurance and Flexibility.

INTRODUCTION

Hockey is a game for men and women played in a rectangular field of 100yards by 60yards. It is usually played between two teams of 11 players on each side, with 5 forwards, 3 half backs, 2 full backs and 1 Goal keeper.

The game hockey demands different types of skill ability. The skills are tapping, dribbling, rolling, pushing, hitting, scooping, etc. Among these skills dribbling and pushing are the most important skills. According to Whitakar in every tactical move in hockey one depends on team work and the individual skills. Tactics will succeed only through mastery on individual fundamental skills and with players thinking as a team.

A good hockey player must have the following qualities. He must have the technical ability to perform various skills that the game hockey requires. These include scooping, passing, pushing, lifting and dribbling with precision, accuracy and confidence. Perfection in pushing, hitting, scooping and dribbling is most important for all good players irrespective of the position they play except the goal keeper.

Hodson says that "to play hockey well it also calls for intelligence, keen eyes, powerful wrists, physical fitness and the speed of mind and body. This shows the game hockey is of great skills, concentration of the ball and body control and determination. Ability to execute all strokes with real skill and necessary speed are the essential qualities for the top players.

Goel says that "the most important thing for victory in hockey is ball control. The team which has better ball control invariably carries the day. The first thing of course is to gain the possession of the ball. The timing of its release is equally important. Every spilt of a second counts with accurate and sure aim as soon as a goal is expected to be scored.

METHOD

The purpose of this study was to find out the effect of staircase training programme on physical fitness variables of men hockey players. 40 college level hockey players were selected from Perunthalaivar Kamarajar Govt. Arts College, Puducherry. Their age group ranged from 18 to 25. They were divided into two equal groups at a random basis, in which Group I named as experimental

group and Group II named as control group. The following variables are used speed- 50 meter dash, Agility -4 x 10 yards Shuttle Run, Endurance - 600 yards. Flexibility- sits and reach test. The initial and final tests were conducted on the above variables for both experimental and control groups. No treatment was given to control group whereas experimental group were given staircase training for 6 weeks. After 6 weeks of treatment the post test was conducted again for both groups. The 't' ratio was used to find out the difference between two groups.

RESULTS

Table 1, Computation of mean between pre and post test on experimental group and control group on men hockey players

Groups	Variables	Pre test mean \pm SD	Post test mean \pm SD	M. D	't'-ratio
Experimental Group	Speed	7.22 \pm .50	7.02 \pm .40	0.20	4.10*
	Agility	11.24 \pm 35	10.91 \pm .36	0.33	3.80*
	Endurance	66.02 \pm 14.21	69.04 \pm 14.93	3.02	5.23*
	Flexibility	8.80 \pm 3.10	10.15 \pm 3.32	1.35	5.54*
Control Group	Speed	7.33 \pm .44	7.32 \pm .45	0.01	0.20
	Agility	11.37 \pm .38	11.28 \pm .42	0.09	1.78
	Endurance	67.49 \pm 14.85	67.65 \pm 14.71	0.16	0.17
	Flexibility	7.85 \pm 2.49	7.90 \pm 2.83	0.20	0.33

*Significant at 0.05 level

The table I reveals that the t-value was 4.10, 3.80, 5.23 and 5.54 to be significant at 0.05 level of significance for the df 19, the obtained t-value (2.09) was found to be higher than the table value, it was concluded that the mean difference between the pre and post test on experimental group of Speed, agility, endurance and flexibility was statistically significant.

The table 1 reveals that the t-value was 0.20, 1.78, 0.17 and 0.33 to be significant at 0.05 level of significance for the df 19, the obtained t-value (2.09) was found to be lesser than the table value, it was concluded that the mean difference between the pre and post test on control group of Speed, agility, endurance and flexibility was statistically insignificant.

CONCLUSION

It was concluded that there is a significant improvement on physical fitness variables namely Speed, Agility, Endurance and flexibility due to 6 weeks of staircase training. (Barry T. Bater 1972) conducted a research for relationship between distance and agility performances

on the second trait were significant agility test must be administered more than once to achieve reliable results.

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A Framework proposed for TQM in the Faculties of Physical Education in the Hashemite Kingdom OF Jordan

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Content

What is the overall quality

- Methods of Total Quality Management in Education
- Requirements for the application of TQM in higher education
- practical steps to implement TQM in education and the accompanying changes?

Review of related literature

The experiences of some countries in the application of the principles of Total Quality Management in Education

The Hashemite Kingdom of Jordan

Axes Quality Control

Extent of application of quality management to colleges of Physical Education in Jordan.

TQM

INTRODUCTION

What is the overall quality TQM?

Is a unique management style capable of meeting the challenges and developments surrounding and able to achieve the desired objectives of the educational process as well as improving learning outcomes?

Or is to review the comprehensive national in the face of great challenges and developments facing the education system and the importance of development and modernization in management learning and solving problems facing the educational process, administrative, and that lead to achieving the objectives of the learning process in order to develop, modernize management, improve education and modernization of its output.

In the Arab Human Development Report (2002) and under the heading "quality education", which referred to the adoption of modern administrative system and comprehensive learning in order to:

1. Raising the level of education.
- 2 - Creation of a comprehensive change.
- 3 - Continuous development.
- 4 - To improve learning outcomes.

Where the report pointed out that there is abundant evidence of decreased internal efficiencies of higher education in the Arab world and the report also showed a high rate of repetition and consequently lead to stay for long periods in the early education and thus wasting time, money and effort.

The report also noted that there is a crisis in education in the Arab world and this raised a lot of scientists not to provide the requirements of the development of Arab societies.

The Benefits of implementing TQM in education in the Jordanian university are

- to Control and develop the administrative system and to raise the level of students in all aspects of cognitive, psychomotor and affective domain and also to raise the level of competencies and performance of faculty members.

Methods of Total Quality Management in Education

- 1 - To prepare students qualifications and skills make them able to Experience the wealth of information and rapid scientific progress in the field of science and technology.
- 2 - The ability of students to deal with information efficiently and effectively and this requires from the Ministry of Education in the Arab world a major shift in the role of these educational institutions (faculty and administrators).

Through the review of the above:

Find that TQM is a whole thought and philosophy of management based on customer satisfaction and achieve their desires and requirements from the output provided by the perfect (the Ministry), (University), (school), and the development of TQM in any university.

The researcher has analyzed the views of the concept of TQM in the educational field, the researcher has been through these views, which illustrate the concept of total quality.

- a. Achieve the highest level of efficiency at the lowest possible effort
- b. Focus on the requirements of the beneficiary of the overall service quality
- c. Effectiveness and quality of inputs and the educational system
- d. The effectiveness and quality of the outputs of the educational system
- e. Comprehensive quality of all elements of the educational process
- f. Decision-making in the light of what is available from the facts

One of the goals of Total Quality Management as follows

1. Control and development of the university administrative system as a result of characterization of the roles and responsibilities of each individual in the university system, and according to its capabilities and level.
2. Raise the level of student academic, social and psychological as major outputs of the university system.
3. Improve efficiencies professors, academics and raise the level of performance for all managers through ongoing training.
4. Management structure of the University a manner that facilitates the learning process away from the bureaucracy and allow participation in educational decision-making.

Regulations necessary for the application of quality management in education

This process consists of four overlapping systems from the entrance to the theory of systems (System Approach) as seen by the world Trebeos Tribus, (1996).

1. System methods and tools for teaching: (techniques and tools): of the learning process and the acquisition of knowledge as using methods and techniques of different education.
2. The social system: a place to accomplish this work (learning process).
3. Management system: working to enact laws and regulations, and policies of the work.
4. Education system: It contains the three previous systems inside and dealing with the education. Both of AL-Aswad-and-Fazzani (2005) and others (2005) that such a system include inputs and outputs of education and contains the following resources.

Requirements of the application of TQM in education

The select each of the Aghily (2002) and Mr. Zuhairi (2001) except that these requirements are as follows:

- 1 - Support and endorsement of senior management of the Comprehensive quality management system.
- 2 - Establishing a culture of TQM among all individuals as one of the key steps in the adoption of TQM.
- 3 - Development of human resources as members of the faculty and administrators, academics and development and modernization of curricula.
- 4 - Education and ongoing training for all individuals based on the Educational process.
- 5 - Identifying the needs of internal customers (students and employees) And outsiders (elements of the community), and the placement of these requirements for performance measurement standards and quality.

Practical steps for the application of TQM in education and changes associated with

Total Quality Management to include the application of this policy Practical steps for the application of TQM in education and changes associated with

, the following steps:

1. Management Meeting, members of the teaching institution to determine the purpose and objective of the school or college or institute, and when you clearly identify the purpose in which all can work and creativity in order to achieve this purpose.
2. By the Department and faculty members have achieved their goals in addition to the objectives of the students.
3. By the Department and faculty members and students to develop policies for how education it goes, and to identify the responsibility of each of the three parties mentioned (schools, colleges and institute)
4. By the Department and faculty members to prepare an inventory of competencies as a way to identify the components of education that can be provided by the educational institution.
5. On any subject of education must be a constant review and evaluate.

Review of Related literature

1. A study by Barkan (2000) aimed to identify the (TQM) in Yaman, in Hadramawt university, the results showed that, it is possible to implement the (TQM) in the university administrative also, results showed lake of knowledge among the faculties staff using (TQM) .
2. Helaly study (1998), used a model that can be used in the college of education of Almansoura University, in Egypt to be implemented, results showed that, it is possible to use and implement this vision in the college of education at Almansoura University.
3. Derbas (1994) study, in New Town, U.S.A, used a model for the quality assurance system to be used in Saudi Arabia University, results showed that it is possible to use this model he offered in the sectors in higher Education, and recommended to establish a department to be considered in the quality assurance system.
4. Couch (1999) study a measurement (TQM) in selected North Carolina College in USA, the results showed that, there is a lots of benefits using and implementing the (TQM) among faculties in North Carolina universities, and these regulations are very necessary for the application of quality management in education.
5. Patrick (1997), The accreditation process and definitions of quality (postsecondary education, higher education), in U.S.A, results of this study showed the (TQM) system is considered to be one of the best way to accredited and to inspect and reliability to achieve the (TQM) in higher education.
6. Al Hijaa (2006) study aimed at identifying the (TQM) in faculties of physical education in the Jordan universities, results showed moderate degree of applying (TQM) in the colleges in physical education in Jordanian universities, Al Hijaa recommended that physical education in Jordanian university must a adopt a strategy to be implemented of (TQM) to meet market needs.
7. Deiry (2009) has proposed a research Readiness Degree of Physical Education Colleges to meet the expected needs of 21st century in light of Total Quality Management through ISO standards.

The aim of this study was identify the readiness degree at the colleges of Physical Education in Jordan through **ISO** standards within the domain of Total Quality Management. Two instruments were developed, one measured the application of these standards embedded in three sub domains (quality of teaching, scientific research and community service), the other one measured the readiness degree of the same

standards from faculty members and Graduate students point of view. A restricted sample consisted of (181) from faculty member and graduate degree (Yarmouk University., Jordan University. Hashemite University, & Mutta University.). The results indicated that the ratings of all standards in the three sub domains were average, beside that there were no significant differences between the ratings at ($\alpha, .05$) between the two groups which revealed the readiness of these Universities in tackling the 21st challenges which it faced.

The experiences of some countries in the application of the principles of TQM in Education

The United States and the United Kingdom of the leading countries in the application of this area, with the following summary of the experience of each of them:

In the opinion of the American philosophy that the application of TQM in American universities is directly related to reliability (Reliability), and the calculation errors, and the exact timing of service delivery, and the ability to satisfy the needs and expectations of students, It is called the philosophy of the basics of quality education, and included the following:

1. Adopting the philosophy of total quality as the teaching is in a competitive environment and high educational systems to meet the challenges to be able to compete in the global economy will teach students new skills to support the comprehensive quality system .
2. to improve student performance and educational services as the goal is to compete
3. To provide faculty and administrators with the sophisticated equipment to improve the educational process.
4. To Develop a culture of quality within educational institutions.
5. Find alternative solutions that contribute to the process of improving quality.

The United States system of accreditation (Accreditation) in higher education which aims at evaluating the quality to determine the extent to which the educational institution of quality standards developed or to enhance the quality assistance of the institution or program to continue to improve itself, and to define the strengths and weaknesses.

- a. Have the material
- b. human resources and financial resources needed to accomplish these goals.
- c. In fact it continues to achieve these goals.

Have sufficient evidence to support the continued reliance inspiring in achieving its objectives over a limited period of time (Brqaan, 2001) (Hilali, 1998).

The Hashemite Kingdom of Jordan

The series (ISO, 9001) the first steps to build a comprehensive quality management in Jordan, where it began service institutions in Jordan to take note of the importance of quality in order to survive, and continue to the challenges facing the educational system and economies of the world due to competition between the countries of the world and along the access management system TQM.

Jordan is part of an Arab region, which is still the enterprise systems at the beginning stages in terms of audit and quality control, thus affecting the competitiveness between the countries of the world. When this curve began to go to the adoption of this philosophy through a

national program for comprehensive quality management in Jordan. This program was initiated in accordance with the following methodology:

1. To employ specialists with expertise in quality management systems Provider in Jordan to develop training programs
2. Try to provide as much as possible from the literature which addressed the issue of total quality management and accounting.

Define from the priorities of the institutions covered by this project was implemented in three phases

Phase I: Preparation of an awareness program on the subject of the ISO.

Phase II: work on finding authoritative national bodies and the adoption of the ISO certificates.

Phase III: under which work on the development of enterprises of all Sectors, including the education sector to be transferred to the stage of quality management system Overall(Abbasi, 2004) Wiscansin-Madison (1995),Harvard (2005),Cornosky(1995) most of these university have been used a modes to improve the quality at education of education according the to there needs.

Axes quality control in the educational institutions

1. Quality of faculty member.
2. The quality of the student.
3. The quality of educational programs and teaching methods.
4. The quality of educational buildings, rooms and equipment
5. Quality of management education, legislation and regulations
6. Quality of the textbook
7. Quality of the assessment of educational performance
8. The quality of university funding:

The researcher proposed to apply the following dimensions of TQM to colleges of Physical Education in Jordan according to this previous research

The first dimension: awareness of Total Quality Management.

The second dimension: the administrative order.

The third dimension: the social system.

The fourth dimension: the educational system.

Fifth dimension: the technical system.

Dimension VI: The system service.

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Effects of a 6-month football intervention program on bone mass and physical fitness in overweight children

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ABSTRACT

Introduction: Physical activity is an important medium for improving bone mass and physical fitness of children, and as such is often emphasized in intervention programs with overweight/obesity children. Only few studies have examined the impact of a specific team sport intervention on the bone mass and physical fitness in overweight children. This study examined the effects of a 6-month football intervention program in bone mass and physical fitness of overweight children. **Methods:** Nine boys (8-12 years; body mass index \geq 85th percentile) participated in a structured 6-month football program, consisting of four weekly 60-90 min sessions with mean heart rate $>$ 80%HRmax [football group (FG)]. A control group (CG) included eight boys of equivalent age from an obesity clinic located in the same area as the school. Both groups participated in two sessions of 45-90min physical education per week at school. Bone mass indicators included whole-body and lumbar spine bone mineral density (BMD) and bone mineral content (BMC). Physical fitness tests included 5- and 30-m sprints, countermovement jump (CMJ), and Yo-Yo intermittent endurance test level 1 (Yo-Yo IE1). Body composition was evaluated using dual-energy X-ray absorptiometry. Statistical procedures included unpaired *t* tests and repeated measures ANOVA models. **Results and discussion:** From baseline to after 6 months, FG demonstrated greater increases in lumbar spine BMD ($\% \Delta = +4.3$, $p < 0.05$) and CMJ ($\% \Delta = +28.9$; $p < 0.05$) compared to CG. For the other bone and physical fitness variables assessed, although FG has shown a higher increase in mean values across intervention, no significant differences were found between groups ($p > 0.05$). **Conclusions:** These findings suggest that a 6-month football intervention program in overweight children was effective on improving lumbar-spine BMD and muscle strength.

Keywords: overweight children, football intervention, bone mass, physical fitness

INTRODUCTION

Childhood obesity has reached epidemic proportions and has become a major public health concern (World Health Organization, 2013). The increasing prevalence of childhood obesity is associated with a range of adverse health effects, including increased incidence of type 2 diabetes and elevated risk of cardiovascular disease (Dietz, 2004). Although the physiological health consequences of childhood overweight and obesity are well established, bone health consequences associated with obesity are considered less often (Park et al., 2012)

Physical activity (PA) is accepted as an effective treatment for childhood overweight and obesity and associated comorbidities. Football is one of the most popular, affordable, and widely practiced team-sports worldwide and has been recently suggested as a very effective strategy to stimulate musculoskeletal, metabolic and cardiovascular adaptations of importance for adult health (Krustrup et al., 2010). Football practice is associated with relatively high energy expenditure and involves high impact activities which stimulate the muscular-skeletal system. The efficacy of a recreational football program on health and fitness of overweight children has been recently investigated (Seabra et al., 2014; Faude et al., 2010; Weintraub et al., 2008). While no detailed about the effects of a recreational football program on bone mass and physical fitness were assessed, this novel data suggested that football has a high positive effect in weight control. Given this novelty, we believe that football being a highly popular sport, socially and culturally meaningful and accessible to all social strata has an increased potential to operate as an effective “tool” to improve bone mass and physical fitness.

Thus, the present study examined the effects of a 6-month football intervention program on bone mass and physical fitness of overweight children.

Material and methods

Participants

The football group (FG) consisted of 9 overweight boys recruited from a single school in the Porto district, Portugal, whereas a control group (CG) of 8 overweight boys of equivalent age followed at an outpatient hospital obesity clinic in the same area as the school that did not engage in formal sport activities during the study period. Eligibility for recruitment and participation in this study required children to be 8–12 years old and to have BMI \geq 85th percentile for age and gender (CDC/NDHS, 2000). Children using medication or with diagnosed medical conditions that would limit their ability to perform activities were excluded. Children who participated in a structured exercise, nutrition, and/or weight loss program for at least 1 year prior to the study were also excluded. The study was approved by the ethics committee of the Faculty of Sport of the University of Porto and by school and hospital authorities.

Intervention

The football intervention program occurred during 6 months, between January and June 2014. Training sessions were administered at school, after school time (16.00-17.30), 4 days per week, for 60-90 min. Practices consisted on warm-up (10–20 min), different technical exercises and small-sided games (40-60 min), and cool-down (10 min). Training intensity was monitored with heart rate monitors (Polar Team² Pro, Polar, Finland). Exercises and games were progressively intensified as individually tolerated. Members of the research team conducted all training sessions.

Measures

Anthropometric measures

Height and sitting height was measured with a fixed stadiometer (Holtain Ltd.) and body mass was estimated with a body fat monitor (Tanita, BC-418MA). Body mass index (BMI) was calculated using the standard formula: body mass (kg)/height² (m).

Bone measures

Whole BMC (g) and BMD (g/cm²), as well as body fat percentage and lean body mass were determined by dual-energy X-ray absorptiometry (DXA; Hologic QDR 4500A). The equipment was calibrated

according to the manufactures instruction; well-trained technician performed the exams. Children were scanned in supine position and the scans were performed in high resolution. BMC and BMD were measured for the whole body and the lumbar spine (L1–L4) using standard protocols, and the dominant and non-dominant lower limb using a region of interest program. The same investigator analyzed all total body scans. The principles behind body composition analyses with DXA are explained elsewhere (Kelly et al., 1998).

Physical fitness measures

Speed was evaluated with a 15-m sprint test. Elapsed times were measured using 3 pairs of photoelectric cells (Speed Trap II, Brower Timing Systems), positioned at the starting line and at 5 and 15 m. Players were instructed to run as fast as possible from a standing position 30 cm behind the starting line. Jumping height was evaluated with a countermovement jump (CMJ) on a special mat (Digitime 1000, Digitest), following the protocol of Bosco et al. (1983). The Yo-Yo intermittent endurance test - level 1 (Yo-Yo IE1) required repeated 2x20-m runs (shuttles) between the start and finish line at progressively increased speeds controlled by audio bleeps from a tape-recorder; there was a 5-s period of rest between runs (Bangsbo, 1994).

Biological maturity status/Physical activity/Dietary intake

Maturity offset, that is, time before or after PHV, was predicted with the equation of Mirwald et al. (2002). Daily PA was assessed at baseline using GT1M accelerometers (Actigraph). All participants provided 5 consecutive days of accelerometer data with ≥ 500 min of valid data per day. Dietary intake was completed by parents and comprised a 3-day dietary record that included 2 weekdays and 1 weekend day. Nutrient analysis was performed using the software Food Processor SQL (ESHA Research Inc., USA).

Reliability

In a pilot study, in-field reliabilities of all variables were estimated using a test-retest procedure with a random sub-sample of 10 children. Technical errors of measurement for anthropometry were 0.24cm for height, and 0.17kg for weight. Interclass correlation coefficients were 0.97 for 5- and 30-m sprints; 0.89 for CMJ. A replicate test was not given for the Yo-Yo IE2.

Data analyses

Descriptive statistics (means and standard deviations) were calculated for the two groups at the start and conclusion of the study. None of the bone and physical fitness variables showed significant deviations from a normal distribution (Shapiro-Wilk test). Baseline differences in mean bone mass and physical fitness variables between FG and CG were tested with unpaired sample t-tests. Intervention effects were examined by repeated measures ANOVA. For each of the bone and physical fitness variables, change scores were calculated as the difference between baseline and 6-month values; the difference was then divided by the initial value to estimate percentage of relative change. Significance level in all analyses was set at 0.05. Statistical analyses were conducted using SPSS version 21.0.

Results

Characteristics of the study sample at baseline are shown in Table 1. No significant differences between FG and CG were noted in physical, bone and physical fitness characteristics at baseline ($p > 0.05$).

Table 1. Means (standard deviations) for baseline physical, bone mass and physical fitness variables in the football and control groups, and p values for differences between groups.

Characteristics	Football group	Controlgroup	p-value
Physical			
Age (years)	10.67 (1.80)	9.50 (1.69)	0.191
Height (cm)	1.50 (0.09)	1.41 (0.12)	0.086
Weight (kg)	52.48 (12.82)	50.60 (10.92)	0.751
BMI (kg/m ²)	22.94 (3.20)	25.32 (2.32)	0.103
Maturity offset (years)	-0.65 (1.18)	-1.32 (1.12)	0.331
MVPA (min/day)	117 (60)	107 (47)	0.735
Energy intake (kcal/d)	1708 (354)	1631 (428)	0.741
Bone			
BMD (g/cm ²)			
Whole-body	0.89 (0.06)	0.86 (0.06)	0.382
Lumbar spine	0.67 (0.07)	0.71 (0.09)	0.286
BMC (g)			
Whole-body	1412.18 (258.93)	1228.46 (272.78)	0.175
Lumbar spine	30.24 (4.29)	28.55 (5.89)	0.505
Physical Fitness			
YY-IE1 (m)	569 (249)	360 (98)	0.056
CMJ (cm)	19.09 (3.19)	21.01 (4.95)	0.361
5-m sprint (sec)	1.45 (0.11)	1.57 (0.12)	0.054
15-m sprint (sec)	3.84 (1.26)	3.76 (0.25)	0.595

Abbreviations: BMI, body mass index; MVPA, moderate-to-vigorous intensity PA.

Table 2 shows the results of the repeated measures ANOVA models for bone and physical fitness variables. For the bone variables, a significant main effect for time was found. Both groups had significantly higher BMD and BMC in the whole-body and lumbar spine after the intervention ($p < 0.05$). However, a significant intervention by group interaction effect for lumbar spine BMD was observed; mean values increase across intervention in FG, but tended to be more constant in CG. FG also presented higher values in Yo-Yo IE1 ($p = 0.035$) and were faster in 5-m sprint ($p = 0.014$) than CG. After 6 months, both groups increased in Yo-Yo IE1 ($p = 0.009$), CMJ ($p = 0.006$) and 5-m sprint ($p = 0.028$) performances, although increments were more pronounced in FG. A significant intervention by group interaction effect

was evident only for CMJ; CMJ improved with the football intervention, while remained rather constant in CG.

Table 2. Changes in bone and physical fitness variables between baseline and after 6 months in the football and control groups.

Football group			Controlgroup			Repeatedanalysisofvariance			
Baseline	Post	% Change ^a	Baseline	Post	% Change ^a	I	G	I*G	
BMD									
Whole-body	0.89 (0.06)	0.91 (0.06)	2.2	0.86 (0.06)	0.88 (0.06)	2.3	<0.001	0.317	0.274
Lumbar spine	0.67 (0.07)	0.70 (0.08)	4.3	0.71 (0.09)	0.71 (0.09)	0	0.003	0.504	0.004
BMC									
Whole- body	1412.18 (258.93)	1507.74 (284.02)	6.3	1228.46 (272.78)	1305.40 (317.71)	5.9	<0.001	0.180	0.458
Lumbar spine	30.24 (4.29)	32.65 (5.44)	7.4	28.55 (5.89)	29.65 (6.17)	3.7	<0.001	0.387	0.058
Physical fitness									
Yo-Yo IE1 (m)	569 (249)	711 (319)	20	360 (98)	400 (129)	10	0.009	0.035	0.113
CMJ (cm)	19.09 (3.19)	26.83 (4.42)	28.9	21.01 (4.95)	21.14 (2.87)	0.6	0.006	0.285	0.007
5-m Sprint (sec)	1.45 (0.11)	1.35 (0.14)	-7.4	1.57 (0.12)	1.53 (0.13)	-2.6	0.028	0.014	0.261
15-m Sprint (sec)	3.84 (1.26)	3.30 (0.21)	-16.4	3.76 (0.25)	3.67 (0.26)	-2.5	0.208	0.595	0.369

^aDifferences between baseline and after 6 months values then dividing each result by its initial value; I: Intervention; G: Group

DISCUSSION

The major finding of the presented study was that the 6-month football intervention (60-90 min. 4 times/week) resulted in beneficial changes in bone mass indicators among overweight children. Participants in the football intervention experienced significantly greater increments in lumbar spine BMD and BMC (4.3% and 7.4%, respectively) than in whole-body measurements. The results were consistent with other studies that highlighted the importance of PA in enhancing bone mass among overweight and obese children (Alwis et al., 2008; Lofgren et al., 2011; McGuigan et al., 2009). The findings thus suggested that football participation is an effective short-term strategy to promote bone accrual in overweight/obese children (8–12 years old).

The football intervention program had even greater effects in physical fitness. Over the 6-month intervention period, the football participants showed greater improvements in Yo-Yo IE1 (20.0%), CMJ (28.9%), 5-m (-7.4%) and 15-m sprint (-16.4%) performances. The positive effect of a PA program in physical fitness was also reported in previous studies (McGuigan et al., 2009; Meyer et al., 2011; Azeem and Varghese, 2015). Another study (Sgro et al., 2009) assessed muscular strength using the squat jump test and found a significant group-by-time interaction after a 24-week training program; after 16 weeks the same group had improvements over 10%. However, the findings from previous football intervention studies have reported no significant changes in BMI (0.2-0.6 kg/m²; 0.8%-1.9%) in overweight children,

suggesting that the increases in weight and height were due to normal growth over the intervention period (Faude et al., 2010; Weintraub et al., 2008).

The findings of the present study should be interpreted in the context of several limitations. First, children were not randomly assigned to FG and CG. This was in part by design since it was of interest to assess the feasibility of the football intervention before attempting randomized trials in the future. The absence of randomization introduced a greater theoretical potential for confounding than a randomized controlled trial; however, in the present study both groups were similar in most bone mass and physical fitness variables at baseline. Moreover, several statistical adjustments were attempted in the analyses, which alleviated some of the potential problems. Second, the sample size was rather small, which might have reduced the statistical power for group comparisons and in turn the generalizability of results. Nevertheless, the *post hoc* statistical power tests for detecting bone mass and physical fitness differences between the two groups ranged from 61–92%. Third, neither PA nor dietary intake, outside of the intervention, was formally controlled. It is possible that this may have influenced the ability to detect changes, specifically in body weight and composition. All children, however, were instructed to maintain their normal PA and dietary intake during the intervention.

In summary, a 6-month football intervention program (60–90 min, 4 times/week) can be effectively implemented in school settings; the program was effective in enhancing bone mineral content and density and physical fitness of overweight children. The present findings permit further investigation so that the benefits can be more prominent in long-term outcomes of larger-scale studies. In addition, the findings of this football intervention study are promising and support that educational and public health authorities should be encouraged to develop and adopt effective, viable and economical school-based intervention programs that increase bone health and struggle childhood obesity.

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