A COMPARATIVE STUDY OF COMPETITIVE BEHAVIOUR BETWEEN TRIBAL AND NON TRIBAL MALE ARCHERS
Dr.Yogesh kumar Agrawal*, Dr.Ashish Kumar Diwan**

ABSTRACT
The major objective of the present study is to compare competitive behaviour between tribal and non tribal male archers. To conduct the study, 30 state level tribal male archers (Ave. age 23.24 yrs.) were selected as sample. Another set of 30 state level non-tribal male archers (Ave. age 24.22 yrs. years) were also selected for the present study. Random sampling method was used for selection of subjects. The selection of subjects was done from the State of Chhattisgarh. Competitive behaviour of the selected subjects was assessed by Competitive Behaviour Scale prepared by Yadav (1995). Results reveal that degree of competitive behaviour was found to be significantly higher amongst non tribal male archers as compared to tribal male archers. On the basis of results, it was concluded that competitive behaviour in male archers is influenced by their tribal-non tribal belongingness.

Keywords: Tribal, Non-tribal, Males, Archers, Behaviour.

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INTRODUCTION

Psychological and cortical mechanisms involvement in competition is unique. In competition the persons goals are opposite of his/her opponent (Vonk, 1998). It is pursuit of a goal which is unique (Deutsch, 1949). In domains such as sports only one winner emerged out of competitive event. Competition motivates an athlete to achieve higher goals and enable an athletes to work even hard to achieve more success. From psychological view point, competitiveness or competition includes attitudes, thoughts, feeling and behaviour to achieve desired goals. According to Webster’s dictionary, competition is a contest in skill or knowledge. Competition is same in allied fields whether it is a life situation, work place or a sports event. In sum total competitiveness can be termed as fighting spirit or motivation to overcome challenges put forward by external and internal factors. Competition provides motivation to achieve a goal; to demonstrate determination, creativity and perseverance to overcome challenges; and to understand that hard work and commitment leads to a greater chance of success.

Hence in sporting scenario, competitive behaviour may be described as efforts towards attaining sporting success. It has also been noted by sports psychologists that psychological characteristics of tribal-non tribal belongingness sportspersons differ significantly with each other. In this relation it would be interesting to compare competitive behaviour of Indian male archers because they come in numbers from tribal areas. It is even more important because studies conducted on Indian archers by researchers such as Anand (1976), Dey (1997), Robazza C. et al (1998), Erton H. (2004), Kaoru T. (2007), Irza Hanie Abu Samaha et al. (2015) did not deal competitive behaviour of archers in the light of their tribal-non tribal belongingness.

It was hypothesized that tribal and non-tribal belongingness will influence competitive behaviour of male Indian archers.

METHODOLOGY

Sample :
To conduct the study, 30 state level tribal male archers (Ave. age 23.24 yrs.) were selected as sample. Another set of 30 state level non-tribal male archers (Ave. age 24.22 yrs. years) were also selected for the present study. Random sampling method was used for selection of subjects. The selection of subjects was done from the State of Chhattisgarh.

Tools :
Competitive Behaviour Scale prepared by Yadav (1995) was used to assess competitive behaviour of selected subjects. This scale consists in all 60 statements with 3 alternatives for each statement. It consist of positive as well as negative worded statement. The reliability of this is 0.75 while the validity of this scale is 0.62.

Procedure :
After obtaining prior permission from federation, competitive behaviour scale was administered to selected subjects in a peaceful environment. The response given by the subjects were scored off according to procedure given in the manual. The final data was tabulated in their respective groups.
RESULTS AND DISCUSSION

The competitive behaviour of selected tribal and non tribal male archers was compared with the help of independent sample ‘t’ test. The obtained statistical calculations are presented in table 1.

TABLE 1

<table>
<thead>
<tr>
<th>Respondants</th>
<th>Mean</th>
<th>S.D.</th>
<th>MD</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Tribal Male Archers (N=30)</td>
<td>64.03</td>
<td>6.86</td>
<td>13.83</td>
<td>5.41, p&lt;.01</td>
</tr>
<tr>
<td>Tribal Male Archers (N=30)</td>
<td>50.50</td>
<td>11.85</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 indicates that Competitive behaviour of non tribal male archers was found significantly higher (M=64.03) as compared to tribal male archers (M=50.50). The calculated t=5.41 scientifically proves this fact at .01 level of significance.

DISCUSSION

The result of the present study once again highlight the shortcomings in psychological skills of tribal players because they lack fighting spirit and motivation to excel at highest level and that reflects in low degree of competitively behaviour as compared to tribal archers. Agashe and Karkare (2003) also reported that psychological characteristics of tribal and non tribal players differ significantly with each other.

CONCLUSION

On the basis of results, researchers reached to a conclusion that competitive behaviour in tribal male archers is significantly superior as compared to non tribal archers.

BIBLIOGRAPHY


A COMPARISON OF ANTHROPOMETRIC AND PERFORMANCE VARIABLES OF MALE AND FEMALE BASKETBALL PLAYERS

Dr. R.K.Sharma*

ABSTRACT

The purpose of study was to determine possible anthropometric and performance sex differences in Basketball players. Fifty female and sixty male subjects from Chhattisgarh State Basketball players enrolled in the Basketball training program at the S. A. I. Training Centre Rajnandgaon under day Boarding and Boarding Scheme of Govt. of India volunteered to take part in this study. The mean age of male and female basketball player was 16.02 and 16.21 years respectively. Data were collected on anthropometric measurements i.e. height, weight, body composition during the coaching session 2007-2008. Performance measures included the vertical jump, shuttle run, sprint, and single-limb balance time. We compared anthropometric and performance characteristics using a t-test. The results of the study revealed that male subjects were significantly taller and heavier, while the females had a significantly higher percentage of body fat. Performance testing revealed that the males were able to jump significantly higher and better pro-agility and sprint significantly faster than the female subjects. There was no significant difference between the groups for single-limb balance time.

Key Words: Agility, Flexibility, Body Composition, Performance measures

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INTRODUCTION

Basketball players enjoy immense popularity in all over country. Sports medicine professionals are often asked to comment on the characteristics that contribute to the prevention of injuries and to the overall success of these athletes.

The number of women competing in sports involving physical contact, pivoting, jumping, and sprinting has increased dramatically. Coupled with this growth has been an increased awareness of performance and physiologic characteristics of female basketball players and of the sex differences that exist between them and their male counterparts. Many studies have reported much higher serious knee injury rates in females (Arendt & Dick, 1995., Lindenfeld et.al., 1994)). However, little information has been published regarding sex differences and ankle injuries.

Soft tissue injuries, including ankle ligament injuries, are often overlooked in the research literature. Not only are these injuries the cause of a significant amount of lost playing time for the athlete, but there is also a significant cost to the medical system related to care for and rehabilitation from these injuries. In fact, one study concluded that sprains and strains represent the most frequent type of injury and can account for up to 43% of cases involving work and/or participation loss (Burkett, 1970).

Our purpose was to identify and report anthropometric and performance differences between male and female higher secondary school measure of body composition through the use of skin-fold basketball players. Percentage of body fat was assessed as a caliper measurements. The performance measures were selected to assess overall lower extremity power (vertical jump), agility shuttle run, speed sprint, and proprioception (single-limb balance time). These data will, we hope, provide insight into possible sex-related differences that may help explain injury rates, and perhaps more importantly, predict risk of injury to the ankle.

METHODOLOGY

Sample:

One hundred (Sixty males and Fifty females) from basketball players of higher secondary schools adopted for the basketball training by S. A. I. Training centre, Rajnandgaon, volunteered to take part in this study. Advance consent was obtained from all subjects as well as their parents and coach before the study began. We collected the data at S. A. I. Training centre, Rajnandgaon, during the 2007-2008 basketball coaching season. The mean age of male and female basketball player was 16.02 and 16.21 years respectively.

Administration of Tests and Collection of data:

The anthropometric characteristics were measured by including height, weight, and skin-folds caliper to determine percentage of body fat. The height was measured by using a height measuring stand, weight by standard weighing machine. Skin-fold sites were measured with a Harpendine skin-fold caliper.

Skin-fold sites for males included the triceps, sub-scapularis, and umbilicus. Sites for females included the triceps, suprailliac area, and anterior thigh. Skin-fold thickness was based on the average of 2 trials.

For the functional tests, athletes were asked to perform standard warm-up that consisted of 5 to 10 minutes of stretching and light running. The tests were then administered...
in random order for all subjects. The vertical jump is measured using a wall test. Two trials for flat-footed vertical jump were performed and we recorded the highest jump. Agility was measured by shuttle run having the athlete perform a pro agility run (22.86-m shuttle). Standing at a center line, subjects moved to the right 4.57 meters, touched a line, moved back to the left 9.15 meters to touch a line, and finished by sprinting back to their right for 9.15 meters. Each subject was allowed a single practice attempt before the best of 2 trials was recorded to the nearest hundredth of a second. Speed was measured by 20-yard sprint and time of sprint recorded in seconds. Each subject performed 2 trials, with the fastest time recorded to the nearest hundredth of a second.

The athlete perform a series of single-limb (stork) tests and averaging the scores. Hand-held timers were used to measure the duration of time (± 0.5 s) the subject balanced up to a total of 30 seconds. If athletes lost their balance, the time was recorded when they contacted the ground with the non-weight bearing leg.

RESULTS AND DISCUSSION

To draw the statistical inference from data, the means, and standard deviations were calculated on all variable separately. The anthropometric and performance characteristics were compared between the males and females using t-test. We used a significant level was set at .05 level of confidence. All analyses were performed by using SPSS 16.0 version and data pertaining to this have been presented in Table 1-4.

### TABLE 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Age (Years)</td>
<td>16.02</td>
<td>1.14</td>
</tr>
<tr>
<td>Height (Cm.)</td>
<td>167.18</td>
<td>7.39</td>
</tr>
<tr>
<td>Weight (Kg.)</td>
<td>62.49</td>
<td>8.70</td>
</tr>
<tr>
<td>Body Fat (%)</td>
<td>21.40</td>
<td>4.59</td>
</tr>
</tbody>
</table>

It is clearly evident from Table 1 that male basketball players were found to be taller and heavier than their counter parts. The males also had a lower percentage of body fat in comparison of females.

### TABLE 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sex</th>
<th>Mean</th>
<th>MD</th>
<th>DM</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>Male</td>
<td>183.32</td>
<td>16.14</td>
<td>1.44</td>
<td>11.42*</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>167.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>Male</td>
<td>75.89</td>
<td>13.40</td>
<td>1.98</td>
<td>6.77*</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>62.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Fat</td>
<td>Male</td>
<td>12.93</td>
<td>8.47</td>
<td>0.86</td>
<td>9.84*</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>21.40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant at .05 level, t.05 (108) = 1.98
It is clearly evident from Table 2 that the statistically significant differences was found between male and female basketball players in their height, weight, body fat, as the obtained t-values of 11.42, 6.77, and 9.84 respectively were higher than the required t.05 (108)= 1.98 to be significant.

**TABLE 3**

**DESCRIPTIVE STATISTICS OF PERFORMANCE MEASURES OF MALE AND FEMALE BASKETBALL PLAYERS**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Females</th>
<th></th>
<th></th>
<th>Males</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Single-limb balance time</td>
<td>26.15</td>
<td>5.11</td>
<td></td>
<td>27.09</td>
<td>3.69</td>
<td></td>
</tr>
<tr>
<td>(seconds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical jump (cm)</td>
<td>42.26</td>
<td>5.53</td>
<td></td>
<td>60.01</td>
<td>10.66</td>
<td></td>
</tr>
<tr>
<td>Pro-agility run (seconds)</td>
<td>6.72</td>
<td>0.36</td>
<td></td>
<td>5.77</td>
<td>0.28</td>
<td></td>
</tr>
<tr>
<td>Sprint (seconds)</td>
<td>3.51</td>
<td>0.29</td>
<td></td>
<td>3.19</td>
<td>0.23</td>
<td></td>
</tr>
</tbody>
</table>

It is clearly evident from Table 3 that males were better in single-limb balance, jumped higher, run sprint faster, and executed pro-agility run quicker than their female counterparts.

**TABLE 4**

**SIGNIFICANCE OF DIFFERENCE BETWEEN MEAN SCORES OF MALE AND FEMALE BASKETBALL PLAYERS IN THEIR PERFORMANCE MEASURES**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sex</th>
<th>Mean</th>
<th>MD</th>
<th>DM</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-limb balance time</td>
<td>27.09</td>
<td>26.15</td>
<td>.94</td>
<td>0.87</td>
<td>1.08</td>
</tr>
<tr>
<td>Vertical jump</td>
<td>60.01</td>
<td>42.26</td>
<td>17.75</td>
<td>0.59</td>
<td>11.16*</td>
</tr>
<tr>
<td>Pro-agility run</td>
<td>5.77</td>
<td>6.72</td>
<td>.95</td>
<td>2.02</td>
<td>0.47</td>
</tr>
<tr>
<td>Sprint</td>
<td>3.19</td>
<td>3.51</td>
<td>.32</td>
<td>3.25</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Significant at .05 level

$t.05 (108) = 1.98$

It is clearly evident from Table 4 that the statistically significant differences was found between male and female basketball players in their vertical jump, as the obtained t-value of 11.16 was higher than the required t.05 (108)= 1.98 to be significant. No statistically significant difference between male and female basketball players was noted for single-limb balance time, pro-agility run and sprint run, as the obtained t-values of 1.08, 0.47 and 0.09 respectively were lesser than the required t-value to be significant.

**DISCUSSION**

The literature review on anthropometric and performance measures of basketball players revealed a focus primarily on international and professional athletes. (Arendt & Dick, 1995., Wojtys et.al., 1996). In general, I found that such measures of higher secondary athletic populations have been largely unreported by sport scientists. However, it is generally
accepted that, at all levels, the ability to jump higher, run faster, and demonstrate greater agility are skills that a successful basketball player must possess.

When the male and female basketball players were compared together on body composition by using t-ratio, indicated significantly higher percentage of body fat in females than their male counterparts. This was supported by Clark, Kuta & Oppliger (1992). Male basketball players were also found to be taller and heavier significantly than their counterparts. Sex differences were not observed for all functional measures tested except vertical jump. This was supported Huston and Wojtys (1996).

Such differences could perhaps explain why the females performed significantly worse in our performance testing and illustrate the need for future study to determine if these potential deficits are a risk factor for ankle injury. It may be that female athletes are sustaining injuries to the ankle and other parts of the body at a higher rate as well. Possible reasons that should be investigated include an increase in generalized joint laxity, slower muscle reaction time, less muscle strength, and less muscle endurance.

CONCLUSIONS
1. Male basketball players were found taller and heavier than their counterparts.
2. Females were have higher percentage of body fat than their male counterparts.
3. Sex differences were not observed for all functional measures tested except vertical jump.
4. Similarity was found between male and female basketball players in their functional measures i.e. single-limb balance time, pro-agility run and sprint run.

RECOMMENDATION
Our current study documents and sex differences for various anthropometric and performance measures in basketball players, these data are intended for future use in prospective studies to evaluate if these differences have an effect on ankle injury rates.

Further study of anthropometric and performance measures and their relation to the incidence of ankle injury in higher secondary athletes is necessary to facilitate potential ankle injury prevention and overall performance enhancement.

BIBLIOGRAPHY
EFFECT OF EXTRINSIC MOTIVATION ON FOOTBALL PERFORMANCE
Supriya Shaw *

ABSTRACT
The purpose of this study was to determine the effects of Extrinsic Motivation on Football performance of Adolescent age group. Sixty male students of Boys Secondary School Peth Makhama (West Bengal) were randomly selected as subjects of the present investigation. The age of the students ranged from 13 to 19 years. The subjects were randomly assigned using random sampling procedure in to three equal groups, i.e. two experimental and one control group. The experiment groups were given Extrinsic Motivation. Group 'A' was given reward, group 'B' was given punishment and group 'C served as control group which was not given any motivation. All subjects were participating in the normal, programme of the school. Each subject of the experimental groups and control group were tested at the beginning and at the conclusion of an experimental period of two month to obtain pre test and post test scores. The significant of mean of difference, between the pre test and cost test was analyzed by applying t-ratio and among the group for final means by applying analysis of covariance. Results of the study revealed that significant difference was observed between the initial test and final test means of reward group. But the significant difference was not found between the initial test and final test of punishment group and control Group. Paired Mean difference between the reward group and control group was found statistically significant. But there was no significant between the reward group and punishment group and between the punishment group and control group performance.

Keywords: Punishment, Reward, Motivation, physical Fitness, Performance.

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INTRODUCTION

One of the central issues in modern sports psychology is motivation. An insight into how to construct motivation in sports and physical activity is an important area of interest to sports psychologist and also has practical relevance for coaches, teacher and parents. Motivation is a process by which an individual is guided to do some activity. It is a psychophysiological condition of organism which causes to work or strive to fulfill its need. Thus motivation is the study of some activity of an individual and his persistence in that activity until the goal is reached. This clearly indicates that motivation is purposive.

Motivation is process by which an individual is inspired to undertake a task. It is psychophysiological condition of the organism which causes it to work or strive to fulfill its needs thus motivation is a study of some activity of an individual and persistence in that activity until the goal is reached. This clearly indicated that motivation is purposive.

The concept of motivation is used in explaining the causes as to why some individuals have greater desire to compete and win than others. This is clearly reflected in fact that between two equally skillful individuals, who are challenged by a difficult task. One is more capable of achieving success than the others.

Motivation is a reality but the most difficult problem at hand is how to deal with it, how to instill it, how it is necessary to do so in the interest of life itself. The purpose of this study was to determine the effects of Extrinsic Motivation on Football performance. It was also hypothesized that the reward method would be better in comparison to punishment method in improving the performance.

Chamblee tried to study the influence of reward in the form if verbal argument feedback condition on the acquisition of closed irons physical skill by beginners. The sample consisted of 60 female college voluntaries. The participants were randomly assigned to one of the three feedback groups. Rushall and Fattinger studied the effect of various reinforces used as motivators in swimming where three kinds of reward were constasted as to their effect upon swimming work volume significantly over the coaches attention and control conditions were affected differently by age.

METHODOLOGY

Selection of Subjects:

Sixty male students of adolescent age group age ranging between 15 to 19 years and studying in boys higher secondary school, Madhyam Gram, Kolkata, West Bengal, were randomly selected as subjects of the study. All subjects were randomly assigned to two experimental group (A & B) and one control group (C). Each group consisted of 20 subjects. The experimental treatment was also assigned to the group at random. The group A and B were treated as experimental group and were given motivation i.e. Reward and punishment respectively. The group C served as a control group and was not given any motivation. All subjects were participating in the normal programme of the school.

Criterion Measures:

To find out the effect of extrinsic motivation on performance physical fitness components of West Bengal region students, "AAPHER" youth physical fitness test was selected and their scores from following test were considered as criterion measures for this study.
Experimental Design:
Random group design was adopted for this study as all the subjects were selected randomly and randomly divided into three groups. Further the experiment treatments were assigned at random to the experimental groups and the third group serves, as control group. The experimental groups were motivated by two motivational techniques i.e. Reward and punishment respectively.

Collection of Data:
The data was collected for each variable administrating their respective tests i.e. 600 m run/walk, Sit-ups, Pull-ups, 50 m dash, 4x10 m shuttle run and Standing broad jump. The tests were administered at play ground of boys Baidyabati higher secondary school, Madhyam Gram, Kolkata, West Bengal. To ensure that the data was reliable each subject was given sufficient number of trials to perform the respective test for each variable. The data was collected before the starting of experimental treatment (pre-test) and at the end of training period (post-test). The test was explained to the subjects prior to their administration. The subjects were given chance to practice the tests and made them familiar with

Statistical Technique:
In order to study the effect of Extrinsic motivation on performance of physical fitness components of West Bengal region students, Mean, standard deviation and ‘t’-test was applied and further to find out variance in performance of physical fitness component due to Extrinsic motivation techniques, analysis of covariance was applied to .05 level of significance.

RESULTS AND DISCUSSION
In order to determine the significance of differences if any, made by two experimental groups and a control group between pretest and post-test, mean and t-test for composite score of “AAPHER” youth physical fitness test were computed and data pertaining to this have been presented in Table 1.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>MD</th>
<th>SE</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reward</td>
<td>299.48</td>
<td>332.22</td>
<td>32.74</td>
<td>9.58</td>
<td>3.40*</td>
</tr>
<tr>
<td>Punishment</td>
<td>325.08</td>
<td>329.80</td>
<td>4.72</td>
<td>9.05</td>
<td>.52</td>
</tr>
<tr>
<td>Control</td>
<td>293.72</td>
<td>278.68</td>
<td>15.04</td>
<td>12.08</td>
<td>1.24</td>
</tr>
</tbody>
</table>

*Significant at .05 level, t. 0.5 (19) = 2.09

It is evident from Table1 that the significant difference was found between the pre-test and post -test of reward group, as the obtained t-value of 3.40 was higher than the required value of t.05 (19) +2.09. Significant difference was not observed among the other groups as the values obtained t- values of 0.52 and 1.24 were lesser than the required value to be significant. The pre test and post test means of reward group, punishment group.
In order to find out the significance of difference among the groups on composite scores of "AAPHER" youth fitness test performance, ANOVA was applied. The results pertaining to this are given in Table 2.

**TABLE 2**  
ANALYSIS OF COVARIANCE OF THE MEANS OF TWO EXPERIMENTAL AND ONE CONTROL GROUP COMPOSITE SCORES OF AAPHER YOUTH FITNESS TEST PERFORMANCE

<table>
<thead>
<tr>
<th>Groups</th>
<th>Source of Variance</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Squares</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test mean</td>
<td>Reward Punishment</td>
<td>B W</td>
<td>10076.98</td>
<td>2.57</td>
<td>5038.49 12741.75</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td></td>
<td>238 11052.98</td>
<td>1.65</td>
<td></td>
</tr>
<tr>
<td>Post-test mean</td>
<td>Reward Punishment</td>
<td>B W</td>
<td>36477</td>
<td>2.57</td>
<td>238 11052.98</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td></td>
<td>278.68</td>
<td>2.57</td>
<td>288.18</td>
</tr>
<tr>
<td>Adjusted mean</td>
<td>Reward Punishment</td>
<td>B W</td>
<td>22804.64</td>
<td>2.56</td>
<td>402.32 1760.81</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td></td>
<td>313.28</td>
<td>2.56</td>
<td>288.18</td>
</tr>
</tbody>
</table>

*Significant at .05 level, F.05 (2, 57) =3.15  
It is evident from Table 2 that the significant difference was not found between pre-test mean and post-test mean where as significant difference was found between the as the obtained F-value is 6.47 which is higher than the required F .05 (2, 57)= 3.15.

As the significant difference was found between the adjusted mean and post-test mean, Scheffe’s Test of Post-hoc Comparison was applied and data pertaining to this have been presented in Table 3.

**TABLE 3**  
PAIRED ADJUSTED FINAL MEANS AND DIFFERENCE BETWEEN MEANS FOR TWO EXPERIMENTAL AND ONE CONTROL GROUP ON COMPOSITE OF "AAPHER" YOUTH FITNESS TEST PERFORMANCE

<table>
<thead>
<tr>
<th>Reward Group</th>
<th>Mean Punishment Group</th>
<th>Control</th>
<th>Difference Between mean</th>
<th>Critical difference for Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>335.27</td>
<td>313.28</td>
<td>21.99</td>
<td></td>
<td>27.72</td>
</tr>
<tr>
<td>335.27</td>
<td>288.18</td>
<td>47.09*</td>
<td></td>
<td>27.72</td>
</tr>
<tr>
<td>313.28</td>
<td>288.18</td>
<td>25.10</td>
<td></td>
<td>27.72</td>
</tr>
</tbody>
</table>

*Significant at .05 level  
It is evident from the table 3, that the mean difference between the reward and control group was found significant at .05 levels and significant difference was not found between the rest of the groups.
DISCUSSION

It is evident from the findings that motivational techniques namely reward proved to be significantly effective techniques to improve the performance on composite scores of "AAPHER" youth fitness test in comparison to punishment and control group performance. Punishment group and control group could not prove to be significantly effective in improving the performance of the subjects.

This may be attributed to the fact that every person has a strong desire that he should be recognized and wishes that others should praise him for his work or performance and people should accept him as a superior person. Every child wants that everyone should praise that entire he does. There are many honours in society and all wish to get them and want to be mentioned in the honour list of the school, selecting for various competition etc. give great pleasure and increase the expected quality in the performance.

It is evident from the findings that there is significant difference between the rewards group and control group. Whereas there is no significant difference between the reward group and punishment group also no significant difference between the punishment and control group.

This may be attributed to the fact that the performance of an individual in any field need some amount of motivation in order to quality oneself in terms of excellence. This is not only applicable in the routine social interaction but also in that field of sports where lot of competition is involved.

CONCLUSIONS

On the basis of the results obtained from the present study, the following conclusions are drawn:

1. Significant difference was observed between the initial test mean and final test mean of reward group.
2. No significant difference was found between the initial test and final test of punishment group.
3. No significant difference was found between the initial test and final test mean of control group.
4. Paired Mean difference between the reward group and control group was found statistically significant.
5. There was no significant between the reward group and punishment group.
6. There was no significant difference between the punishment group and control group performance.
BIBLIOGRAPHY

EFFECT OF PHYSICAL FITNESS VARIABLES ON URBAN AND RURAL SCHOOL LEVEL CRICKET PLAYERS
SK. Rasid Mahammad

ABSTRACT
The purpose of the study was to investigate the effect of physical fitness variables on urban and rural school level cricket players. Forty (20 urban school & 20 rural school) male cricket players of Paschim Midinipur district (W.B.) were selected by purposive random sampling method for the investigation. All subjects were randomly assigned experimental group (A) and control group (B). Each group consisted of 20 subjects. The six week cricket training program was assigned to the experimental group. The group B served as a control group and was not given any type of training. To assess the physical fitness components of male cricket players belong to urban and rural area schools, means and standard deviations were computed. To find out the significant difference between pre-test and post means of experimental group and control group of male cricket players belong to urban and rural area schools, t-ratios were computed on six components of physical fitness for investigated subjects. The results of the investigation revealed that 1. Male cricket players of both the groups were homogeneous with respect to muscular strength and endurance of arm and shoulder at pre-test point. But there is an effect of treatment on the pull-ups post-test performance. 2. Similarity was found among male cricket players of both the groups in their muscular strength and endurance of abdominal muscle at pre-test and post test point. But there was no effect of treatment on the sit-ups test performance of male cricket players of school level belong to urban and rural area. 3. Significant effect was not observed on the shuttle run test and standing broad jump performance of Male Cricket players of school level belong to urban and rural area. 4. Significant effect exhibited by male cricket players of school level belong to urban and rural area on the 50 yard dash and 600 yard test performance.

Keywords: Urban, Rural, Physical fitness, Cricket Players

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INTRODUCTION

The poor performance of Indian sports persons at the international and national competition has been of a great concern. Efforts have to be made to develop proper means and methods so that stagnating factors might be eliminated for higher level performance. Since it is difficult for the teachers and coaches to impart systematic and technical training in all component of physical performance and to determine their degree of influence in connection with the performance, they can be best, expose their trainee, to a programme of physical fitness development which might enhance their performance in games and sports in general (Uppal, 1984).

There are numerous factors which are responsible for the performance of sportsmen. The physique and body composition including the size, shape and form are known to play a significant role in this regard (Sodhi and Grewal,1984).

The performance of a sportsman in any games or event also depends on speed, strength, endurance, agility, flexibility and co-ordination. Along with these physical variables, physiological and psychological components, also play an important role in the execution of the performance.

Games and sports had become an integral part of human beings; it rose to its greatest height in Greece, which is called “Golden Era” in the history of games and sports. Through the development of various motor fitness components such as agility, power, balance, flexibility, local muscle endurance, cardio vascular endurance, coordination of these entire components one is able to develop the various skills accurately & efficiently. These components can be achieved through scientific and systematically i.e. step wise step. General motor skills are developed from the childhood onwards when the children starts running, jumping, playing, walking etc. Motor ability refers to the level to which one has developed his innate capacity to learn motor skills.

Human life is based upon the body he keeps. All the activities of life are done with the help of body. Nature has created humans to perform various activities efficiently. Today modernization has made human life more easy, as most of the work is performed by the machines. The sedentary life style of man has reduced the efficiency of humans. The less working capacity of humans has caused many problems like weakness, illness, chronic diseases, etc. In past our ancestors were quite healthy and fit. The big reason was that, they had to perform a lot of hard physical activity, like running, walking, jumping etc. The environment in past was less polluted. Moreover, they had less stresses in their life. Today it is all opposite, i.e., physical activity is less, environment is polluted, unhygienic conditions exist all around, life is full of stresses, unbalanced diet etc. All these factors have reduced the efficiency of humans. Today, we desperately require physical fitness not only to improve our abilities but also to improve our health and wellness. This will also help to develop healthy environment around us along with community health, thus nation will be benefited. By die physical fitness programs, we can improve our fitness, wellness and health (Kundra, 2009).

Physical fitness is one of the main factors for an athlete's success. It has been shown that a high level of the elements of physical fitness such as cardiovascular endurance, muscular strength and endurance, flexibility and speed is useful and effective in achieving success in different sports. Nowadays, before being sent to competitions, teams are given a test for the evaluation of the physical status of their members (Zarl et. al., 2008).
Physical Fitness is the ability to perform daily tasks vigorously and alertly, with energy left over for enjoying leisure-time activities and meeting emergency demands (Singh et al., 2008).

Research suggests that individuals who have increased fitness knowledge via health education are more likely to be physically active and fit. In addition, an individual’s health literacy is suggested to play a substantial role towards the acquisition of health knowledge. However, literature delineating the relationship between health knowledge, health literacy, and the components of health-related physical fitness is scarce and inconsistent (Faktor, 2009).

According to expert Hebbellneck (1984) "Physical fitness is a combination of muscular strength, endurance, speed, agility, indoor skills, flexibility and co-ordination. These have been growing realization of physical fitness enhancing human health and performance. The term physical fitness implies fitness of the body and mind and due to body and mind relationship, the new concept of physical fitness includes mental, emotional, social as well as physical aspect.

According to Barrow (1972) It is not a stage for young but for all ages". Physical fitness and motor fitness are often used as a interchangeable terms.

According to Clarke (1971) "Physical fitness has three basic components i.e. muscular endurance, muscular strength and circular-respiratory endurance, where as motor fitness includes four additional components i.e. muscular power, agility, flexibility and speed". The human values conquest in the field of sports holds a unique place. It is success, victory, triumph and domination of some over other team mates and friends because sports is comradeship and friendship.

In football training special and multifaceted motor abilities have direct impact on the special fitness of the football players. Depending on the needs, they can be helpful as a selection criterion and useful for the evaluation of the progress in the player abilities (Cicirko, 2007).

The researcher was the student of physical education. The researcher knows very well that physical fitness is essential for the human life. It has a great role in life, but to maintain physical fitness and Functions of Internal Organs daily exercise is must. The researcher has seen people of deferent School Level Students doing different kind of exercises for example —swimming, running, walking, calisthenics and yoga exercises etc. But which exercise has high and low influence on physical fitness and health status, so the researcher was interested to investigate the effect of physical fitness variables on urban and rural school level cricket players. It was also hypothesized that there may be significant difference in pre-test and post means of Experimental and Control Groups of male cricket players on six components of AAHPERD youth physical fitness tests.

**METHODOLOGY**

Selection of Subjects:

Forty (20 urban school & 20 rural school) male cricket players of Paschim Midinipur district (W.B.) were selected by purposive random sampling method for the investigation. All subjects were randomly assigned experimental group (A) and control group (B). Each group consisted of 20 subjects. The six week cricket training program was assigned to the
experimental group. The group B served as a control group and was not given any type of training. The mean age and SD of the male cricket players were 17.96 ± 1.67 respectively.

The subject were explained about the purpose of study in the presence of their physical education teacher and principal of schools to elicit active cooperation from the subject.

**Sampling Technique:**
Sampling is an important process in research work, especially where the researcher has to collect the data from limited or particular population. The present study was comparative. The sample was selected through purposive sampling technique. The data was collected from the women players of team and individual and games.

**Criterion Measure:**
Measurement for various variables were taken at the beginning (pre-test) and at the end of experimental period, after six weeks (post-test). The data was collected before and after six weeks of experimental period by using standard tests. Time was recorded to the nearest second the hanging position held (Flex-arm hang); Maximum number of correctly executed pull-ups performed; Number of correctly executed sit-ups performed in one minute ups; time taken to run a distance of 40 meter (Girls) and 60 meters (Boys) as fast as possible recorded in 1/10 of second, maximum horizontal distance jumped from ground level and reach at same ground level(standing broad jump) and recorded in to nearest centimeter; time taken to run a distance of 50 yard as fast as possible recorded in 1/10 of second; and time taken to run a distance of 600 yard as fast as possible recorded in minutes and seconds were recorded.

**Description and Administration of Tool:**
The AAHPER Youth Fitness Test was administered to the subjects at their respective ground. Tester got help from Physical education teacher, Coaches and permission of the head of the concerned institution. The subjects were explained about the tests and demonstration of all the test items were given to them.

They were allowed to warm up on their own, for 5 to 10 minutes before the actual test were administered. A gap of rest was given before the administrations of each test in remaining test item were not influenced by the previous item. Measuring tape, stopwatch, whistle, pen, paper, wooden blocks were used as instruments for the tests to collect the data. AAHPER Fitness Test is given in Appendix at the end of references.

**Statistical Analysis:**
To assess the physical fitness components of male cricket players belong to urban and rural area schools, means and standard deviations were computed. To find out the significant difference between pre-test and post means of experimental group and control group of male cricket players belong to urban and rural area schools, t-ratios were computed on six components of physical fitness for investigated subjects. The level of significant was set at .05 level.

**RESULTS AND DISCUSSION**
In order to find out the significance of differences among male cricket players of urban and rural area secondary schools belong to Paschim Midnapur district (west Bengal), means, standard deviations, and t-ratios were computed for obtained data by using AAPHER Youth Physical Fitness Test. To check the obtained t-ratio, the
level of significance was set at .05 level and data pertaining to this have been presented in Table 1 to 7.

**Table 1**

**Descriptive Statistics of Physical Fitness Components of Male Cricket Players of Experimental and Control Groups on Pre-Test and Post-Test**

<table>
<thead>
<tr>
<th>Test Variables</th>
<th>Treatment</th>
<th>Experimental Group (N=20)</th>
<th>Control Group (N=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Pull-Ups</td>
<td>Pre-test</td>
<td>06.15</td>
<td>06.85</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>08.85</td>
<td>07.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.76</td>
<td>1.53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>06.85</td>
<td>07.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.53</td>
<td>1.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26.90</td>
<td>27.85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.92</td>
<td>27.85</td>
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<tr>
<td></td>
<td></td>
<td>17.99</td>
<td>27.85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.53</td>
<td>0.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>07.60</td>
<td>0.31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.62</td>
<td>11.65</td>
</tr>
<tr>
<td>Sit-ups</td>
<td>Pre-test</td>
<td>16.20</td>
<td>27.85</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>11.62</td>
<td>27.85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.51</td>
<td>4.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.66</td>
<td>4.64</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.53</td>
<td>0.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>07.60</td>
<td>0.31</td>
</tr>
<tr>
<td>Shuttle Run</td>
<td>Pre-test</td>
<td>194.70</td>
<td>176.15</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>170.40</td>
<td>176.15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14.07</td>
<td>12.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13.77</td>
<td>12.94</td>
</tr>
<tr>
<td>Standing Broad Jump</td>
<td>Pre-test</td>
<td>08.99</td>
<td>09.21</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>10.28</td>
<td>09.21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.66</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.82</td>
<td>0.84</td>
</tr>
<tr>
<td>50 Yards Run</td>
<td>Pre-test</td>
<td>2.19</td>
<td>02.69</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>2.09</td>
<td>02.06</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.38</td>
<td>0.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.26</td>
<td>0.23</td>
</tr>
</tbody>
</table>

The mean scores of various components of physical fitness on pre-test and post-test of experimental and control group of male cricket players have been depicted in figures 1 to 6.

![Figure-1: Mean Scores of Pull-Ups on Pretest and Post-test of Experimental and Control Group of Male Cricket Players](image-url)
Figure 2: Mean Scores of Sit-Ups on Pretest and Post-test of Experimental and Control Group of Male Cricket Players.

Figure 3: Mean Scores of Shuttle Run on Pretest and Post-test of Experimental and Control Group of Male Cricket Players.
Figure-4: Mean Scores of Standing Broad Jump on Pretest and Post-test of Experimental and Control Group of Male Cricket Players.

Figure-5: Mean Scores of 50 Yard Dash on Pretest and Post-test of Experimental and Control Group of Male Cricket Players.
**TABLE 2**

**SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN SCORES OF PULL-UPS OF EXPERIMENTAL AND CONTROL GROUP OF MALE CRICKET PLAYERS**

<table>
<thead>
<tr>
<th>Test</th>
<th>Groups</th>
<th>Mean</th>
<th>M.D.</th>
<th>σ DM.</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>Experimental group</td>
<td>6.15</td>
<td>.</td>
<td>0.70</td>
<td>1.37</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>6.85</td>
<td>0.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>Experimental group</td>
<td>8.85</td>
<td>1.25</td>
<td>0.47</td>
<td>2.60*</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>7.60</td>
<td>.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant level at 0.05 

It is evident from Table 2 that statistically significant difference was not found between the pre-test means of experimental group and control group in pull-ups of male cricket players, as the obtained t-value of 1.37 was less than the required value of t.05(38)=2.00. This implies that both the groups are homogeneous with respect to muscular strength and endurance of arm and shoulder at pre-test point. But the significant difference was found between the post-test means of experimental group and control group in pull-ups of male cricket players, as the obtained t-value of 2.60 was higher than the required value to be significant. This suggests that there is a effect of treatment on the pull-ups test performance.
TABLE 3
SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN SCORES OF SIT-UPS OF EXPERIMENTAL AND CONTROL GROUP OF MALE CRICKET PLAYERS

<table>
<thead>
<tr>
<th>Test</th>
<th>Groups</th>
<th>Mean</th>
<th>M.D.</th>
<th>σ DM.</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>Experimental group</td>
<td>26.90</td>
<td>0.95</td>
<td>1.13</td>
<td>0.83</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>27.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>Experimental group</td>
<td>29.05</td>
<td>1.20</td>
<td>1.11</td>
<td>1.07</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>27.85</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Insignificant level at 0.05

$t_{0.05}(38) = 2.00$

It is evident from Table 3 that statistically significant difference was not found between the pre-test and post-test means of experimental group and control group in sit-ups of male cricket players, as the obtained t-values of 0.83 and 1.07 were less than the required value of $t_{0.05}(38)=2.00$. This implies that both the groups are homogeneous with respect to muscular strength and endurance of abdominal muscle at pre-test and post test point. This suggests that there is no effect of treatment on the sit-ups test performance.

TABLE 4
SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN SCORES OF SHUTTLE RUN OF EXPERIMENTAL AND CONTROL GROUP OF MALE CRICKET PLAYERS

<table>
<thead>
<tr>
<th>Test</th>
<th>Groups</th>
<th>Mean</th>
<th>M.D.</th>
<th>σ DM.</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>Experimental group</td>
<td>16.20</td>
<td>4.54</td>
<td>0.34</td>
<td>13.17*</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>11.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>Experimental group</td>
<td>11.62</td>
<td>0.03</td>
<td>0.13</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>11.65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant level at 0.05, $t_{0.05}(38) = 2.00$

It is evident from Table 4 that statistically significant difference was found between the pre-test means of experimental group and control group in shuttle run performance of male cricket players, as the obtained t-value of 13.17 was higher than the required value of $t_{0.05}(38)=2.00$. This implies that both the groups are heterogeneous with respect to agility at pre-test point. But the significant difference was not found between the post-test means of experimental group and control group in pull-ups of male cricket players, as the obtained t-value of 0.28 was much less than the required value to be significant. This suggests that there is no effect of treatment on the shuttle run test performance.
TABLE 5
SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN SCORES OF STANDING BROAD JUMP OF EXPERIMENTAL AND CONTROL GROUP OF MALE CRICKET PLAYERS

<table>
<thead>
<tr>
<th>Test</th>
<th>Groups</th>
<th>Mean</th>
<th>M.D.</th>
<th>σ DM.</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>Experimental</td>
<td>194.70</td>
<td>18.55</td>
<td>4.28</td>
<td>4.33*</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>176.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>Experimental</td>
<td>170.40</td>
<td>5.75</td>
<td>4.22</td>
<td>1.36</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>176.15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant level at 0.05

It is evident from Table 5 that statistically significant difference was found between the pre-test means of experimental group and control group in standing broad jump performance of male cricket players, as the obtained t-value of 4.33 was higher than the required value of t.05(38)=2.00. This implies that both the groups are heterogeneous with respect to explosive strength of legs at pre-test point. But the significant difference was not found between the post-test means of experimental group and control group in standing broad jump performance of male cricket players, as the obtained t-value of 1.36 was less than the required value to be significant. This suggests that there is no effect of treatment on the standing broad jump test performance.

TABLE 6
SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN SCORES OF 50 YARD DASH OF EXPERIMENTAL AND CONTROL GROUP OF MALE CRICKET PLAYERS

<table>
<thead>
<tr>
<th>Test</th>
<th>Groups</th>
<th>Mean</th>
<th>M.D.</th>
<th>σ DM.</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>Experimental</td>
<td>8.99</td>
<td>0.21</td>
<td>0.23</td>
<td>0.90</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>9.21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>Experimental</td>
<td>10.27</td>
<td>1.06</td>
<td>0.26</td>
<td>4.06*</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>9.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant level at 0.05

It is evident from Table 6 that statistically significant difference was not found between the pre-test means of experimental group and control group in 50 yard dash of male cricket players, as the obtained t-value of 0.90 was less than the required value of t.05(38)=2.00. This implies that both the groups are homogeneous with respect to speed and explosive strength performance at pre-test point. But the significant difference was found between the post-test means of experimental group and control group in 50 yard dash of
male cricket players, as the obtained t-value of 4.06 was higher than the required value to be significant. This suggests that there is an effect of treatment on the 50 yard dash test performance.

### TABLE 7

**SIGNIFICANCE OF DIFFERENCE BETWEEN PRE-TEST AND POST-TEST MEAN SCORES OF 600 YARD RUN OF EXPERIMENTAL AND CONTROL GROUP OF MALE CRICKET PLAYERS**

<table>
<thead>
<tr>
<th>Test</th>
<th>Groups</th>
<th>Mean</th>
<th>M.D.</th>
<th>σ DM.</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>Experimental group</td>
<td>2.18</td>
<td>.</td>
<td>0.22</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>2.40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>Experimental group</td>
<td>2.89</td>
<td>0.44</td>
<td>0.21</td>
<td>2.09*</td>
</tr>
<tr>
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*Significant level at 0.05

\[ t_{0.05} (38) = 2.00 \]

It is evident from Table 7 that statistically significant difference was found between the pre-test and post-test means of experimental group and control group in 600 yard run of male cricket players, as the obtained t-values of 2.44 and 2.09 were higher than the required value of \( t_{0.05}(38)=2.00 \). This suggests that there is an effect of treatment on the 600 yard test performance in both groups male cricket players.

### DISCUSSION

The primary finding of this investigation was that regular participation in a cricket training program produced greater magnitudes of improvement in muscular strength and endurance of arms and shoulders, speed and explosive power of legs, and cardio-vascular endurance of experimental group than control group after short-term training. No injuries occurred as a result of training throughout the study period. The present observations suggest that incorporating training into the cricket coaching and training may be a safe and valid means to promote physical fitness in school level cricket players. These findings have important practical relevance for designing training program for school level cricket players since muscular fitness is an important health related fitness component that contributes to tasks of daily life, participation in sports activities, and reduction of disease (National Association for Sport and Physical Education, 2004).

The present study confirmed the positive effects on muscular strength and endurance of arms and shoulders, speed and explosive power of legs, and cardio-vascular endurance of school level male cricket players over six weeks. Male cricket players engaged in cricket training program of six weeks demonstrated the development in muscular strength and endurance of arms and shoulders, speed and explosive power of legs, and cardio-vascular endurance. The results of the present study was partially supported by Hopkin (1999) & Sharma (2011).

In the present study, students who participated in the cricket training program made significantly greater gains on the muscular strength and endurance of arms and shoulders, speed and explosive power of legs, and cardio-vascular endurance than changes

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in the control group. These results show that school level cricket players respond to cricket training by increasing their ability to perform selected strength endurance and explosive power.

It was hypothesized that there may be significant difference in pre-test and post means of Experimental and Control Groups of male cricket players on six components of AAHPERD youth physical fitness tests i.e. Pull-Ups, Sit-ups, Shuttle Run, Standing Broad Jump, 50 yards Run and 600 meter Run is partially accepted, as the positive effects was found on muscular strength and endurance of arms and shoulders, speed and explosive power of legs, and cardio-vascular endurance parameters of physical fitness over six weeks school children engaged in cricket training program.

CONCLUSIONS
1. Male cricket Players of both the groups were homogeneous with respect to muscular strength and endurance of arm and shoulder at pre-test point. But there is a effect of treatment on the pull-ups post-test performance.
2. Similarity was found among male cricket players of both the groups in their muscular strength and endurance of abdominal muscle at pre-test and post test point. But there was no effect of treatment on the sit-ups test performance of male cricket players of school level belong to urban and rural area.
3. Significant effect was not observed on the shuttle run test and standing broad jump performance of Male Cricket players of school level belong to urban and rural area.
4. Significant effect exhibited by male cricket players of school level belong to urban and rural area on the 50 yard dash and 600 yard test performance.

BIBLIOGRAPHY


APPENDIX “A”
AAHPER YOUTH FITNESS TESTS

1. Pull-ups
Purpose: To measure the arm and shoulder strength.
Facilities and Equipment: A metal or wooden bar of 1.5 inch diameter.
Procedure: The bar should be high enough so that the pupils can hang with his arms and legs fully extended and his feet free of the floor. He should use the overhand grip. After assuming the hanging position, the pupils raises his body by his arms until his chin can be placed over the bar and then lower his body to a full hang as in the starting position. The exercise is repeated as many times as possible.
Scoring: Record the number of completed pull-ups to the nearest whole number.

2. Bent Knee Sit Ups
Purpose: To measure the abdominal strength and endurance.
Facilities and Equipment: Mats and stop watch.
Procedure: The subject laid down on his back with knee bent, held feet on the floor and heels not more than 12 inches from the buttocks. The subject then put her hands on the back of the neck with finger clasped and placed elbow square by on the mat. Feet were held by a partner to keep them in contact with the floor. The subject tightened her abdominal muscles and brought her head and elbows forward by curling up and finally touched the elbows to the knees. This exercise is repeated as many times as possible in the time requirement. After giving the above mentioned demonstration to the subject, a signal start is given to a specific subject. At the signal start the performer starts sit-ups and the timer starts the watch. The performer continues performing the sit-ups at her best possible speed till the timer gives a stop signal after 60 seconds.
Scoring: One point is scored for each correct sit-up. The score is the maximum number of sit-ups completed in 60 seconds

3. Shuttle Run
Purpose: To measure speed and agility
Facilities and Equipment: To lines parallel to each other and 30 feet apart (Boys) were marked on the field. Stop watch, wooden blocks and whistle were the equipments.
Procedure: The subject stood in front of one of the lines with two wooden blocks beyond the other line. On the signal start the subject run to the bocks, take one, and returns to the second block, which is carried across the starting line on the way back
Scoring: The score was the total time taken to complete the course recorded to 1/10th of a second.

4. Standing Broad Jump
Purpose: To measure strength & power of the legs muscles.
Facilities and Equipment: Measuring tape and space on the floor or an outdoor jumping pit.
Procedure: The subject stands behind a takeoff line with his feet several inches apart. Before,
jumping the student dips at the knees and swings the arms backward. She then jumps forward by simultaneously extending the knees and swinging the arms forward. Two trials are permitted. Measurement is from the closest heel mark to the takeoff line. Scoring: The score was the best of three distances recorded in centimeters and meters only the best trail was recorded.

5. 50 Yard dash
Purpose: To measure speed
Facilities and Equipment: Athletics track with starting line a 50 yard course and a finish line. Two Stop watches.
Procedure: After a short warm up period the subject takes a position behind the starting line. Best results are obtained one line is used as a starting line and the other as the finish line on the signal Ready ? Go! the subjects start running at their best to reach the finish line at their earliest.
Scoring: The score was the time taken to complete the course to the nearest 1 /10th of a second between the starting signal and the instant the subjects crossed the finishing line.

6. 600 yards run
Purpose: To measure the endurance
Facilities and Equipment: Stop watch, Athletics track, pen & paper
Procedure: The subjects are asked to take a standing start. At the signal ready? Go! The male subjects start run the 600 yard distance. Subjects may run in group of a dozen or more. When students run in groups, they should be paired into partners. While one subjects runs, the partner likens. For the timer to call out his partner's time when she crosses the finished line and ready this time to the score.
Scoring: The score was the time taken to complete the course in minutes and seconds.
CRITICAL ANALYSIS OF HISTORICAL DEVELOPMENT OF FOOTBALL IN INDIA

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Sport Officer, J. E. S. College of Education, Farahda, Bilaspur (CG)

INTRODUCTION

The earliest evidence of soccer dates from about 200 B.C. in China, where a form of the game was played and emphasized the ability of players to dribble a leather ball. The modern-day outgrowth of soccer is known to have started in England. King Edward III prohibited soccer in 1365 due to excessive violence and for military reasons. The game of soccer again started in 1801 and confined the playing area between 80 to 100 yard. In 1857, first soccer club was formed in Sheffield (England). In 1863, Football association was formed in London, which laid the foundation for about 140 modern National Associations. In 1913, FIFA was created to coordinate all of the National Associations in the world.

In India, the game of football was introduced by British in the last century and first recorded game took place in 1854 in Calcutta. The state of Bengal to be specific its Calcutta has been at the level of Indian football. In 1893, the Indian Football Association was formed by the British people.

The All India Football Federation was set up in 1937. First National Football Championship for Men was held in 1941 in Calcutta. Bengal and Delhi teams were winner and runner respectively of this Championship. First time, Indian football team participated in 1948 Olympic games held in London and lost to France in the Olympic games by two goals to one. A. I. F. F. started first junior National Football Championship in 1972. First senior National Championship for women was started in 1975. After Independence, there was an appreciable development in the field of sports and games in general and the football in particular. It cannot be denied that in Post-Independence period, in India, many agencies have been formed. These agencies are organizing and promoting football at various levels.

Durand Cup was the first tournament which was started in 1888 at Shimla. Mohun Bagan Soccer club was formed in 1889. Jawahar Lal Nehru Gold cup was the first international level tournament in India which was started in 1982 at Shimla IFA shield tournament was started in 1893. The Rover's Cup was started in 1891. AIU New-Delhi introduced the football tournament at All India basis in 1941-42 for men and in 1989-90 for women. Railway Sports Promotion Board introduced football in 1905 and started to organize Inter railway trophy in 1944. Football was introduced originally in National Games in 1934 for men group and in 1975 for women group. All India Electricity Board also introduced football competition in 1975 in India. All India Petroleum Sports Control Board introduced football in India as a Inter-unit football trophy in 1980. Services Sports Control Board was formed in 1919 and recognized in 1945. The Calcutta Football League in Asia and World. was started in 1898. The Mumbai Harwood League has started in 1911. The Nadkarni Cup was first held in 1939. The Delhi Football League was started in 1948. The Independence Day Cup of football was started in 1949. Goa Football League began in 1951,
The Sait Nagjee Trophy Football Tournament was started in Calicut in 1952. All India B.N. Mullick police Cup was started in 1952. Bordoloi Trophy was started in 1952 in the state of Assam. Sohanlal Dugar Shield tournament was started in 1956. The "Assam Tea Planters Association Shield" (APTA Shield) tournament was started in 1960 by JFA. The Junior National Football Tournament for the B.C. Roy Trophy was instituted by the All India Football Federation in 1962. The Principal Harbhajan Singh Memorial Trophy tournament was started in 1963. The All-India Ballarpur Industries Football Trophy tournament was started in 1967. The Bandodkar Gold Trophy Football Tournament was started in Goa in 1970. The Mamen Mappillai Trophy tournament was started in 1970. The Hot weather Football Championship was also started in 1970. The Puttiah Memorial Trophy tournament was started in 1975. The Senior National Women's Football Championships was also launched by the Women's Football Federation of India in 1975. The Gurdarshan Memorial Football was started in 1976. The Adma Medhi Cup was started in 1977. The Sikkim Governor's Gold Cup was started in 1979 which is the big attraction of the Sikkim football association with top teams from all over India coming nearly every year to the tiny Himalayan state in north-eastern India to participate. The Sikkim Governor's Gold Cup was donated by the Sikkim Governor B.B. Lal in 1979. Mohun Bagan are record champions by winning the Sikkim Governor's Gold Cup times. It was started in 1977. The Guwahati super division clubs instituted in 1980. The Bangalore ‘A’ Division league for the clubs was started in 1981. The Chennai Football League was started in 1985. The Punjab Soccer League was started in 1985. The Mini-Rovers Cup tournament was held in 1989. The Kohima Royal Gold Cup was also started in 1989. The Rajeev Gandhi International Invitational Football Tournament was started in 1992. The Scissors Cup was also started in 1992. The Calcutta Women's Football League was started by the India Football Association in 1993. The McDowell's Cup was instituted in 1995 by the IFA. The Assam Club Football Championship was started in 1996.

The purpose of the study was to collect, and to arrange the information for development of men football in India. In the first chapter of this study, a brief history of football in India, statement and significance of the problem is stated. Second chapter deals with reviews of literature followed by third chapter of procedure.

**METHODOLOGY**

**Source of Data:**

1. Questionnaire.
2. Selected readings from texts, periodicals, articles, reports of All India Football Federation and state Associations / Boards.
3. Interview.

**Construction of the Questionnaire:**

Keeping in the view of previous study and consultation with expert and guide to survey the important facts, a Questionnaire was formed and constructed by the scholar utmost care was taken to prepare the questionnaire ensuring maximum coverage of the area of the field convened, so as to get maximum. Worthwhile and meaningful response from the subject.

Further the construction and the arrangements of the Questions was made in such a way that sequence and coherence in the response statements would be readily
available in orderly manners which in term way were as a yard stick for determining problem.

**Procedure:**

The questionnaire was prepared and sent to secretaries of all affiliated units of football federation of India, as well as personal contact was made to the secretaries of state association/board/units during the 58th national football championship held at Manipur from 17th October to 5th November to collect the reliable data for this research study. The information was also collected from reference books, magazines, journals, reports, souvenirs and inter-net. Aside from this, the investigator collected the information through personal interviews with experts in the field.

The relevant information collected from different sources has been arranged according to the purpose of the study. The responses were tabulated and logically analyzed. For classification, tables and figures have been prepared.

**CONCLUSIONS**

1. Maximum number of National Championship Santosh Trophy have been won by West Bengal State teams.
2. Football tournaments are being conducted at National level, Inter-Railway, Inter-Services, All India Inter-University, National School games and International level.
3. All India Football Federation came in to existence in 1937 and affiliated to FIFA in 1948. It holds National Championship for men and women. All State Associations/Units/Boards are its members.
4. First National Championship was organized in 1941 at Calcutta by West Bengal: All India Football Federation.
5. Football was first introduced in India by British in the last century and recorded game took place in 1854.
6. Indian football team participated first time in 1948 in Olympic games held at London.
7. The standard of Indian football team is relatively poor in comparison of other foreign countries.
8. Twenty Arjun awards have been awarded by the Government of India. Twelve Arjun awards out twenty have been won by Bengal players. The other state should raise the standard of their game.
9. Four Padamshri award have been awarded by the Government of India, three Padamashri award have been won by the Bengal players and one award has won by Railways.
10. Maximum number of Indian National Referee belonged to Bengal and Kerala states and minimum number of National qualified referee are from Gujrat and UP.
11. The game of football originated in China but in developed rapidly in other countries like U.S.A., Germany, South Korea, Italy, Hungary, Uruguay, Argentina, Brazil, England, Sweden and Yugoslavia, etc.
12. AIFF have the 8 Indian FIFA Referee and 9 Indian FIFA assistant Referee from the different states of country, only one Indian women FIFA referee belong to Maharashtra state is qualified for International Competition.
13. The study reveals that the great standard of the football game has deteriorated during the last few years or relatively poor standard in comparison of International standard.
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