

Effect of Baseball Training on Selected Motor Performance Components of Boys

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Abstract

Scientific training program is part and parcel for achieving top performance. Such performance is impossible if an athlete does not have the ability to acquire the perfect skill. These are various methods available so far that have achieved the skill in games and sport. It is well known that motor fitness training is effective in enhancing performance in almost all sports activities. Several research reports support the statement. Thus the research problems entitled "Effect of baseball training on selected motor performance components for boys aged 17 to 19 years." The objectives of the study were as under, To compare the mean gain scores of Agility as measured by SEMO test, speed as measured by 50 meter dash test, Power as measured by Medicine ball throw test & Reaction time as measured by Nelson Hand reaction time test of boys of the experimental group & control group. The study was delimited to the college boys aged 17 to 19 years. The present study was to compare the motor fitness performance of Control and Experimental group. Therefore 50 male students were selected as a sample for the present study, from R.A. Podar College. Agility measured by SEMO test the difference in mean gain score is 1.86400 which is in favor of Experimental group. Speed measured by 50M. Run the difference in mean gain score is 0.047880 which is in favor of Experimental group. Shoulder Power measured by Medicine Ball Throw the difference in mean gain score is 0.28920 which is in favor of Experimental group. Reaction Time measured by Nelson Hand Reaction Time the difference in mean gain score is 0.00400 which is in favor of Experimental group. The above result helps to conclude that the baseball training was found helpful to improve selected motor fitness variables such as Agility, Speed, Power, Reaction time.

Key words: Baseball training, Motor performance, School Boys.

Introduction

Scientific training program is part and parcel for achieving top performance. Such performance is impossible if an athlete does not have the ability to acquire the perfect skill. These are various methods available so far that have achieved the skill in games and sport. It is well known that motor fitness training is effective in enhancing performance in almost all sports activities. Several research reports support the statement. However a very little information is available about the effect of motor fitness training directly on the Baseball game. Moreover, no information is available on Indian boys, especially for the age group 17 to 19 years, till the date.

It was therefore, considered appropriate by the research scholar to investigate the effectiveness of motor fitness training for the promotion of physical fitness components and in the Baseball game thus the research problems entitled, "Effect of baseball training on selected motor performance components for boys aged 17 to 19 years."

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The present study was conducted with the following objectives:

- To compare the mean gain scores of Agility as measured by SEMO test, speed as measured by 50 meter dash test, Power as measured by Medicine ball throw test & Reaction time as measured by Nelson Hand reaction time test of boys of the experimental group & control group.
- To compare the mean gain score of Speed as measured by 50 meter dash test of boys of the experimental group & control group.
- To compare the mean gain score of Power as measured by Medicine ball throw test of boys of the experimental group & control group.
- To compare the mean gain score of Reaction time as measured by Nelson Hand reaction time test of boys of the experimental group & control group.

The null hypothesis sought to be tested were :

HO₁ There was no significance difference in change mean gain scores of *Agility* of pre and post test of experimental & control group.

HO₂ There is no significance difference in mean gain scores of *Speed* of experimental and control group of pre and post test.

HO₃ There is no significance difference in mean gain scores of *Shoulder Power* of experimental and control group of pre and post test.

HO₄ There is no significance difference in mean gain scores of *Hand Reaction* of experimental and control group of pre and post test.

Method

This experimental design is parallel group design where the experimental group will receive the baseball training for 6 weeks , where as the control group will not receive any such training. The result will be compared of both the groups after a period of 6 weeks. 50 males students belonging from age group 17 to 19 years was selected as sample from R.A. Podar College, Matunga.

Procedure

The results of the pre test and post test of each group as well as each gain scores of the experimental & control group was compared by using 't' test for significance of difference

For the present study the following dependent variables were chosen after the analysis of available literature and discussion with the experts.

| Variables tested | Test | Measurement |
|------------------|--------------------------------|-------------|
| Agility | SEMO test | SEC. |
| Speed | 50 meter dash test | SEC. |
| Power | Medicine ball throw | Meters |
| Reaction time | Nelson hand reaction time test | SEC. |

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Independent variable for baseball training exercise selected for the experimental are as follow :-

- Catching Practice
- Running Catching Practice
- Pitching Practice
- Base to Base Run Practice
- Fielding Practice
- Bunt
- Hit

Data Analysis

The analysis of the data collected by the researcher, before and after the training. The data was analyzed by using paired sample 't' test and independent's tests.

| Variable | Experimental Mean Gain | Control Mean Gain | Mean Difference | N | t-Value | Sig. |
|----------------------|---------------------------|-------------------------|--------------------|----|---------|-----------|
| Agility | 0.2776 | 1.5864 | 1.86400 | 25 | 3.868 | 0.00 0 |
| Speed | 0.0336 | 0.4452 | 0.047880 | 25 | 1.558 | 0.00 5 |
| Power | 0.1520 | 0.1372 | 0.28920 | 25 | 1.790 | 0.01 1 |
| Reaction Time | 0.0176 | 0.216 | 0.00400 | 25 | 0.594 | 0.94 |

Results

A) *Results on Agility*

From the above table it is seen that t-value is 3.868 which is significant at 0.05 level with df=48. It indicates that the Mean Gain Score of Agility of the Experimental and Control Group is differ significantly. Further the Mean Gain Scores of Agility of Experimental and Control Group is 0.2776 and 1.5864. It may, therefore, be said that the Control Group were found to have significantly higher Agility in comparison to Experimental Group.

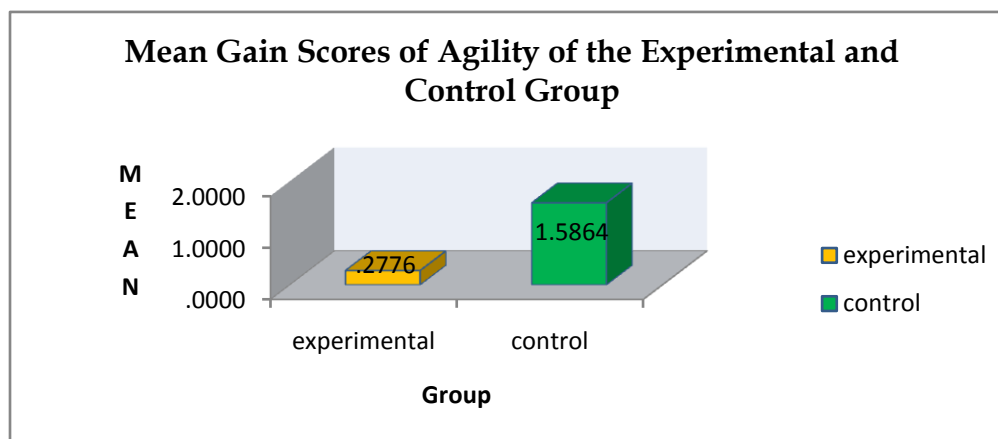


Figure 4.9 Mean Gain Scores of Agility of the Experimental and Control Group

Thus, the Null Hypothesis that H_{O1} There is no significant difference in Mean Gain Score of Agility of the Experimental and Control Group is rejected.

B) Results on Speed

From the above table it is seen that t-value is 1.558 which is significant at 0.05 level with $df=48$. It indicates that the Mean Gain Score of Speed of the Experimental and Control Group is differ significantly. Further the Mean Gain Scores of Speed of Experimental and Control Group is 0.0336 and 0.4452. It may, therefore, be said that the Control Group were found to have significantly lower Speed in comparison to Experimental Group.

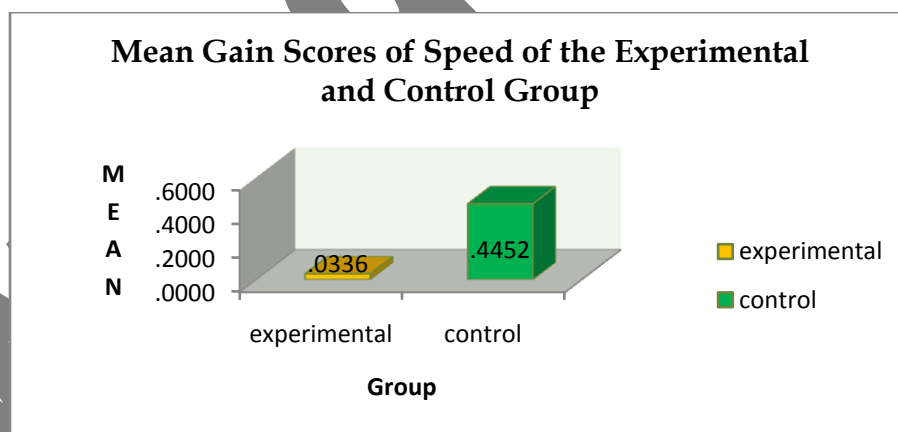


Figure 4.10 Mean Gain Scores of Speed of the Experimental and Control Group

Thus, the Null Hypothesis that H_{O2} There is no significant difference in Mean Gain Score of Speed of the Experimental and Control Group is rejected.

C) Results on Power

From the above table it is seen that t-value is 1.790 which is significant at 0.05 level with $df=48$. It indicates that the Mean Gain Score of Power of the Experimental and Control Group is differ significantly. Further the Mean Gain Scores of Power of Experimental and Control Group is 0.1520 and 0.1372. It may, therefore, be said that the Experimental Group were found to have significantly higher Power in comparison to Control Group.

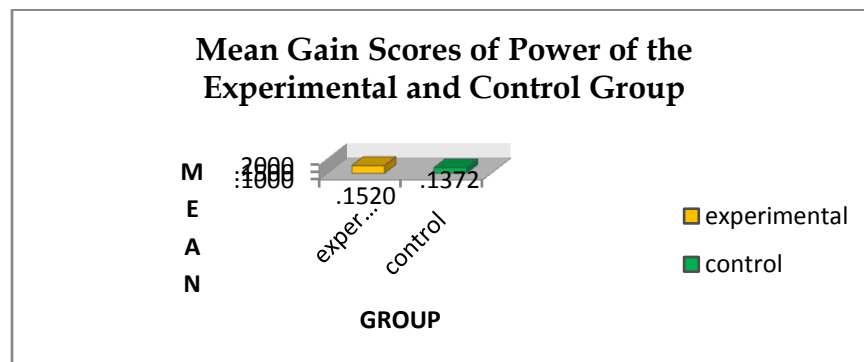


Figure 4.11 Mean Gain Scores of Power of the Experimental and Control Group

Thus, the Null Hypothesis that H_0 , There is no significant difference in Mean Gain Score of Power of the Experimental and Control Group is rejected.

D) Results on Reaction Time

From the above table it is seen that t-value is 0.594 which is not significant at 0.94 level with $df=48$. It indicates that the Mean Gain Score of Reaction time of the Experimental and Control Group is differ significantly. Further the Mean Gain Scores of Reaction time of Experimental and Control Group is 0.0176 and 0.0216. It may, therefore, be said that the Experimental Group were found to have significantly higher Reaction time in comparison to Control Group.

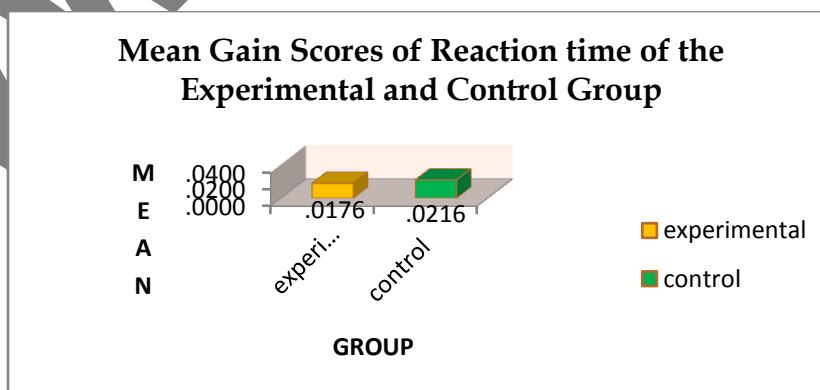


Figure 4.12 Mean Gain Scores of Reaction time of the Experimental and Control Group

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Thus, the Null Hypothesis that **HO₄** There is no significant difference in Mean Gain Score of Reaction time of the Experimental and Control Group is rejected.

It is concluded that the above results help to the baseball training was found helpful to improve selected motor fitness variables such as Agility, Speed, Power and Reaction time.

The following recommendations have been forwarded in the light of present study.

- A similar comparative study may be undertaken by selecting Motor fitness variables of other students.
- A similar comparative study may be conducted on boys belonging to 17 to 19 years.
- The study findings may inspire to physical education researcher, coaches for the future study.

References

- Arthur T. Slater Hammel and R.L. Stumper, "Batting reaction time," Research quarterly 21 (1950).
- Clifford. D. Bress, (1962). The effect of trampoline training upon the jumping performance, agility, running speed and endurance of high school basketball players. Completed research in health physical education and recreation, 4:79-80.
- Kansal , D.K. (2008). Applied measurement evaluation & sports selection, New Delhi.
- Phillip Lee Stanley, "influence of figure Ground perception and selected movement variables in racket type striking skill," Dissertation abstract International 33 (1972).
- Ramesh Reddy P. (2002). Dr. P. Ravi Kumar, A comparative study of yogasana and aerobic dance and their effect on selected motor fitness components in girls students research Bi-Annual for movement, 19:1P.
- Robert G. Miller and Clayton T. Shay, "Relationship of reaction time to the speed of a softball" Research quarterly (1964).
- Roy, Arunabha. (1975). Comparative effect of acceleration running resistance running and sand.
- Ryan E.R; Nicholas A.R, Jay R.H, Avery D.F, Jie K and Aristomen C (2001). Study 30 meter sprint times improved significantly only in the combined sprint and resistance training (SRT) group and a trend for improvement was observed in the sprint training- only (ST) group.

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Singh, Gunit. (2008), Effect of different upon motor abilities III international all congress on sport medicine, exercise. (science physical education and yogic science).

Suzzane, R.B. (1966). Relationship of modern dance performed to agility , balance, flexibility, power and strength.

Verginia Algus Crauston “An study of relationship of reaction time moment time and visual tracking to performance in badminton. Complete research in health , physical education and recreation, 10 (1968) :95