

Effects of Harness Running, Sand Running, Weight - Jacket Running and Weight Training On the Performance of Agility Among The School Going Soccer Players

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Abstract: Background: *The purpose of the study was to find the effects of Harness Running, Sand Running, Weight-Jacket Running and Weight training on the performance of agility among the Burdwan Distrist School going soccer players.*

Method-*100 male students from the different schools of the Burdwan distrist were randomly selected as subjects and there age were 14-18 years served as Harness Running group (HRG), second group served as Sand Running group (SRG), third group served as Weight-Jacket Running group (WJRG), fourth group served as Weight training group (WTG) and the fifth group served as Control group (CTG). Ten weeks training were given for experiment accordingly. The control group was not given any training except of their routine. The selected subjects were measure of the physical fitness component of agility. ANCOVA was calculation for statistical treatment.*

Finding: *From the finding implies that the Weight Jacket Group was more effective in decreasing the time taken then all other training programs after ten weeks of training on Shuttle Run.*

Conclusions: *Weight-Jacket Running Group showed higher adjusted post-test mean difference with Control Group in comparison to other three training Groups which is 0.27 then the critical difference 0.18 required to be significant at 0.05 levels.*

Keywords: *Harness Running, Sand Running, Weight-Jacket Running, Weight training, agility, Shuttle Run.*

I. Introduction

Soccer is often called the “Universal Game”, what hockey is to India, Soccer is to the best of the world. It is difficult to determine how many millions of people play the game, but it is estimated that the number of fans may reach over 800 millions. In many parts of the world, crowds of 100,000 or more at a single match are not uncommon. In Brazil, a stadium built solely for soccer game seats 200,000 Spectators. The game is played in more than 180 nations and enjoys a long history.

One should remember that weight training is not a substitute for athletics, but merely an adjunct which can be conveniently used, especially off season; weight training may even be done without weight.

With the constant demand for high sports performance, the concept of soccer today has been changed. The concept of “total soccer” applies skill development, technical development, development of all-important motor components and physiological parameters which are

Closely associated and contribute to performance in soccer. Not only in the technical, physiological and physical development, are the Sports Scientists also making efforts to develop the intellectual ability of soccer players.

Now-a-days, sports have become a part and essential of life. Millions of fans follow different sports events all over the world with an enthusiasm bordering on devotion. Many people participate in sports and games for fun, happiness, pleasure for health and fitness. Increased participation in sports has result in competition which has become an important element of modern life. Competition provides the means by which one can show one’s worth successfully.

DELIMITATION

1. One hundred male students.
2. Age range: 14-18 years.
3. The study will confine only one test items related to physical fitness components.
4. The study will be delimited of Burdwan district school level soccer players.

LIMITATION

Socio-economic and cultural status of the subjects the factors like diet, life - style daily routine, habits etc. This might affect the result of the study and will not be controlled.

II. Methodology

For the present study the experimental design was adopted on the basis of random group design. Equal numbers of tasks were assigned randomly to five groups of twenty subjects each. The experimental treatments were also assigned randomly for the four experimental groups (A, B, C, D) and control group E. The four experimental groups were administered four different kinds of training programmers for the development of physical fitness and soccer skills. The first group was trained with the method of Harness Running (group-A) the second group with the Sand Running (group-B), the third group with Weight – Jacket Running (group-C), the fourth group with Weight – Training (group-D). The distance chosen for each of the training was 80 meters. The training session was conducted thrice a week i.e. on Monday, Wednesday, Friday, for Harness Running and Sand Running Group and Tuesday, Thursday, Saturday for Weight – Jacket Running Group and Weight– Training group. Test programmers were taken before and after an experimental period of 10 weeks. The subjects were advised not to take part in any voluntary sports programmers or unusual physical exhaustion so that physical activities remained uniform for all the groups chosen for the study. The difference between the initial and final scores in shuttle run was subjected to statistical treatment using Analysis of covariance(ANCOVA) to find out whether the mean difference were significant or not. The Scheffe’s post hoc test was used to find out the paired means significance difference.

Statistical Analysis

The following statistical techniques were find out the effects of Harness Running, Sand Running, Weight Jacket Running and Weight training on selected physical fitness component of agility among the Burdwan Distrist School going soccer players. Analysis of Co-Variance (F ratio) was used to test the adjusted post test mean difference among the experimental groups. The level of significance was set at 0.05 level of confidence.

III. Result And Discussion

Table - 1

Analysis Of Co-Variance Of Four Experimental Groups And Control Group On Shuttle Run

Mean	Harness running group	Sand running Group	Weight jacket running group	Weight training group	Control group	Sum of Square		df	Mean sum of square	F-ratio
						A	W			
Pre test	10.72	10.83	10.65	10.67	11.03	A	1.97	4	0.49	0.80
						W	57.81	95	0.60	
Post test	10.61	10.74	10.52	10.60	11.13	A	4.75	4	1.18	2.02
						W	55.73	95	0.58	
Adjusted post test	10.67	10.69	10.64	10.70	10.91	A	0.88	4	0.22	2.56*
						W	8.09	94	0.086	

*Significant at 0.05 level $F_{.05}(4, 95) = 2.46$ $F_{.05}(4, 94) = 2.47$

- N=100 (number of subjects)
- A= Among mean variance
- W= Within group variance

Table – 1 reveals in significant difference in shuttle run ability among four experimental and one control group soccer players in pre as well as post test phases (‘F’ = 0.80 for pre-test and 2.02 for post-test means < 2.47 at 4, 95 df) where as the significant difference was observe in adjusted post-test mean (‘F’ = 2.56 > 2.47 at 4, 95 df).Which was significant at 0.05 level of confidence at 4, 95 df.

In the case of pre-tests mean almost uniform mean values of four experimental groups i.e. Harness Running Group (10.72), Sand Running Group (10.83), Weight Jacket Group (10.65), Weight Training Group (10.67) and Control Group (11.03) are found which were not significant.

In the case of post-test means also except the mean values of Harness Running Group (10.61), Sand Running Group (10.74), Weight Jacket Running Group (10.52), Weight Training Group (10.60) and Control Group (11.13) are found, which also indicate no significant difference among the group.

On the other hand in the case of adjusted post-test mean remarkable significant difference in shuttle run mean value among four experimental and one control group soccer players are noticed, where Control Group mean value (10.91) is found to be highest which is followed by mean value of Weight Training Group (10.70) in

comparison to mean value of Sand Running Group (10.69), Harness Running Group (10.67), and Weight Jacket Running Group (10.64). Which were significant at 0.05 level of confidence at 4, 95 df.

As the significance difference in Shuttle run among four experimental and one control group in adjusted post-test mean are observe. The scheffe’s post-hoc-test was computed to find out the existence of significance difference in pair group means, which is presented in table 2.

Table - 2
Four Post Hoc Mean Difference Comparison Of Experimental Groups And Control Group On Shuttle Run

Harness running group	Sand running Group	Weight jacket group	Weight training group	Control group	Mean difference	Critical difference
10.67	10.69				0.02	0.18
10.67		10.64			0.03	0.18
10.67			10.70		0.03	0.18
10.67				10.91	0.24*	0.18
	10.69	10.64			0.05	0.18
	10.69		10.70		0.01	0.18
	10.69			10.91	0.22*	0.18
		10.64	10.70		0.06	0.18
		10.64		10.91	0.27*	0.18
			10.70	10.91	0.21*	0.18

*Significant at 0.05 level

Table 2 reveals significant difference in five out of ten paired group means.

The paired group means, which showed significant difference between Harness Running Group and Control Group (0.24 > 0.18) between Sand Running Group and Control Group (0.22 > 0.18) between Weight Jacket Running Group and Control Group (0.27 > 0.18) between Weight Training Group and Control Group (0.21 > 0.18) at 0.05 level of confidence.

No significant difference were found between paired group mean namely between Harness Running Group and Sand Running Group (0.02 < 0.18) between Harness Running Group and Weight Jacket Running Group (0.03 < 0.18) between Harness Running Group and Weight Training Group (0.03 < 0.18) between Sand Running Group and Weight Jacket Running Group (0.05 < 0.18) between Sand Running Group and Weight Training Group (0.01 < 0.18) between Weight Jacket Running Group and Weight Training Group (0.06 < 0.18) are observed

The Graphical representation of mean comparison of Standing Broad Jump for four experimental group and one control group after ten weeks of experimental programmed is presented in Figure – 1.

Figure – 1
MEAN COMPARISON OF FOUR EXPERIMENTAL GROUPS AND CONTROL GROUP ON SHUTTLE RUN

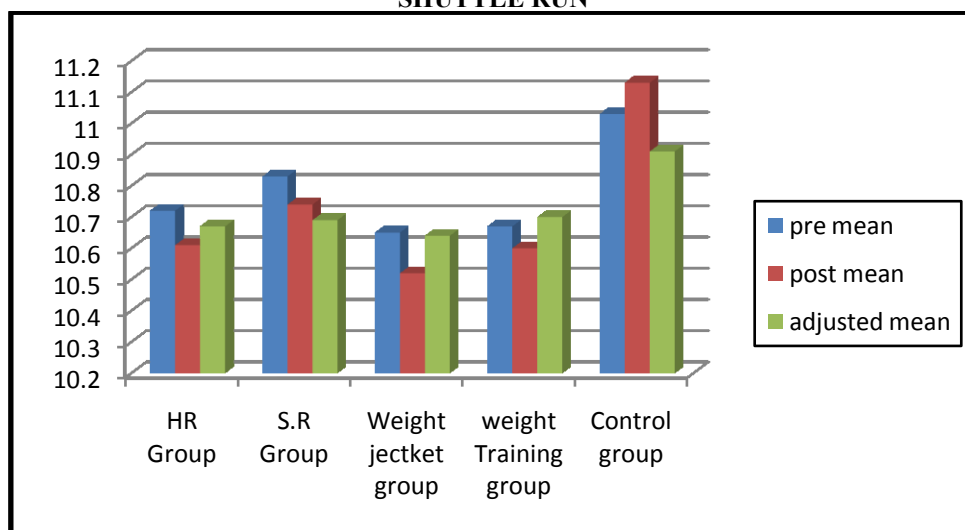


Figure-1

Here it is clearly observed that the highest running time was taken by Control Group in pre-test data followed by Sand Running Group, Harness Running Group, Weight Training Group and Weight Jacket Running Group respectively. The highest running time was taken by Control Group in post-test data followed by Sand Running Group, Harness Running Group, Weight Training Group and Weight Jacket Running Group respectively. The lowest adjusted mean value was found in Weight Jacket Running Group followed by Harness Running Group, Sand Running Group, Weight Training Group and Control Group respectively.

The finding implies that Weight Jacket Group was more effective in decreasing the time taken than all other training programs after ten weeks of training on Shuttle Run.

IV. Conclusions

Within the limitations imposed by the subjects and experimental condition and on the basis of the results of this study, the following conclusions were drawn.

1. In shuttle Run weight-jacket group was more effective in decreasing the time taken than all other training groups.
2. Here it is interesting to know that the shuttle Run of four experimental groups was improved except Control Group. It may be due to training

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