EFFECTS OF HARNESS RUNNING, SAND RUNNING, WEIGHT - JACKET RUNNING AND WEIGHT TRAINING ON THE PERFORMANCE OF SPEED AMONG THE SCHOOL LEVEL SOCCER PLAYERS

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INTRODUCTION

Games and sports, as a part of human education have always existed in the human society. Before the dawn of civilization and culture, physical exercise was very important aspect of human existence. In the primitive society, "the necessity for survival" motivated man to keep himself more physically fit and strong enough in comparison to stronger forces of nature.

Sports science has made rapid progress in the last few decades. Theory and the methods of sports, training was a subject of, central, importance among the various disciplines and it has developed rapidly. The growing sophistication of soccer has placed proportionately greater demands upon the players and coaches. : Modern" coaching: and training methods have focused on the development of basic components of the soccer and greater importance is given to aerobic kind of development.

Sports training are essentially a preparation of the individual ' so that he can withstand competition stress. In the case of games, players training are geared to prepare for match play and involve the whole team as an integrated unit.

STATEMENT OF THE PROBLEAM

The purpose of the study is to the find out the effects of Harness Running, Sand Running, Weight Jacket Running and Weight training on the performance of speed among the college level soccer players.

DELIMITATION

- Age range: 14 to 18 years.
- Willing to participate voluntarily.
- This study was restricted to the Burdwan School level district soccer players.
- The study will confine only one test item related to physical fitness components.

LIMITATION

- Socio-economic and cultural status of the subjects
- Factors like food, heredity, environment, life style and the day to day activity of the subjects.

HYPOTHESIS

It is hypothesized that –

H_1. There will be no significant difference between training on harness running, sand running, weight-jacket running and weight training on speed. Due to 10 weeks of training on harness running, sand running, weightjacket running and weight training there will be definite changes.

H_2. There will be significant effects of different training programmed on speed of the subjects.

SIGNIFICANCE OF THE STUDY

For the reasons stated above the result of the study may be of vital importance in the following ways:

1. The study will help the teacher of physical education and coaches by informing them about the training effects produced by the different training means i.e. Harness Running, Sand Running, Weight- Jacket Running and Weight- training.

2. The result of the study might reveal which of the training means employed in the study are superior to the others in improving sprinting speed.

3. The finding of the study might high light the differential effects produced by the four types of training methods, selected for this study on sprinting speed.

4. The physical education personal and coaches will be able to select as to what type of training will be best suitable for their athletes.

PROCEDURE

For the present study the experimental design adopted was 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 speed. 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 programmed 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 differences between the initial and final scores in speed was subjected to statistical treatment using Analysis of Covariance (ANCOVA) to find out whether the mean differences were significant or not. The Scheffe's post hoc test was used to find out the paired means significance difference.

RESULT AND DISCUSSION

Table-1
ANALYSIS OF CO-VARIANCE OF FOUR EXPERIMENTAL GROUPS AND CONTROL GROUPS
ON 50 YARD DASH

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
Pre test	7.78	8.14	7.96	7.95	8.18	A	2.30	4	0.57	1.77
						W	30.80	95	0.32	
Post test	7.82	8.12	7.94	7.93	8.40	A	4.10	4	1.02	3.32*
						W	29.34	95	0.30	
Adjusted post test	8.01	7.99	7.972	7.97	8.24	A	1.08	4	0.27	2.86*
						W	8.89	94	0.094	

***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 and reveals insignificant difference in 50 Yard Dash ability among four experimental and one control group Soccer players in pre -test mean ('F' = 1.77<2.47 at 4, 95 df) and where as significant difference in post-test mean ('F' = 3.32 > 2.47 at 4, 95 df) whereas significant difference is observed in adjusted posttest mean ('F' = 2.86 > 2.47 at 4, 95 df) which was significant at 0.05 level of confidence .

In the case of pre-test mean almost uniform mean values of four experimental groups i.e. Harness Running Group (7.78), Sand Running Group (8.14), Weight Jacket Running Group (7.96), Weight Training Group (7.95) and Control Group (8.18) are found and thereby indicated no significant difference.

In the case of post-test means also except the mean values of Harness Running Group (7.82), Sand Running Group (8.12), Weight Jacket Running Group (7.94), Weight Training Group (7.93) and Control Group (8.40) are found, which also indicate no significant difference among the group.

On other hand in the case of adjusted post-test mean remarkable significant difference in 50 Yard Dash mean value among four experimental groups and one control group soccer players are noticed which was significant at 0.05 level of confidence. Where control group mean value (8.24) is found to be highest which is followed by mean value of Harness Running Group (8.01) in comparison to the mean value of Sand Running Group (7.99), Weight Jacket Running Group (7.972) and Weight Training Group (7.97) which were significant at 0.05 level of confidence with the df at 4, 95.

As the significance difference in 50 yard dash 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

POST HOC MEAN DIFFERENCE COMPARISON OF FOUR EXPERIMENTAL GROUPS AND CONTROL GROUP ON 50 YARD DASH

***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 (0.23 > 0.2) between Sand Running Group and Control Group (0.25 > 0.2) between Weight Jacket Running Group and Control Group (0.268 > 0.2) between Weight Training Group and Control Group

Harness running group	Sand running group	Weight jacket group	Weight training group	Control group	Mean difference	Critical difference
8.01	7.99				0.02	0.2
8.01		7.972			0.04	0.2
8.01			7.97		0.04	0.2
8.01				8.24	0.23*	0.2
	7.99	7.972			0.018	0.2
	7.99		7.97		0.02	0.2
	7.99			8.24	0.25*	0.2
		7.972	7.97		0.0020	0.2
		7.972		8.24	0.268*	0.2
			7.97	8.24	0.27*	0.2

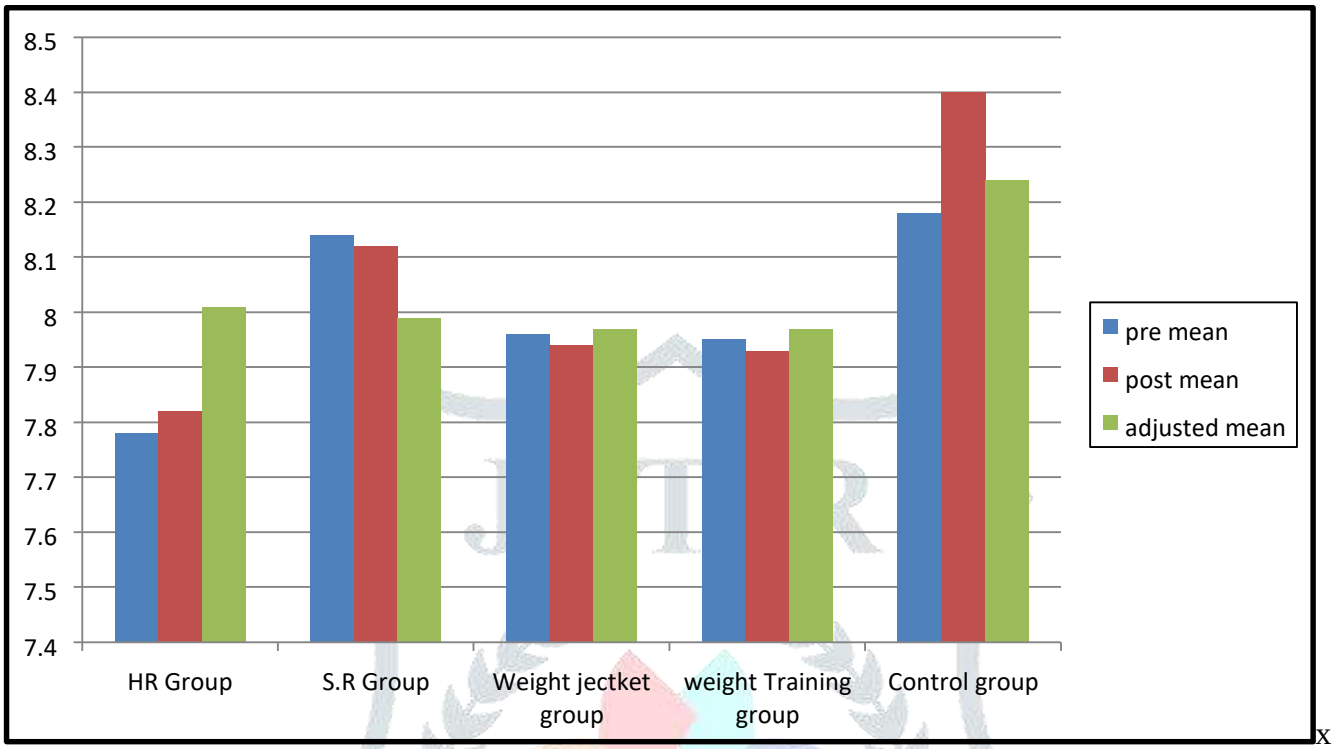
(0.27 > 0.2) at 0.05 level of confidence.

No significant difference between paired group mean namely between Harness Running Group and Sand Running Group (0.02 < 0.2) between Harness Running Group and Weight Jacket Running Group (0.04 < 0.2) between Harness Running Group and Weight Training Group (0.018 < 0.2) between Sand Running and Weight Jacket Running (0.018 < 0.2) between Sand Running Group and Weight Training Group (0.02 < 0.2) between Weight Jacket Running Group and Weight Training Group (0.0020 < 0.2) are observed.

The Graphical representation of mean comparison of 50 Yard Dash 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 50 YARD DASH



x

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

CONCLUSIONS

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

Weight-Jacket Group produced better performance in 50 yard dash then the other four groups.

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