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IMPACT OF CIRCUIT TRAINING ON AGILITY AMONG HOCKEY PLAYERS

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Abstract:

The purpose of the study was to find out the effect of circuit training on agility among hockey players. To achieve the purpose 30 hockey players from Tamilnadu Physical Education and Sports University, Chennai were selected as subjects and their age ranged from 18 to 25 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent circuit training and Group 'B' undergone no training. The circuit training group was undergone training for six weeks on alternate days. The endurance parameters namely cardiovascular endurance and strength endurance were selected as variables. Analysis of covariance was used, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance. The experimental group hockey players showed significant improvement on agility when compared to the subjects in the control group.

Key Words: Circuit, Agility, Hockey.

Introduction:

Circuit training is a form of body conditioning or resistance training using high-intensity aerobics. It targets strength building and muscular endurance. An exercise "circuit" is one completion of all prescribed exercises in the program. When one circuit is complete, one begins the first exercise again for the next circuit. Traditionally, the time between exercises in circuit training is short, often with rapid movement to the next exercise. While circuit routines are similar to interval training routines, there are some major differences. Circuits incorporate a large variety of exercises of shorter duration in one session. Interval training tends to focus on one single exercise (typically an endurance exercise, such as running, cycling, swimming, rowing, etc.) during a session and then vary the intensity of that exercise during the workout session (Frietas, 2015).

Methodology:

The purpose of the study was to find out the effect of circuit training on agility among hockey players. To achieve the purpose 30 hockey players from Tamilnadu Physical Education and Sports University, Chennai were selected as subjects and their age ranged from 18 to 25 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent circuit training and Group 'B' undergone no training. The circuit training group was undergone training for six weeks on alternate days. The endurance parameters namely cardiovascular endurance and strength endurance were selected as variables. Analysis of covariance was used, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance.

Results:

Table 1: Analysis of Covariance of Agility of Control Group and Circuit Training Group

	Control Group	Circuit Training	Source of Variance	Sum of Squares	Degree of Freedom	Mean Squares	'F' Ratio
Pre-Test Mean	7.94	8.01	Between	0.03	1	0.03	1.85
Standard Deviation	0.09	0.14	Within	0.51	28	0.02	
Post-Test Mean	7.77	7.57	Between	0.30	1	0.30	13.15*
Standard Deviation	0.12	0.12	Within	0.64	28	0.02	
Adjusted Pre-Test Mean	7.78	7.57	Between	0.33	1	0.33	28.43*
			Within	0.31	27	0.012	

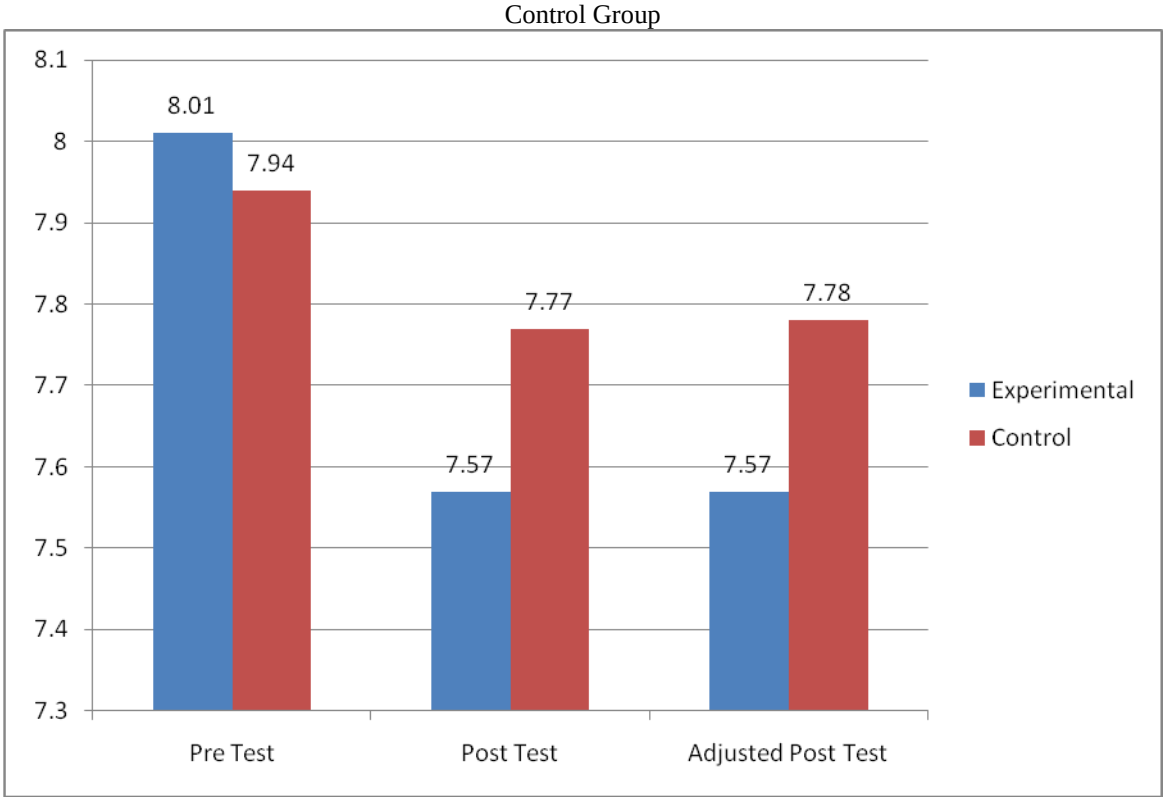
*significant at 0.05level

The required table value for significance at 0.05 level of confidence with degree of freedom 1 and 27 is 4.21 and degree of freedom 1 and 28 is 4.20.

Table 1 shows that the pre test means of Agility of control group and circuit training group are 7.94 and 8.01 respectively. The obtained 'F' ratio value of 1.85 for pre test means on Agility is greater than the required

table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The post-test means on Agility of control group and circuit training group are 7.77 and 7.57 respectively. The obtained 'F' ratio value of 13.15 for post –test data on Agility is greater than the required table value of 4.20 for significance at 0.05 level of confidence with degree of freedom 1 and 28. The adjusted post-test means on Agility of control group and circuit training group are 7.78 and 7.57 respectively. The obtained 'F' ratio value of 28.43 of adjusted post-test data on Agility is greater than the table value of 4.21 required for significance at 0.05 level of confidence with degree of freedom 1 and 27.

Figure 1: Bar Diagram Showing the Mean Values of Pre Post and Adjusted on Agility of Experimental and Control Group



Conclusion:

- The control group hockey players did not show significant improvement on agility.
- The experimental group hockey players showed significant improvement on agility when compared to the subjects in the control group.

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