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EFFECT OF RESISTANCE TRAINING PACKAGES ON SELECTED PSYCHOMOTOR VARIABLES AMONG INTER-COLLEGIATE FOOTBALL PLAYERS

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Abstract

The purpose of the study was to investigate the effect of resistance training packages on selected psychomotor variables among inter-collegiate football players. For the present study 60 players were selected as samples from affiliated colleges of Bharathiar University inter-collegiate football players, Tamilnadu were selected as subjects at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of experimental group and control group was used. The subjects were randomly assigned to two equal groups of thirty each and named as Group 'A' and Group 'B'. Group 'A' underwent resistance training and Group 'B' underwent no training. The data was collected before and after twelve weeks of resistance training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) technique to find out the effect of resistance training on selected psychomotor variables among inter-collegiate football players. The level of significance was set at 0.05. The findings of the present study have strongly indicates that resistance training have significant effect on selected psychomotor variables i.e reaction time and hand eye Coordination of inter-collegiate football players. Hence the hypothesis earlier set that resistance training would have been significant effect on selected psychomotor variables in light of the same the hypothesis was accepted. Significant effect of resistance training was found on reaction time and hand eye Coordination.

Keywords: Resistance Training, Reaction Time And Hand Eye Coordination Inter-Collegiate Football Players.

INTRODUCTION

Sport training is a physical, technical, moral and intellectual participation of an athlete with the help of physical exercises. It is a planned process for the participation of athletes and players to achieve top level performance (Hardayalsingh, 1983). Training is much like constructing a multi-story building. One needs materials for the building such as aerobic, anaerobic running, comprehensive conditioning, flexibility, etc. Several kinds of materials like training intensities and modalities should be utilized in an on-going process to complete the goal of finished buildings or competitively fit athlete.

Strength is the necessary ability for performing most physical movements and activities. The biological foundation of strength is the musculature which is the largest bodily system. About 35% of women's and 45% of men's body weight is made up of muscle tissue (Bumpa, 1994 & McMurray et.al, 1995).

Resistance training improves the functional performance of the neuromuscular system, the system of muscles and nerve pathways that directs and controls movement. Resistance training produces increased strength, superior movement performance and general fitness, including enhanced function of the respiratory, cardiac and metabolic systems. Other improvements include an increase in muscle mass, strengthening of connective tissue and supportive tissue as well as improvements in posture and physique. Structuring a resistance training program with Burke Spencer's Fitness Partner encourages the lifetime physical activity in students ages 8+ to improve neural motor skills and strength, to improve bone development by increasing bone density, to improve the strength of bone connective tissue to strengthen the heart muscle and to improve muscle energy capacity.

OBJECTIVE OF THE STUDY

The purpose of the study was to investigate the effect of effect of resistance training packages on selected psychomotor variables among inter-collegiate football players. It was hypothesized that there would have been a significant effect of resistance training packages on selected psychomotor variables among inter-collegiate football players.

PROCEDURE AND METHODOLOGY

For the present study 60 players were selected as samples from affiliated colleges of Bharathiar University inter-collegiate football players, Tamilnadu were selected as subjects at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of experimental group and control group was used. The subjects were randomly assigned to two equal groups of thirty each and named as Group 'A' and Group 'B'.

Group 'A' underwent Resistance training and Group 'B' underwent no training. The data was collected before and after twelve weeks of Resistance training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA) technique to find out the effect of resistance training on selected psychomotor variables among inter-collegiate football players. The level of significance was set at 0.05.

RESULTS AND DISCUSSIONS ON FINDINGS

The findings pertaining to analysis of co-variance between experimental group and control group on selected psychomotor variables among inter-collegiate football players for pre-post test respectively have been presented in table No.1 to 2.

TABLE – 1
ANCOVA BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ON REACTION TIME OF INTER-COLLEGIATE FOOTBALL PLAYERS FOR PRE, POST AND ADJUSTED TEST

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	0.32	0.33	BG	0.08	1	0.08	0.76
			WG	5.81	58	0.10	
Post Test Mean	0.29	0.32	BG	0.32	1	0.32	4.69*
			WG	3.95	58	0.07	
Adjusted Post Mean	0.29	0.32	BG	0.01	1	0.01	11.35*
			WG	0.05	57	0.00	

**** Significant at 0.05 level.** **df: 1/57= 4.01**

Table No. 1 revealed that the obtained 'F' value of 11.35 was found to be significant at 0.05 level with df 1, 57 as the tabulated value of 4.01 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of reaction time of inter-collegiate football players between experimental group and control group. The graphical representation of data has been presented in figure No.1

FIGURE 1
COMPARISONS OF PRE – TEST MEANS POST – TEST MEANS AND ADJUSTED POST – TEST MEANS FOR EXPERIMENTAL GROUP AND CONTROL GROUP IN RELATION TO REACTION TIME

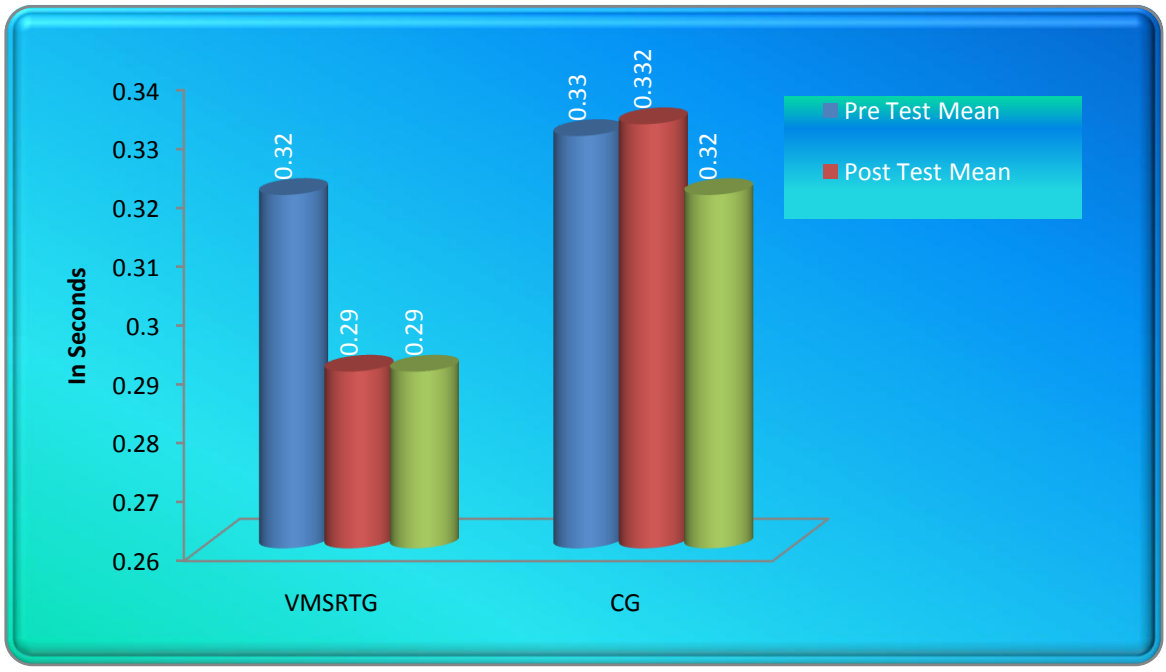


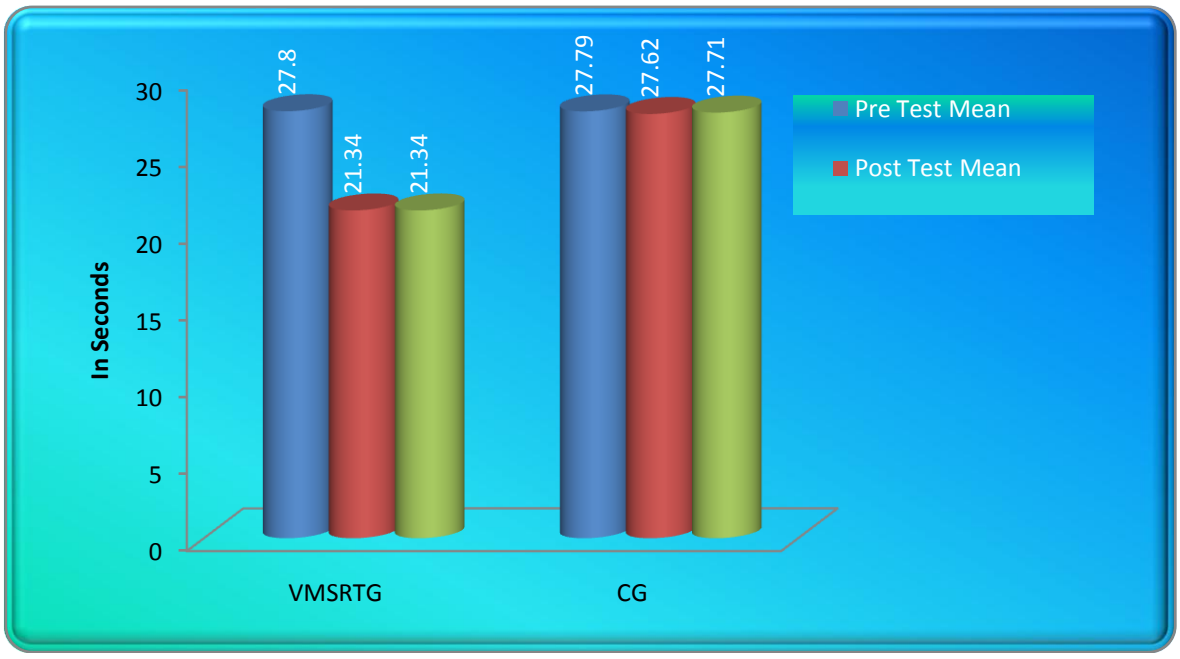
TABLE 2
ANCOVA BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP HAND EYE COORDINATION OF INTER-COLLEGIATE FOOTBALL PLAYERS FOR PRE, POST AND ADJUSTED TEST

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	27.80	27.79	BG	16.02	1	16.02	0.77
			WG	1210.83	58	20.88	
Post Test Mean	21.34	27.62	BG	380.02	1	380.02	23.26*
			WG	947.63	58	16.34	
Adjusted Post Mean	21.34	27.71	BG	609.70	1	609.70	116.01*
			WG	299.56	57	5.255	

**** Significant at 0.05 level.** **df: 1/57= 4.01**

Table No. 2 revealed that the obtained 'F' value of 116.01 was found to be significant at 0.05 level with df 1, 57 as the tabulated value of 4.01 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of hand eye coordination of inter-collegiate football players between experimental group and control group. The graphical representation of data has been presented in figure No.2.

FIGURE 2
COMPARISONS OF PRE – TEST MEANS POST – TEST MEANS AND ADJUSTED POST – TEST MEANS FOR CONTROL GROUP AND EXPERIMENTAL GROUP IN RELATION TO HAND EYE COORDINATION



In case of psychomotor variables i.e. reaction time and hand eye coordination results between pre and post (12 weeks) test has been found significantly higher in experimental group in comparison to control group.

A significant reduction in reaction time and hand eye coordination time was observed after resistance training exercise. In high-level players, the reaction time hand eye coordination time immediately after the resistance training programme was significantly shorter than it was in low-level players

Since, the resistance training specially improves the physical components and also psychomotor qualities and directs it towards positive self nature which, directly contribute to enhancement in their reaction time and hand eye coordination and due to regular training programme of resistance training which may also bring sudden changes in psychomotor variables in inter-collegiate football players.

The findings of the present study have strongly shows that resistance training packages have significant

effect on selected psychomotor variables i.e., reaction time and hand eye coordination of inter-collegiate football players. Hence the hypothesis earlier set that resistance training would have been significant effect on selected psychomotor variables in light of the same the hypothesis was accepted.

CONCLUSIONS

On the basis of findings and within the limitations of the study the following conclusions were drawn: Significant effect of resistance training was found on reaction time and hand eye coordination.

REFERENCES

1. Foster, C. (1995). "Effects of Specific Versus Cross-Training on Running Performance", European *Journal of Applied Physiology and Occupational Physiology* , 70(4), pp.367-72.
2. Fry, R., Morton, A. and Keast, D. (1992). "Periodization of Training Stress: a review". *Canadian Journal of Sport Science* , 17 (3), pp.234-40.
3. Gergley, J.C. (2009). "Comparison of Two Lower-Body Modes of Endurance Training on Lower-Body Strength Development While Concurrently Training", *Journal of Strength and Conditioning Research*, 23(3), PP.979-87.
4. Glowacki, S.P., et al., (2004). "Effects of Resistance, Endurance, and Concurrent Exercise on Training Outcomes in Men". *Journal of Medicine Science and Sports Exercise* , 36(12), pp.2119-27.
5. Robert A.Robergs Scott O.Roberts, "Exercise Physiology", (U.S.A: Mosby, 1997), p.809.
6. Singh, A. (2009). Essential of physical education, *Kalan publishers*, New Delhi.
7. Wilmore, J.H. and Costill, D.L., (2005). *Physiology of Sport and Exercise.* (3rd Edition). Champaign, IL: *Human Kinetics*.
8. Zatsiorsky, Vladimir M., (1995). *Science and Practice of strength Training*, Champaign Illinois*: Human Kinetics Publishers Inc*.