A COMPARATIVE STUDY OF COORDINATIVE ABILITIES AMONG VOLLEYBALL BASKETBALL AND HANDBALL PLAYERS

Dr. P. Kumaravelu * Assistant Professor, Department of Physical Education, Tamil Nadu Physical Education and Sports University, Chennai, Tamil Nadu, 600 127, Email-drpkv007@gmail.com, Phone

ABSTRACT

The purpose of the study was to find out the significant differences on selected coordinative abilities among female state level volleyball, basketball and handball players. To achieve this purpose, forty-five female players who represented Tamil Nadu, Pondicherry and Kerala states were selected as subjects. Among them, fifteen volleyball, fifteen basketball and handball players were selected as subjects. The selected subjects were tested on selected criterion variables such as space orientation ability, differentiation ability of the upper limb, differentiation ability of the lower limb and reaction ability by using numbered medicine ball run test, backward ball throw test, jump down on the line test and reaction timer respectively The one way analysis of variance (ANOVA) was used to find out the significant differences, if any, among the female state level volleyball, basketball and handball players on selected criterion variables separately. The results of the study showed that there was no significant difference that exists among the female state volleyball, basketball and handball players on selected coordinative abilities. In all the cases, .05 level of confidence was used to test the significance.

INTRODUCTION

In sports today best performance is achieved through meticulously planned, executed and controlled training system based on the scientific knowledge, theoretical and methodical fundamentals of sports training. Performance is usually determined by the ability to generate force development, so that he or she is able to generate force in less time. Coordinative abilities interact, to varying degrees, when performing different motor tasks and while they cannot be isolated, training activities can be selected according to their dominant requirements (Steven, 2000).

The developing tendencies in international sport, especially in team games are identified as the increase in game tempo, tougher body game and greater variability in technique and tactics, physical fitness and psychological qualities. Apart from these components, one more factor which is now a day known as coordinative abilities also play a greater role. A Sportsman can compete effectively only by a certain coordinative mastery of the technique.

Coordinative abilities enable the sportsman to do a group of movements with better quality and effect. The speed of learning of skill and its stability is directly dependent on the level of various coordinative abilities. Coordinative abilities are needed for maximal utilization of conditional abilities, technical skills and tactical skills (Singh, 1991).

STATEMENT OF THE PROBLEM

The purpose of the present study was to compare the coordinative abilities such as space orientation ability, differentiation ability of the upper limb, differentiation ability of the lower limb and reaction ability among state level female volleyball, bas et a an hand ball players.

HYPOTHESIS

It is hypothesized that there may not be any significant difference in selected coordinative abilities among the volleyball, basketball and handball players.

METHODOLOGY

45 female players who represented Tamil Nadu, Pondicherry and Kerala states Were selected as subjects. Among them, fifteen volleyball, fifteen basketball and handball players were selected. Coordinative ability test suggested by peter Hirtz were administered to evaluate the coordinative abilities of the subjects.

S.No	variables	Test items				
1.	Space orientation ability	Numbered medicine ball run test				
2.	Differentiation ability of the upper limb	Backward medicine ball throw test				
3.	Differentiation ability of the lower limb	Jump down on the line test				
4.	Reaction ability	Reaction timer				

TABLE I SELECTION OF TESTS

ANALYSIS OF DATA

The one way analysis of variance was used to find out the significant differences, if any, among the female state level volleyball, basketball and handball

players on selected variables separately. Whenever the 'F' ratio was found to be significant, the Scheffe's test was applied as post hoc test to determine the paired mean differences. In all the cases, .05 level of confidence was used to test the significance.

TABLE II ANALYSIS OF VARIANCE ON SPACE ORIENTATION ABILITY AMONG FEMALE STATE LEVEL VOLLEYBALL, BASKETBALL AND HANDBALL

	Volleyball	Basketball	Handball	Source of	Sum of	df	Mean	'F'
	players	players	players	variance	squares		squares	ratio
Mean	8.53	8.42	8.83	between	1.37	2	0685	2.21
S.D	0.55	0.57	0.56	within	13.02	42	0.31	

TABLE 2, showed that the mean values of females state level volley ball, basketball and handball players on space orientation ability were 8.53, 8.42 and 8.83 respectively. The obtained 'F' ratio value of 2.21 was less than the required table value 3.2317 for significance at .05 level of confidence with df 2 and 42. The results of study showed that there were no significant differences that exist among female state level volleyball, basketball and handball players on space orientation ability.

TABLE III ANALYSIS OF VARIANCE ON DIFFERENTIATION ABILIT Y OF UPPER LIMB AMON G F EMALE STATE LEVEL VOLLEYBALL, BASKETBALL AND HANDBALL PLAYERS

	Volleyball	Basketball	Handball	Source of	Sum of	df	Mean	'F' ratio
	players	players	players	variance	squares		squares	
Mean	12.33	10.93	10.87	between	20.58	2	10.29	2.21
S.D	3.66	3.71	3.93	within	596.0	42	14.19	

Table 3, showed that the mean values of females state level volley ball, basketball and handball players on differentiation ability of upper limbs were12.33,10.93 and 10.87 respectively. The obtained 'F ' ratio value of 2.21 was less than the required table value 3.2317 for Significance at .05 level of confidence with df 2 and 42.The results of study showed that' there were no

significant differences that exist among female state level volleyball, basketball and handball players on differentiation ability of upper limbs.

TABLE IV ANALYSIS OF VARIANCE ON DIFFERENTIATION ABILITY OF LOWER LIMBS AMONG FEMALE STATE LAEVEL VOLLEYBALL, BASKETBALL AND HANDBALL PLAYERS

	Volleyball	Basketball	Handball	Source of	Sum of	df	Mean	'F' ratio
	players	players	players	variance	squares		squares	
Mean	2.91	4.36	3.60	between	16.55	2	8.28	1.37
S.D	0.56	0.42	0.49	within	253.55	42	6.04	

Table 4, showed that the mean values of female state level volley ball, basketball and handball players on differentiation ability of lower limbs were 2.91 ,4.36 and 3.60 respectively. The obtained 'F ' ratio value of 2.21 was less than the required table value 3.2317 for significance at .05 level of confidence with (if 2 and 42.1 'hc results of study showed that there was no significant differences that exist among female. state level volleyball, basketball and handball players on differentiation ability of lower limbs.

TABLE V ANALYSIS OF VARIANCE ON REACTION ABILITY OF AMONG FEMALE STATE LEVEL VOLLEYBALL, BASKETBALL AND HANDBALL PLAYERS

	Volleyball	Basketball	Handball	Source of	Sum of	df	Mean	'F'
	players	players	players	variance	squares		squares	ratio
Mean	2.11	1.54	3.06	between	0.33	2	0.17	1.31
S.D	0.57	0.67	0.42	within	5.59	42	0.13	

Table 5, showed that the mean values of females state level volley ball, basketball and handball players on reaction ability were 2.11, 1.54 and 3.06 respectively. The obtained 'F' ' ratio value of 2.21 was less than the required table value 3.2317 for significance at .05 level of confidence with df 2 and 42.The results of study showed that there were no significant differences that exist among female state level volleyball, basketball and handball players on reaction ability.

DISCUSSION ON FINDINGS

Space orientation ability of volleyball, basketball and hand ball players was found to be statistically not significant this may be due to their requirement of the game is same. Differentiation ability of upper limbs 'of volleyball, basketball and hand ball players was found to be statistically not significant this may be due to all the game involve mostly upper limbs. Differentiation ability of lower limbs of volleyball, basketball and hand ball players was found to be statistically not significant this may be due to the reason that their court dimensions, jumping and movement pattern is same. Reaction ability of volleyball, basketball and hand ball players was found to be statistically not significant this may be due to their level of play is same; all the games are team games Finally there is no significant difference in all coordinative abilities selected, this may be due to the reason that selected subjects are physical education students involving same pattern of training and all should play all the games.

REFERENCES

1. Steven Scott Plisk, Training and Conditioning, 10.6, (September 2000), http://www momentmnmedia.com/articles/tc/tc1006/agility.htm.

2. Hardayal Singh, Science of Sports Training, (New Delhi: D.V.S Publications, 1991), p.165.