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Analysis of the anthropometric, physical and physiological difference among university male volley ball and basket-ball players

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Abstract

The purpose of the present study was to find out the significant difference of selected anthropometric, physical and physiological variables between volley ball and basket-ball players. To achieve the purpose of the study, fifteen (15) male volley ball and fifteen (15) male basket-ball players were randomly selected from the Dept of physical education and sports sciences of Annamalai University, Tamil Nadu. The age of the selected subjects ranged from 19 to 25 years. The selected subjects were tested on selected criterion variables such as, Arm length, Leg length, and Speed, Agility, and Resting pulse rate. The collected data were statistically analyzed between volley ball and basket-ball players by using ANCOVA (Mean, Standard deviation, and t-test). The level of significance was fixed at 0.05 in all cases.

Keywords: Anthropometric, Physical and physiological. Randomly, ANCOVA

Introduction

The importance of physical program is linked to a higher quality of life as well as academic achievements (Enright 2006) ^[1]. It is well documented that regular physical activity in childhood and adolescence improve strength and endurance, health build, healthy bones and muscles, hip control weight, reduce anxiety and stress increases self-esteem and may improve cardio respiratory function. Physical fitness is recognized as an important component of health (Limb *et al*, 1998 and Twisk *et al*, 2000) ^[2]. Physical fitness has remained very essential requirements for human from time immemorial. BUCHER has stated that search for food to satisfy hunger, the desire for protection against enemies, Innate drive for formulating and propagation, the age to manipulate brain and brawn, fear for strange and the unknown and the need to associate with others, Hunting, Fishing, Warfare, Dancing, and Play evolved as a result of these tendencies. (Thirumalaisami 1990) ^[4] Conducted that the soccer players had lesser pulse rate, greater vital capacity, than volley ball and basket-ball players. Further, it is also conducted that the volley ball players were significantly taller than other game players. The groups did not differ significantly in other anthropometric measurement. It is determined that the relationship of power, agility, shoulder flexibility, arm length and Leg length to volley ball playing ability. These all are reliable in prediction of playing ability of volley ball.

Materials and Methods

The purpose of the present study was to find out the significant difference of selected anthropometric, physical and physiological variables between volley ball and basket-ball players. To achieve the purpose of the study, fifteen (15) male volley ball and fifteen (15) male basket-ball players were randomly selected from the department of physical education and sports sciences of Annamalai University, Tamil Nadu. The age of the selected subjects ranged from 19 to 25 years. The selected subjects were tested on selected criterion variables such as, Arm length and Leg length by measuring tape in Cms, Speed by 50 m dash in seconds, agility by shuttle run in seconds and resting pulse rate by spirometer in beats/min. The collected data were statistically analyzed between volley ball and basket-ball players by using Mean, Standard deviation, and t-test. The level of significance was fixed at 0.05 in all cases. Which is appropriate enough for the present study?.

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S. No	Variables	Tests And Equipments	Unit of Measures
1	Arm Length	Measuring Tape	Cms
2	Leg Length	Measuring Tape	Cms
3	Speed	50m Dash	Seconds
4	Agility	Shuttle Run	Seconds
5	Resting Pulse Rate	Spirometer	Beats /Min

Results and Discussion

Mean, S.D and 't' ratio of selected anthropometric, physical and physiological variables among university male volley ball and basket-ball players were completed, the results have been present in the given below in each table.

Table 1: Statistical comparison of Arm Length between volley ball and basket-ball players

Group	Mean	S.D	t-ratio	p-value
Volley ball players	82.60	4.82	6.55	0.05
Basket-ball players	92.00	2.75		

*significant at 0.05 level of confidence.

The table 1 indicates that the Mean and S.D values of volley ball and basket-ball players on arm length were 82.60 and 4.82 for volley ball players and 92.00 and 2.75 for basket-ball players respectively. By statistical analysis the variations by means of arm length of volley ball and basket-ball players as shown in the above table, as an outcome of t-ratio, it can be inferred that the t-ratio of 6.55 corresponding to the arm length of volley ball and basket-ball players is found to be significant at p-value of 0.05. Hence there is found a significant difference between volley ball and basket-ball players.

Table 2: Statistical comparison of Leg Length between volley ball and basket-ball players

Group	Mean	S.D	t-ratio	p-value
Volley ball players	103.40	4.28	5.54	0.05
Basket-ball players	111.86	4.06		

*significant at 0.05 level of confidence.

The table 2 indicates that the Mean and S.D values of volley ball and basket-ball players on leg length were 103.40 and 4.28 for volley ball players and 111.86 and 4.06 for basket-ball players respectively. By statistical analysis the variations by means of leg length of volley ball and basket-ball players as shown in the above table, as an outcome of t-ratio, it can be inferred that the t-ratio of 5.54 corresponding to the leg length of volley ball and basket-ball players is found to be significant at p-value of 0.05. Hence there is found a significant difference between volley ball and basket-ball players.

Table 3: Statistical comparison of Speed between volley ball and basket-ball players

Group	Mean	S.D	t-ratio	p-value
Volley ball players	7.36	0.39	4.31	0.05
Basket-ball players	8.03	0.46		

*significant at 0.05 level of confidence.

The table 3 indicates that the Mean and S.D values of volley ball and basket-ball players on speed were 7.36 and 0.39 for volley ball players and 8.03 and 0.46 for basket-ball players respectively. By statistical analysis the variations by means of

speed of volley ball and basket-ball players as shown in the above table, as an outcome of t-ratio, it can be inferred that the t-ratio of 4.31 corresponding to the speed of volley ball and basket-ball players is found to be significant at p-value of 0.05. Hence there is found a significant difference between volley ball and basket-ball players.

Table 4: Statistical comparison of Agility between volley ball and basket-ball players

Group	Mean	S.D	t-ratio	p-value
Volley ball players	14.56	0.99	2.26	0.05
Basket-ball players	13.79	0.59		

*significant at 0.05 level of confidence.

The table 4 indicates that the Mean and S.D values of volley ball and basket-ball players on agility were 14.56 and 0.99 for volley ball players and 13.79 and 0.59 for basket-ball players respectively. By statistical analysis the variations by means of agility of volley ball and basket-ball players as shown in the above table, as an outcome of t-ratio, it can be inferred that the t-ratio of 2.26 corresponding to the agility of volley ball and basket-ball players is found to be significant at p-value of 0.05. Hence there is found a significant difference between volley ball and basket-ball players.

Table 5: Statistical comparison of resting pulse rate between volley ball and basket-ball players

Group	Mean	S.D	t-ratio	p-value
Volley ball players	67.54	1.46	1.03	0.05
Basket-ball players	67.5	1.35		

*significant at 0.05 level of confidence.

The table 5 indicates that the Mean and S.D values of volley ball and basket-ball players on resting pulse rate were 67.54 and 1.46 for volley ball players and 67.5 and 1.35 for basket-ball players respectively. By statistical analysis the variations by means of resting pulse rate of volley ball and basket-ball players as shown in the above table, as an outcome of t-ratio, it can be inferred that the t-ratio of 1.03 corresponding to the resting pulse rate of volley ball and basket-ball players is found to be significant at p-value of 0.05. Hence there is found a significant difference between volley ball and basket-ball players.

Conclusion

The result of the present study pointed out that there was a significant difference in speed, agility, arm length, leg length and resting pulse rate among the male volley ball and basket-ball players. it was also conducted that the anthropometric, physical and physiological test is one of the best method for improving the ability of game performance as well as fitness for young generation.

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