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Analytical study of selected Kinanthropometry characteristics between right and left wing handball players

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Abstract

The aim of the study was to find out the significant difference of selected *Kinanthropometric* Characteristics between Right and Left wing Handball Players. For present study total 80 (40Right wing and 40 Left wing) male Handball players selected and the age of subjects. The study was confined to All India Inter University Championship and Senior National level Handball Championship participated players were selected as a subject. For this study these Kinanthropometric variables are

Selected: Arm Length, Leg Length, Wrist Width, Elbow width, Biceps Skin fold and Triceps Skinfold. After collecting the relevant data descriptive statistic and t test was applied. The level of significance was set at 0.05. The outcome of the study shows that significant differences of all Kinanthropometric Characteristics between Right and Left wing Handball Players.

Keywords: Arm length, leg length, wrist width, elbow width and biceps skinfold

Introduction

Kinanthropometry is defined as the study of human size, shape, proportion, composition, maturation, and gross function, in order to understand growth, exercise, performance, and nutrition (Singh and Singh, 1989) [2]. It is a scientific discipline that is concerned with the measurement of individuals in a variety of morphological perspectives, its application to movement and those factors which influence movement, including: components of body build, body measurements, proportions, composition, shape and maturation; motor abilities and cardio respiratory capacities; physical activity including recreational activity as well as highly specialized sports performance (Stewart A., 2010) [4]. The predominant focus is upon obtaining detailed measurements upon the body composition of a given person.

Kinanthropometry is the interface between human anatomy and movement. It is the application of a series of measurements made on the body and from these we can use the data that we gather directly or perform calculations using the data to produce various indices and body composition predictions and to measure and describe physique (Betancourt H., 2009).

Somatotype is important in differentiating between players in various positional roles, particularly at higher levels of competition for women. (Wilsmore, 1987) [3] Anthropometric characteristics of the high quality senior male handball players in relation to their basic playing positions (back court player, wing attack players, pivot players and goal keeper (Srhoj, 2002) [1].

Procedure and Methodology

For achieving the purpose of the study total 80 (40Right wing and 40 Left wing) male Handball players selected and the age of subjects. The study was confined to All India Inter University Championship and Senior National level Handball Championship participated players were selected as a subject. For this study these Kinanthropometric variables are selected: Arm Length, Leg Length, Wrist Width, Elbow width, Biceps Skinfold and Triceps Skinfold.

Statistical Analysis

For statistical analysis 't' test was applied and the level of significance set at 0.05.

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Results

Table 1: Display the descriptive statistic and t value of Arm Length between Right and Left wing male Handball Players

Group	Mean	Std. Deviation	t-value
Right wing	75.46	2.50	5.4678
Left wing	71.36	4.03	

$t'_{0.05(78)} = 1.9908$

Table 1: Shows the Mean and SD values of Arm Length between Right and Left wing male Handball Players were 75.46 ± 2.50 and 71.36 ± 4.03 respectively. The obtained “t” value 5.46 (1.9908) was found statistically significant, at.05 level of significance.

Table 2: Display the descriptive statistic and t value of Leg Length between Right and Left wing male Handball Players

Group	Mean	Std. Deviation	t-value
Right wing	94.66	1.86	2.1881
Left wing	95.61	2.02	

$t'_{0.05(78)} = 1.9908$

Table 2: shows the Mean and SD values of Leg Length between Right and Left wing male Handball Players were 94.66 ± 1.86 and 95.61 ± 2.02 respectively. The obtained “t” value 2.1881 (1.9908) was found statistically significant, at.05 level of significance.

Table 3: Display the descriptive statistic and t value of Wrist Width between Right and Left wing male Handball Players

Group	Mean	Std. Deviation	t-value
Right wing	5.34	.47	4.9426
Left wing	4.90	0.31	

$t'_{0.05(78)} = 1.9908$

Table 3: shows the Mean and SD values of Wrist Width of Medalist and between Right and Left wing male Handball Players were $5.34 \pm .47$ and $4.90 \pm .31$ respectively. The obtained “t” value 4.9426 (1.9908) was found statistically significant, at.05 level of significance.

Table 4: Display the descriptive statistic and t value of Elbow width between Right and Left wing male Handball Players

Group	Mean	Std. Deviation	t-value
Right wing	6.27	.18	2.2236
Left wing	6.39	0.29	

$t'_{0.05(78)} = 1.9908$

Table 4: Shows the Mean and SD values of Elbow Width between Right and Left wing male Handball Players were $6.27 \pm .18$ and $6.39 \pm .29$ respectively. The obtained “t” value 2.2236 (1.9908) was found statistically significant, at.05 level of significance.

Table 5: Display the descriptive statistic and t value of Biceps Skinfold between Right and Left wing male Handball Players

Group	Mean	Std. Deviation	t-value
Right wing	5.65	.51	4.5314
Left wing	6.11	0.39	

$t'_{0.05(78)} = 1.9908$

Table 5: shows the Mean and SD values of Biceps Skinfold between Right and Left wing male Handball Players were $5.65 \pm .51$ and $6.11 \pm .39$ respectively. The obtained “t” value 4.5314 (1.9908) was found statistically significant, at.05 level of significance.

Table 6: Display the descriptive statistic and t value of Triceps Skinfold between Right and Left wing male Handball Players

Group	Mean	Std. Deviation	t-value
Right wing	6.38	.45	5.4056
Left wing	6.93	0.46	

$t'_{0.05(78)} = 1.9908$

Table 6: Shows the Mean and SD values of Triceps Skinfold between Right and Left wing male Handball Players were $6.38 \pm .45$ and $6.93 \pm .46$ respectively. The obtained “t” value 5.4056 (1.9908) was found statistically significant, at.05 level of significance.

Conclusion

- The results validate that, significant differences were found in Arm length variable between Right and Left wing male Handball Players.
- The results substantiate that, significant differences were observed between Right and Left wing male Handball Players for their Leg Length variable.
- The result authenticated that, there were significant differences between Right and Left wing male Handball Players for their Wrist Width variable.
- The results powerfully prove that, significant differences were observed between Right and Left wing male Handball Players for their Elbow Width variable.
- The results validate that, significant differences were found in Biceps Skinfold variable between Right and Left wing male Handball Players.
- The results substantiate that, significant differences were observed between Right and Left wing male Handball Players for their Triceps Skinfold variable.

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