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## Exploration study of differences in positions of basketball in morphological characteristics

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### Abstract

The present study has the aim to analysis the differences in the positions of Basketball in morphological characteristics. In our tracking is important morphological variables defined on the basis of position players in basketball. The study sample consists of 60 players, at an average age of 15.12 years. They are divided into five groups according to their position in the field of play: organizers of the game (16), shooting guard (13), small forward (14), power forward (9) and centers (7). External position players did not show high values in longitudinal dimensions, while players under the basket (power forward and centers) have shown meaningful values in all morphological space. Variable length ankle plantar meaningful value is worth 0.001, while variables body weight, body height length of hand, length ankle and the length of the palm 0.000 probability level, however, the width parameter of smacking palm has demonstrated a statistically significant value of 0.016. Such results show that the longitudinal variables show the importance of positional play basketball league cadets.

**Keywords:** Differences, morphological, basketball, positions, players

### Introduction

Basketball is one of the games complex technical team and the performance differences between various regional players and different levels of ability are left to nature. The game of basketball requires the application of different variety of skills. Morphological characteristics are the main determinants for orientation and direction of young players in the game positions, morphological characteristics are an important factor in training effectiveness in the game of basketball. Basketball requires an extremely significant height body and several other longitudinal measures, they mainly affect the performance of certain specific movements of players come. Previous studies have confirmed that players in different positions in basketball are significantly different, as follows: players at the center position are characterized by distinct dimensions of longitudinal and transversal frame and with lower severity of large, compared with players who play or wing-back position, while organizers have significantly lower values in all dimensions.

### The purpose of the research and hypotheses

The aim of the experiment is to allow disparities to basketball players in positions in some morphological characteristics. The data show the structure of the morphological characteristics of basketball players that are available for professional and scientific aspects of the game of parquet. Experiment-study mainly concerns the analysis and the level of development of morphological variables of players in each position separately for each player. The hypothesis of the study are based on the purpose of this experiment, which are submitted: There are significant differences in the best position players that play in positions one, two and three. Will be verified significant differences in favour of the position players. It is anticipated that it would appear important differences in the positions of basketball in morphological characteristics.

### Research methodology

**Samples (model) of entities:** Young basketball players are the incorporation in this experiment, at each position separately.

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This experiment consists of 60 youth basketball players from different schools of Ghaziabad district of Uttar Pradesh as are age 15 + / - 6 months who are training sessions incorporation of 3 times per week, with 1 hour 15 minute workout. The sample for this study sample is selected as a criterion has been to basketball all valued separately at their respective positions, which follow a similar training programs. Data collection was conducted in May 2018, of all the test are assessed.

**The sample of variables**

For this paper are applied seven (7) morphological characteristics:

Body weight (BOWE), Body height (BOHE), Length of hand (LEHA), Length ankle (LEAN), The length of the foot plantar (TLPA), The length of the palm (LEPA) and The width of the palm (WIPA). Data were analysis with the statistical program SPSS version 11 for Windows package where through fundamental analysis (descriptive) statistical distribution of results is made for each variable separately statistical method:

arithmetic average (X) and standard deviation (Std. Dev.). As for the differences between the positions of the players listed is applied univariant analysis of variance methods (ANOVA).

**Results**

Just as we have seen in Table 1 can conclude the arithmetic average values (X) and standard deviation (Std. Dev) Wingers long to dominate the center and indicator body weight (BOWE = 82.55 kg ± 8.21), length ankle (LEAN = 100.44 cm ± .50), the length of the foot plantar (TLPA = 28.44 cm ± .98) and the width of the palm (WIPA = 8.55 cm ± .46), center respectively players have shown high value indicator body height (BOHE = 180.28 cm ± 6.52), length of hand (LEHA = 79.71 cm ± 3.68) and the length of the palm (LEPA = 18.07 cm ± 1.76) who have shown the maximum value in all parameters presented, while in other positions presented lower values in this space that we take for treatment. But if we compare the arithmetical mean value and standard deviation values of other research, will see the values are the same as in our study.

**Table 1:** Basic statistical indicators in morphological space

	<b>Organizers of the game (N = 16) X ± SD</b>	<b>Shooting guard (N = 13) X ± SD</b>	<b>Small forward (N = 15) X ± SD</b>	<b>Power forward (N = 9) X ± SD</b>	<b>Centers (N = 7) X ± SD</b>
BOWE	58.06 ± 0.40	63.61 ± 14.30	71.50 ± 8.61	82.55 ± 8.51	75.42 ± 12.90
BOHE	158.68 ± 2.79	164.23 ± 1.58	169.64 ± 1.90	175.00 ± 2.39	180.28 ± 6.52
LEHA	70.62 ± 2.84	72.23 ± 3.56	72.78 ± 3.82	76.88 ± 1.69	79.71 ± 3.68
LEAN	91.50 ± 3.05	91.23 ± .76	95.64 ± 5.96	100.44 ± .50	99.85 ± 8.66
TLPA	26.12 ± 1.36	26.53 ± 1.56	27.14 ± 1.21	28.44 ± .98	27.78 ± 1.57
LEPA	16.96 ± .76	17.26 ± .69	17.71 ± .75	18.77 ± .66	18.07 ± 1.76
WIPA	7.50 ± .54	7.63 ± .50	8.10 ± .73	8.55 ± .46	8.21 ± .95

Based on the results shown in Table 2, of which have to do with differences univariate analysis of variance (ANOVA) in morphological space to test out the new group of players. All morphological variables have significant contribution to the differences between the players present study, the distribution of results is achieved in all system variables .05 level of probability taking the basic method of analysis of variance univariant (ANOVA). If we look at the meanings of each variable separately, we will provide more detail in the following. Variable length ankle plantar meaningful value is

worth 0.001, while variables body weight, body height, length of hand, length ankle and the length of the palm 0.000 probability level, however, the width parameter of smacking palm has demonstrated a statistically significant value of 0.016. However differences in morphological parameters gained positions basketball league cadets are as a result of good determination by the basketball coach for players in their positions on the basis of longitudinal parameters. However, these results clearly show that there is a statistically significant difference between the positions tested in game.

**Table 2:** Indicators ANOVA-es Morphological Space between Positions Cadets League Players

	<b>SS</b>	<b>df</b>	<b>Mean</b>	<b>F</b>	<b>p</b>	
BOWE	Between:	4,299.667	5	1,074.917121.62	8.835	0.000
	Within:	6,691.950	56			
	Total	10,991.617	60			
BOHE	Between:	3,101.437	5	775.359 9.055	85.629	0.000
	Within:	498.017	56			
	Total	3,599.455	60			
LEHA	Between:	534.218	5	133.555 10.572	12.633	0.000
	Within:	581.464	56			
	Total	1,115.682	60			
LEAN	Between:	815.307	5	203.827 25.031	8.143	0.000
	Within:	1,376.705	56			
	Total	2,192.012	60			
TLPA	Between:	38.475	5	9.619 1.817	5.295	0.001
	Within:	99.917	56			
	Total	138.393	60			
LEPA	Between:	22.093	5	5.523 0.806	6.854	0.000
	Within:	44.323	56			
	Total	66.416	60			
WIPA	Between:	8.562	4 55	2.1410.638	3.353	0.016
	Within:	35.113	59			
	Total	43.675				

### Discussion and Conclusion

In this paper are carried forth hypotheses, where the first hypothesis is partially confirmed because the players playing in positions one, two and three have lower values. While, the second hypothesis is fully confirmed by the results for all values of morphological indicators have shown the value of players in good position. A third hypothesis, this hypothesis is fully certified for indicators of body weight, body height, length of hand, length ankle, the width of the palm, the length of the palm and the length of the foot plantar have meaningful systematic differences between players in positions separately. In the game of basketball players differ in different playing positions in flooring, the players also altered morphological characteristics.

### Discussion

The condition of this experiment confirms the importance of longitudinal dimensions of prospective players, one also needs to know from practice that the main criterion for the classification of players on the field is body height, body height indicator however should not be all the time as the sole criterion in determining the position of the players. An adequate development of basic motor and indicators specific to them, as well as good knowledge of technical-tactical elements is important in determining the positions of the player in the sport of parquet. Organizers of the game in body weight showed a value of 58.06 kg, while if we compare with other players appears that 0.06 kg have high value to our players, to longitudinal indicators have similar values with other studies. Players shooting guard in body height has high value of 164.23 cm, while the players that we have change take comparison of 4.27 cm. While body weight has shown great value with 2.83 kg for players who have take comparison. While other longitudinal values have similar values with other studies. Small forward or otherwise known as the player in third position in the flooring, the size of the body weight of 71.50 kg value for the players that we have handled, but if we compare with other players out that our players have value with 0.64 kg of low. Longitudinal indicators have the same value as in other publications. Other positioned players have received as it is pronounced in the value of the longitudinal parameters, as is the case over to the side of body height variables have a value of 175.00 cm, while for players who have take for treatment are higher by 1.92 cm in favour of another group that we take comparison. Similar results were presented. Body weight and center of the players is also highlighted in this case study, if we compare it with other works out that our players have greater body weight of 0.76 kg, indicator of body height is presented to our basketball players have low values of 4.32 cm in favour of the group who have take comparison. But if we see them lodged other values in our tables shows that the values are similar to other studies.

### Conclusion

However the data presented in this experiment show how important are the parameters of stature in the game of basketball. Known when talking about the morphological characteristics of the cadets basketball league, it is important to know that about 98% of the longitudinal dimensions are inherited. During this phase of development of basketball, it is confirmed that external factors during the intensive phase of growth have very great impact to the players of these ages, especially vertical jumps while playing basketball. However longitudinal parameters of particular importance to the

players, because they know very well that these indicators are important in the field of basketball dominance, and thus this factor is important for players trapeze.

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