

**A COMPARISON OF SELECTED PHYSICAL VARIABLES BETWEEN
UNIVERSITY AND STATE LEVELS BASKETBALL
PLAYERS**

Dr Rajat Kumar Bannerjee*

ABSTRACT

The purpose of this study was to compare selected physical variables between University and State levels Basketball players. For the purpose of this study, sixty Basketball players (thirty University level and thirty state level) were randomly selected as subjects. All the subjects belong to the state of Uttar Pradesh and their ages were between 17 and 25 years. For this purpose following physical variables were selected: Arm Strength, Grip Strength and Wrist Flexibility. Arm strength was measured by Roger's formula (pull ups + dips) ($w/10 + H - 60$). Grip Strength was measured by grip dynamometer and the Wrist Flexibility was measured by Goniometry. To compare arm strength, grip strength and wrist flexibility between university level and state level basketball players "t" test was computed. The result reveals that there were significant difference between university and state levels basketball players in their right and left grip strength. The result also reveals that there were significant difference between university and state levels basketball players in arm strength. Whereas, there were no significant difference between university and state level basketball players in their right and left wrist flexibility.

Keywords: Participation levels, Flexibility, strength, Hand grip, Wrist

* Senior Lecturer, Bhalero Science College, Saoner, Nagpur (Maharashtra)

INTRODUCTION

Grip strength, arm strength, wrist flexibility and certain anthropometric measurements appear to be contributing factors in basketball performance. A player needs supple wrists, in order to pass the ball at different speed as well as to deceive the opponents with sudden wrist movements in either direction. Besides this one of the most common element in the game of basketball is shooting this can possibly be executed effectively if a player possesses better arm strength besides longer arms. The purpose of this study was to compare selected physical variables between University and State levels Basketball players.

METHODOLOGY

Selection of Subjects:

For the purpose of this study sixty Basketball players (thirty University level and thirty state level) were randomly selected as a subjects. All the subjects belongs to the state of Uttar Pradesh and their ages were between 17 and 25 years.

Instrumentation :

For this purpose following physical variables were selected: Arm Strength, Grip Strength and Wrist Flexibility. Arm strength was measured by Roger's formula (pull ups + dips) ($w/10 + H - 60$) (Clarke & Clarke,). Grip Strength was measured by Grip dynamometer and the Wrist Flexibility was measured by Goniometer.

RESULTS AND DISCUSSION

To compare arm strength, grip strength and wrist flexibility between university level and state level basketball players "t" test was used. The level of significance was set . at 0.05 level and data pertaining to the comparison of arm strength, grip strength and wrist flexibility between university and state level basketball players has been presented in Table 1 to 5 and depicted figure 1 to 5.

TABLE 1

SIGNIFICANCE OF DIFFERENCE BETWEEN UNIVERSITY AND STATE LEVEL BASKETBALL PLAYERS IN RIGHT GRIP STRENGTH

Participation Levels	Mean	MD	σ DM	t-ratio
University level	58.90	11.44	1.50	7.14*
State level	47.54			

*Significant at 0.05 level

$t_{.05}(58) = 2.00$

Table 1 reveals that there were statistically significant differences between university and state level basketball players in right grip strength, as the obtained t-value of 7.14 was greater than the $t_{.05}(58) = 2.00$

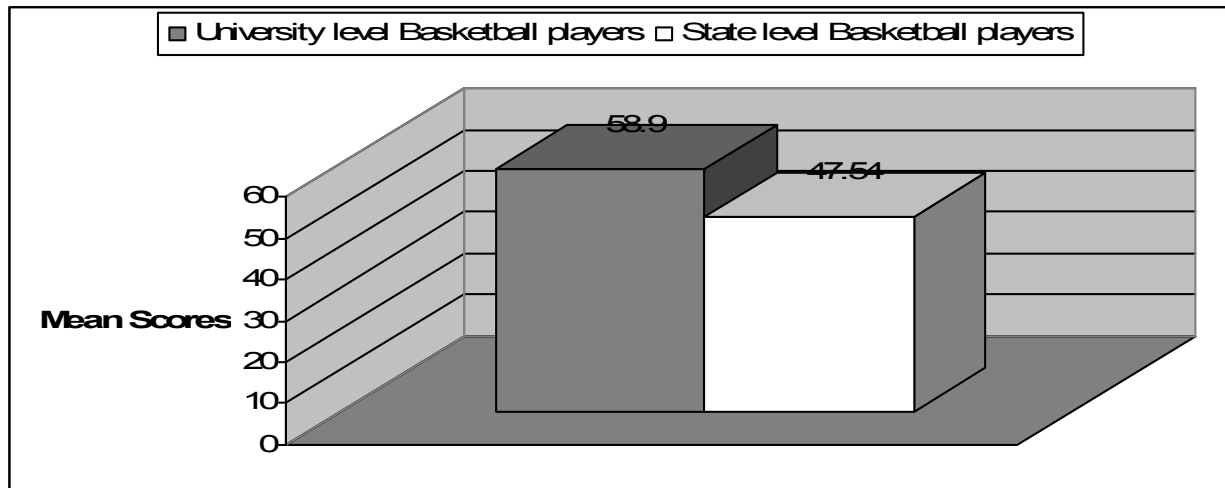


Fig.1: Mean Scores on Right Hand Grip Strength of University and State Levels Basketball Players.

TABLE 2
SIGNIFICANCE OF DIFFERENCE BETWEEN UNIVERSITY AND STATE LEVELS BASKETBALL PLAYERS IN LEFT GRIP STRENGTH

Participation Levels	Mean	MD	σ_{DM}	t-ratio
University level	54.41	12.76	1.51	6.71*
State level	41.65			

*Significant at 0.05 level

$t_{.05}(58) = 2.00$

Table 2 reveals that there were statistically significant differences between university and state level basketball players in left grip strength, as the obtained t-value of 6.71 was greater than the $t_{.05}(58) = 2.00$

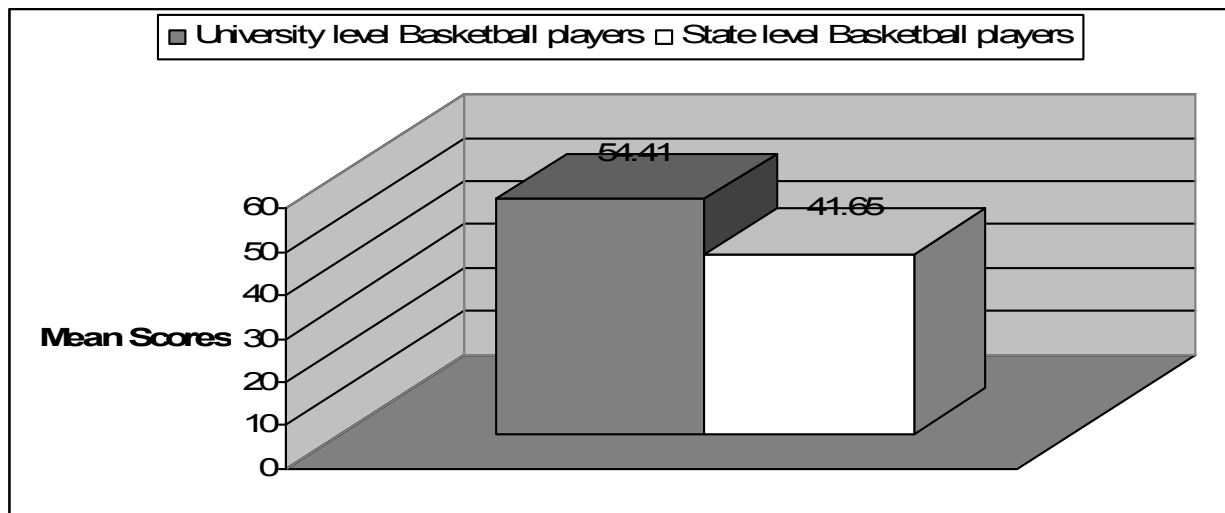


Fig.2: Mean Scores on Left Hand Grip Strength of University and State Levels Basketball Players

TABLE 3
SIGNIFICANCE OF DIFFERENCE BETWEEN UNIVERSITY AND STATE LEVELS
BASKETBALL PLAYERS IN ARM STRENGTH

Participation Levels	Mean	MD	σ DM	t-ratio
University level	4832.54	866.73	195.43	4.90*
State level	3965.81			

*Significant at 0.05 level

t.05 (58) = 2.00

Table 3 reveals that there were statistically significant differences between university and state level basketball players in arm strength, as the obtained t-value of 4.90 was greater than the t.05 (58) = 2.00

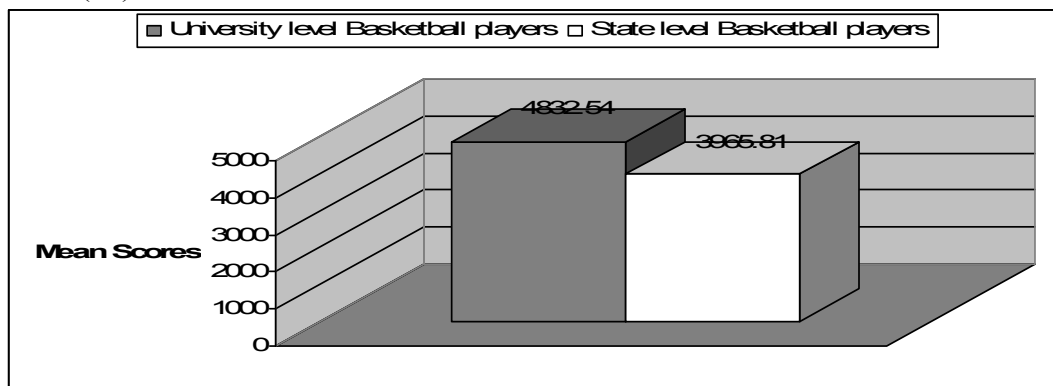


Fig.3: Mean Scores on Arm Strength of University and State Levels Basketball Players

TABLE 4
SIGNIFICANCE OF DIFFERENCE BETWEEN UNIVERSITY AND STATE LEVELS
BASKETBALL PLAYERS IN RIGHT HAND
WRIST FLEXIBILITY

Participation Levels	Mean	MD	σ DM	t-ratio
University level	69.12	2.87	2.65	1.62
State level	66.25			

Insignificant at 0.05 level

t.05 (58) = 2.00

Table 4 reveals that there were statistically significant differences between university and state level basketball players in right hand wrist flexibility, as the obtained t-value of 1.62 was less than the required t-value to be significant.

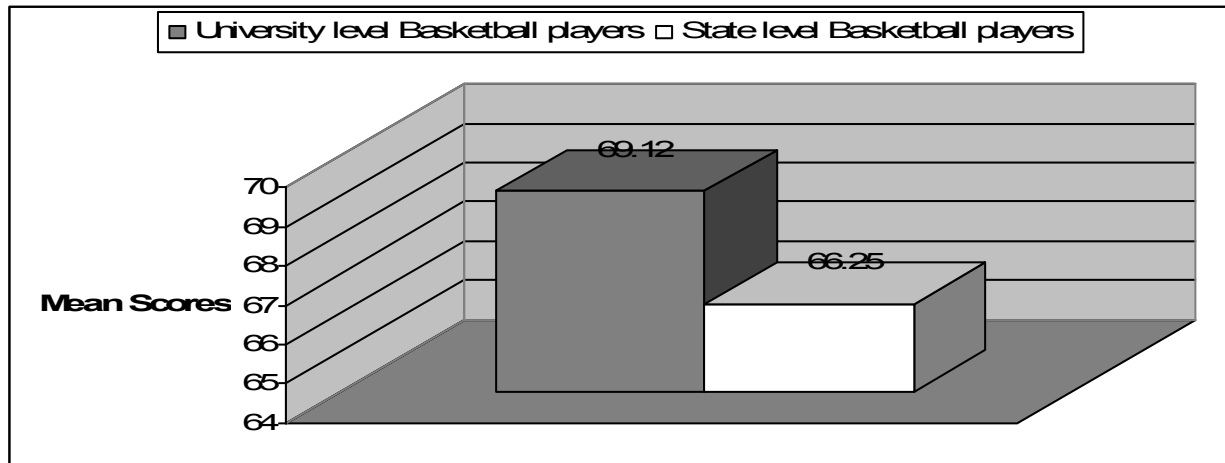


Fig.4: Mean Scores on Right Hand Wrist Flexibility of University and State Levels Basketball Players

TABLE 5
SIGNIFICANCE OF DIFFERENCE BETWEEN UNIVERSITY AND STATE LEVELS BASKETBALL PLAYERS IN LEFT HAND WRIST FLEXIBILITY

Participation Levels	Mean	MD	σ DM	t-ratio
University level	68.76	3.22	2.47	1.39
State level	65.54			

Insignificant at 0.05 level

$t_{.05(58)} = 2.00$

Table 4 reveals that there were statistically significant differences between university and state level basketball players in left hand wrist flexibility, as the obtained t-value of 1.39 was less than the required t-value to be significant.

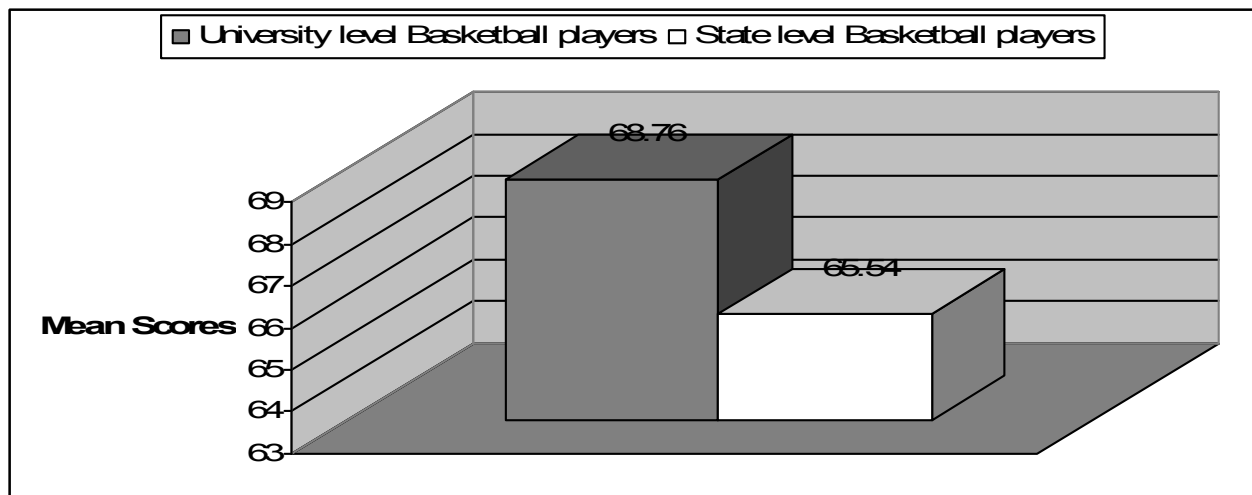


Fig.5: Mean Scores on Left Hand Wrist Flexibility of University and State Levels Basketball Players

CONCLUSIONS

1. There were significant difference between university and state levels basketball players in their right grip strength, left grip strength and arm strength.
2. Similarity was found between university and state level basketball players in their right and left wrist flexibility variables.

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