Analysis of Body Composition and Psychomotor Variables between Under-19 School and Intercollege Basketball Players

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Abstract: **The purpose of the study was to determine the body composition and psychomotor variables between under-19 schools and inter college basketball players. 100 Basketball players were selected as subjects (50 under-19 school players and 50 inter college players). The age of subjects ranged between 17 to 25 years. Body composition variables (body fat% & visceral fat) and psychomotor variables (speed & agility) were selected for this study. Body composition monitor with scale HBF- 361 was used to measure body fat% and visceral fat and stop watches, track, marking powder, measuring tape, two wooden blocks were used for measuring speed & agility. The results showed that there were significant differences between both the groups i.e. under-19 school and inter college basketball players for their body composition and psychomotor variables.**

Keywords: **Body composition, Psychomotor, Body Fat, Visceral Fat, Speed, Agility.**

I.   INTRODUCTION

Physical activity is an inherent trait of a human being. It becomes all the way imperative to identify the nature and the degree of this natural talent and to nurture, modifies and refines it to get the cherished outcomes. The children perform a lot of activities such as running, jumping, throwing, catching and kicking etc. The activities are known as natural or universal skills. An increased performance level can only be achieved by working and training of all major components i.e. technique, coordination, tactics, physiological and psychological qualities. Sports physiology is the study of the effects of training on the bodies of athletes. Physiological exercise testing is important in basketball to help identify potential talent but also to provide the players, trainers and coaching staff with some profiles for the players and a measure for evaluating training programs. The body is composed of water, protein, minerals and fat. Body composition is the technical term used to describe the different components that, when taken together, make up a person's body weight. Evaluation of body composition is a common and important component of overall physical fitness assessment. It is well established that excess body fat is harmful to health but many misconceptions exit regarding the assessment and interpretation of such data. Studies on body composition in certain sports indicated that the athletes who were very lean but heavy because of a well-developed musculature were superior in performance in certain competitive sports activities, such as football, weight lifting and the shot put (Bullen, 1971).

The appraisal of body composition can provide valuable information for both the athlete and coach in monitoring sequentially the influences of training and nutrition. Therefore, the determination of body composition is important in terms of a training plan as well as success in the game (Kurt et.al. 2010). Body composition, specifically body fat% is of great interest to athletes and is often negatively associated with athletic performance (Gomez, 2004; Malina, 2007; Sigurbjorn, Evans, Saunders, Obgurn, Lewis and Cureton 2000).

Exploring the possibilities of psychomotor abilities the mystery of body and mind has long occupied researchers within fields such as phenomenology, psychology and cognitive science. The traditional psychological approach is that the

relationship is dualistic. The faculty of reason is separate from and independent of what we do with our bodies. This means that reason must be independent of perception and bodily movements. Steizer (1989) assessed reaction time, speed, agility and sergeant jump among different levels of handball players. One hundred and ninety six school and college male players were selected. When t test was applied it was found that both groups were significant different for reaction time, speed, agility and sergeant jump.

Mark Brooks, Larry Boleach (1989), to determine the predictive potential of selected psychomotor variables to estimate basketball performance. Thirty six male high school players from three schools in the same conference were evaluated using the four psychomotor variables i.e. agility, differentiation ability, orientation ability and reaction ability. It was found these teams had different psychomotor abilities. Hence, they had significant differences.

OBJECTIVES:

The objective of the study is to analysis the body composition and psychomotor variables between under-19 school and inter college basketball players.

HYPOTHESIS:

There will be significant difference of body composition and psychomotor variables between under-19 school and inter college basketball players.

II.   METHODOLOGY

The purpose of the study was to determine the body composition and psychomotor variables between under-19 schools and inter college basketball players. 100 basketball male players were taken for this study. The subjects were males and the age group of subjects was ranging from 17 to 25 years.

TOOLS:

Body composition monitor with scale HBF- 361, stop watches, track, marking powder, measuring tape, two wooden blocks were used to collect data for study.

*VARIABLES***: -** The Following variables were selected for present study:-

1.   Body composition variables:

i.   Body fat%

ii.   Visceral fat

2.   Psychomotor variables:

i.   Speed

ii.   Agility

STATISTICAL ANALYSIS:

The data was analyzed and compared with the help of statistical procedure in which 't' test was used.

III.   RESULTS

Mean and Standard deviation of selected variables of body composition and psychomotor were computed. The results have been presented in table no.-1.

Table no.-1 Mean and SD of Body Composition Variables of Under-19 School Basketball Players and Inter College Basketball Players

Sr. no.	Variable	Group	No.	Mean	St. deviation	t-value
1	Body fat %	Under-19 school basketball players	50	14.546	4.2746	1.69
		Inter college basketball players	50	16.042	4.5723	
2	Visceral fat	Under-19 school basketball players	50	8.81	2.755	1.362
		Inter college basketball players	50	7.98	3.287	

Level of significance- .05   df=98

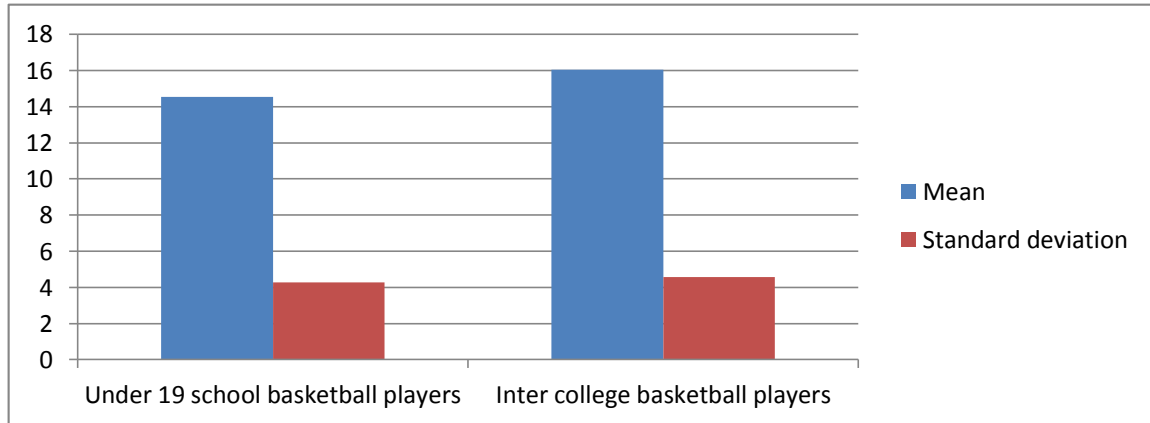Page | 483

Table 't'- value at .05(1.980)

Figure no.-1 Comparison of body fat % of under-19 school basketball players and inter college basketball players.
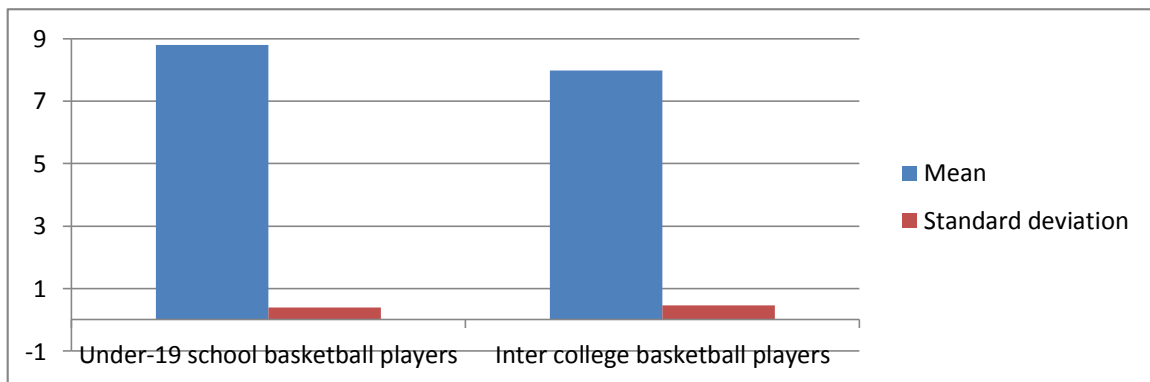

Figure no.-2 Comparison of visceral fat of under-19 school basketball players and inter college basketball players.

Mean and SD of Psychomotor Variables of Under-19 School Basketball Players and Inter College Basketball Players

Sr. no.	Variable	Group	No.	Mean	St. deviation	t-value
1.	Speed	Under-19 school basketball players	50	7.513	0.6394	5.128
		Inter college basketball players	50	6.896	0.5617	
2.	Agility	Under-19 school basketball players	50	12.4496	0.80019	15.455
		Inter college basketball players	50	10.4622	0.43185	

Level of significance- .05 df=98

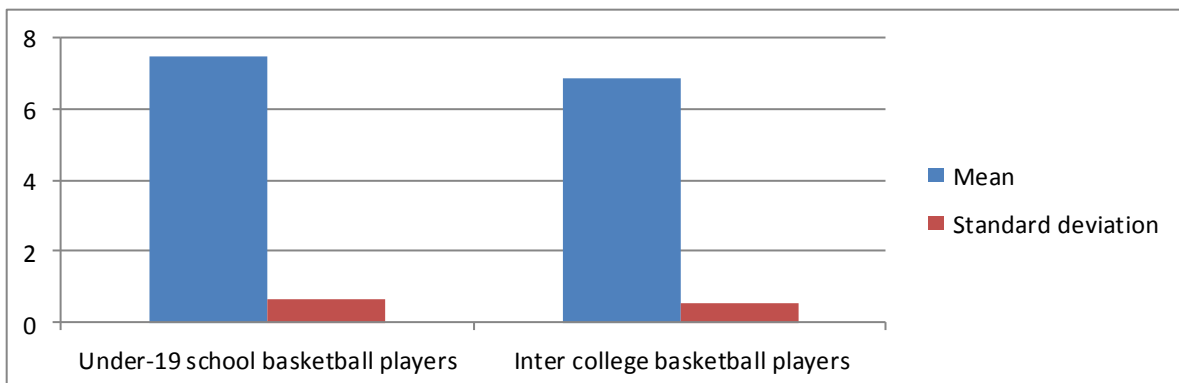**Table 't'- value at .05(1.980)**

Figure no.-3 Comparison of speed of under-19 school basketball players and inter college basketball players
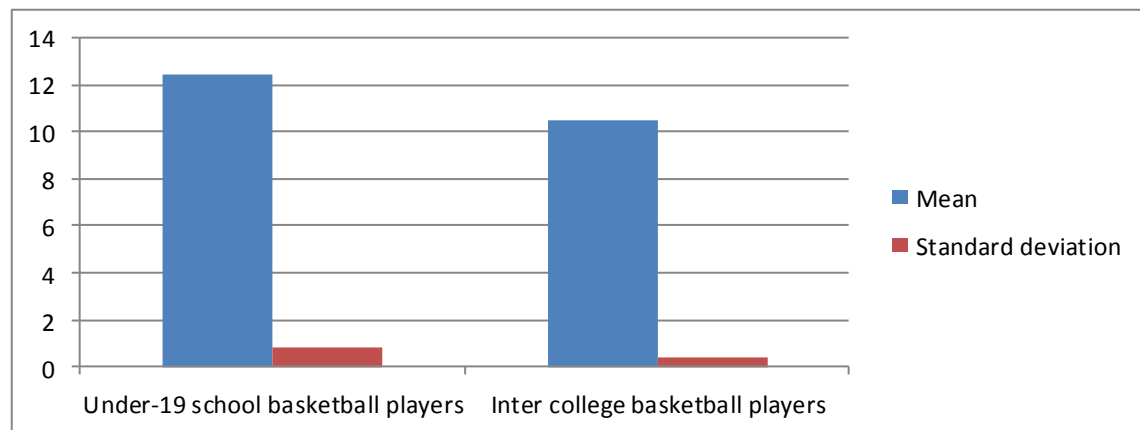
Page | 484

Figure no.-4 Comparison of agility of under-19 school basketball players and inter college basketball players

IV.   FINDINGS & DISCUSSION

The purpose of the study was to analyze body composition and psychomotor variables between under-19 schools and inter college basketball players. One hundred male basketball players were selected. The age of the subjects ranged between 17-25 years. The selected variables were body fat %, visceral fat, speed and agility. The calculated t-value is less than the tabulated t-value so their exists insignificant difference of body fat% and visceral fat between under-19 school and inter college basketball players. So the hypothesis ''There will be significant difference of body composition and psychomotor variables of basketball players between under-19 schools and inter college basketball players'' is rejected here. But hypothesis is accepted for speed and agility. Because the calculated t-value of speed and agility is more than tabulated t-value. Previous study by **Steizer (1989**) supported the results of present study.

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