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Relationship of selected Physiological variables and performance of Basketball Players of school level

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ABSTRACT

The purpose of the study was to determine relationship of Physiological variables of the school level Basketball Players with their performance. For the purpose of the study forty school basketball players were selected randomly from different school of CBSE Cluster Noida Region, who represented their respective school at CBSE Cluster Inter school basketball tournament 2025-26. The variables selected for the purpose of the study were Resting Pulse Rate, Vital Capacity, and Anaerobic Power. Resting pulse Rate was measured by manual method for a period of one minute, Vital capacity was measured by Dry Spiro meter and recorded in milliliter, anaerobic power was measured by Sargent Jump test and the score was recorded in Kg.m./sec. The values of $r_{0.05(98)} = 0.596$ was greater than tabulated value hence the basketball performance is significantly related to the selected physiological variables. To find out the combined relationship between Physiological variables and Basketball performance multiple correlations was used.

Key words: - Resting Pulse Rate, Vital Capacity, and Anaerobic Power.

INTRODUCTION

Sports hold a prominent place in modern life. Millions of people participate in sports activities, watch and hear about them and spend billions of dollars actually on sports related activities and equipments. This has lead to the competitive element in sports, as now sportsman participate to win and achieve laurels for them as well as for their country contrary to earlier philosophy of participation in sports competition for participation's sake. The world of games and sports is ever expanding with intensity and of competition and enhancing scientific studies of human movements. Sports are dynamic in nature and progressive. It is not confined to "what has been" but its target is to fix new targets.

Modern world Basketball has indeed extended an area of "Tallness" and "Bigness" along with the amendment of Basketball rules. There has been a noticeable range of increase in the body height and size of world ranking players, since the significant change of rules in 1964. All the leading teams of the world are giving the highest priority to height and size in the selection of players. So they have promptly adopted measures and resorted to selecting tall and heavy players in order to increase the effectiveness of blocking. Clearly as blocking efficiency improves better and more effective spiking and tactics has to be formulated as counter weapons and of course one of the best ways to do this is to make use of tall spikers.

Basketball places physiological demands on its participants, which become more pronounced at higher the level of competition. The physiological demands are linked with the intensity at which the game is played. Without the necessary attributes, the individual will not be able to cope with the stresses of play at the top level. Success in a team sport such as basketball depends on how individual characteristic are blended within the team to form a coherent playing system. This makes the interruption of physiological profiles of individual players more difficult then in individual sports such as athletics and swimming where the relationship between physiological capacities and sports performance can be outlined more precisely.

Objective of the study

The purpose of the study was to determine relationship of Physiological variables of the school level Basketball Players with their performance.

Methodology

For the purpose of the study forty CBSE school basketball players were selected randomly. The data pertaining to the Physiological variables were collected from subjects belonging to different schools of CBSE cluster Noida region who represented their respective school at inter school CBSE cluster basketball tournament 2025-26. The variables selected for the purpose of the study were Resting Pulse Rate, Vital Capacity, and Anaerobic Power. Resting pulse Rate was measured by manual method for a period of one minute; Blood pressure was measured by Sphygmomanometer, and recorded in mmHg. Vital capacity was measured by Dry Spiro meter and recorded in milliliter; anaerobic power was measured by Sergeant jump test. The score was recorded in Kg.m./sec. To find out the combined relationship between Physiological variables and Basketball performance multiple correlations was used at 0.05 level of significance.

Results

Table

Combined Contribution of Physiological Variables to Performance in Basketball

Criterion Variables	Physiological characteristic	Coefficient of Multiple correlation
Basketball Performance	Anaerobic power	0.596
	Resting pulse rate	
	Vital capacity	

* $r_{.05(98)} = 0.195$

Table clearly shows that the calculated values of $r_{0.05(98)} = 0.596$ was greater than the tabulated value Table of $r_{0.05(98)} = 0.195$ hence it is proved that the basketball

performance is significantly related to the selected physiological variables at 0.05 level of significance.

CONCLUSION

- The result shows that there was significant relationship between Basketball performance and Resting pulse rate, vital capacity as well as anaerobic power.
- The performance of Basketball was significantly related to the selected physiological variables

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