Original Research Paper

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Physical Education

RELATIONSHIP OF SELECTED VARIABLES TO THE PERFORMANCE OF MALE HANDBALL PLAYERS

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ABSTRACT The study examined how anthropometric and physiological characteristics affect male handball players' performance. LNIPE, Gwalior, selected 40 national handball players as subjects. Handball performance was judged by gathering expert opinion from a panel of three experts (each 10 points) and averaging their ratings. Anthropometric factors were measured using a Stadiometer, weighing machine, and steel tape. Blood pressure, resting heart rate, peak flow rate, and body mass index were measured with a digital blood pressure machine, stopwatch, and peak flow meter. The relationship between handball performance and anthropometric and physiological variables was assessed using Pearson product moment (r). The null hypothesis significance level was.05.

KEYWORDS :

INTRODUCTION

Sports bring people from diverse regions and cultures together, and its relevance for young people cannot be overstated. Sports and games are a healthy type of recreation that can help people meet life's obstacles.

(Blah, 1988) Modern sports are competitive, but their recreational importance cannot be ignored. Sports today are more scientific, mass-oriented, well-organized, elevate mental and physical stamina of participants, help acquire sound health and courage to fight against difficult situations, cater to basic needs of players and elevate their economic status, bring honor and social dignity to successful participants, teams, and countries, and for national integration, international peace, and brotherhood among the people of the world. "Sound mind, sound body" is a proverb. Physical culture and sports promote individual harmony. Weak bodies birth unhealthy plans. Young animals like play and exercise. Humans should be more generous. In the past, indigenous games emphasized individual excellence, whereas western games emphasized teamwork.

Sports psychology applies psychological ideas to athletics. This improves performance. The true sports psychologist is more interested in human enrichment than performance advancement. The sports psychologist helps athletes attain their potential. If a young athlete has self-control and confidence, they'll perform better. Sport and exercise psychology studies the impact of psychological and emotional elements on athletic performance and the impact of athletic participation on these factors.

Height, weight, arm length, leg length, chest girth, and calf girth can predict basketball ability, according to Singh (2014). To analyses athletes' performance, determine their anthropometric body composition and maturity. Athletes' height, physique, and body composition must be known. Size, body build, flexibility, strength, cardiorespiratory fitness, etc. can indicate a person's sports readiness. Body build might reveal crucial information about his sports readiness. The researcher hypothesized, based on the literature and expert consultation, that there would be no significant correlation between the dependent variable and independent variables.

Methodology

A total of 40 male national Handball players were selected as a subject from LNIPE, Gwalior and the age of the subjects was ranging from 18 to 28years and the following Criterion measures were adopted for the present study: -

S. No.	Variable	Equipment /test	Unit
1.	Standing height	Stadiometer	Centimeter
2.	Weight	Weighing Machine	Kilogram
3.	Arm length	Steel tape	Centimeter
4.	Leg length	Steel tape	Centimeter
5.	Chest girth	Steel tape	Centimeter
6.	Calf girth	Steel tape	Centimeter
7.	Blood pressure	Digital blood pressure machine	mm/Hg
8.	Resting Heart rate	Stop watch	Heart beats/minute
9.	Peak flow rate	Peak flow meter	liter/minute
10.	Body mass index	By formula: (weight/height2)	kg/m2

Subjects' handball skills were evaluated. Three experts rated each player's playing ability (out of 10 points) and the composite score (30 points) was considered playing ability. Before the tests, the subjects practiced so they knew what to expect. Before tests, the use of equipment was explained. To establish uniform testing conditions, anthropometric and physiological characteristics were only assessed in the morning and evening. Instrument, tester, test, and subject reliability were used to ensure data dependability. To achieve full subject cooperation, the researcher stated the study's goal. Before the exam, the technique was thoroughly described to the subjects. This explanation helped secure the subject's cooperation and data reliability. Some subjects performed as models to help explain the study's test. Pearson's Product Moment technique was used to determine dependent-independent correlation.

RESULT

To examine the link of Anthropometric and Physiological factors with Handball Performance, the data was analyzed using Pearson Product Moment Correlation and the findings are provided in tables 1 & 2.

Table – 1 Relationship between Handball Performance and Selected Anthropometric variables

Independent Variables	Correlation coefficient
Height	0.363*
Weight	-0.172
Arm Length	0.308*
Leg Length	0.306*
Chest Girth	0.170
Calf Girth	0.071

***Significant at .05 level, $r_{0.05}(38) = 0.304$**

Table -6 shows that Handball Performance is substantially linked with Height, Arm Length, and Leg Length at the 0.05 level of significance. Handball Performance is not significantly correlated with Weight, Chest Girth, or Calf Girth at the 0.05 level.

Table– 2 Relationship between Handball Performance and Selected Physiological variables

Independent Variables	Correlation coefficient
Systolic Blood Pressure	-0.517*
Diastolic Blood Pressure	-0.519*
Resting Heart rate	-0.726*
Peak flow rate	0.657*
Body mass index	-0.421*

***Significant at .05 level $r_{0.05}(38) = 0.304$**

Table-10 shows that Handball performance is substantially connected with Systolic Blood Pressure, Diastolic Blood Pressure, Resting Heart Rate, Peak Flow Rate, and Body Mass Index as the correlation coefficient values are higher than the tabulated value at 0.05 level of significance.

CONCLUSION

Within the limitation of the study, this has been concluded that the Anthropometric variables namely Height, Arm Length and Leg Length were significantly related to performance of Male Handball players and among physiological variables, resting heart rate, peak flow rate, systolic blood pressure, diastolic blood pressure and body mass index were significantly related to performance of Male Handball players.Weight, Chest girth and calf girth (anthropometric variables) were not found significantly related to performance of Male Handball players and Height, weight, and chest girth (anthropometric variables) contribute most to Male Handball performance.

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