

Relationship of Selected Anthropometric Measurement and Cardio Respiratory Endurance of District Level School Male Athletes

Uday N. Manjre

Associate Professor,

Degree College Of Physical Education, Amravati

Abstract

The purpose of present study was to determine the relationship in between selected Anthropometric measurement (Total Body Weight, Body Height and Leg Length) and Cardio Respiratory Endurance at District Level School Male Athletes. For the purpose of this study total 25 male athletes were randomly selected from District level school competition as subjects. The data pertaining to this study were collected on the selected subjects by administering test of 600 yards R/W for Cardio Respiratory Endurance and Anthropometric measurement (Total Body Weight, Body Height and Leg Length). To determine significant relationship statistical technique correlation (r) was employed. Cardio Respiratory Endurance at District Level School Male Athletes shows significant relationships with total body weight the calculated coefficient of correlation (r) value of 0.8959 is quit higher than the required table value of 0.396 at 0.05 levels for the 23 degree of freedom.. The findings also reveal that there were no significant correlation in between total body height ($r = 0.1727$) and Leg Length ($r = 0.1682$) with the cardio respiratory endurance because both the obtained r - values are quite less than the tabulated r - value of 0.396 at 0.05 level for the 23 degree of freedom.

Introduction

Physical fitness is one of the important aspects in sports achievement. It considered worthwhile to take physical fitness as criterion in sports potential. The body structure of an individual plays a vital role on his performance. To produce good sportsman to participate in international level competition, anthropometric measurements and cardio respiratory endurance plays important role. Hence researcher was interested to find out the relationship of anthropometric measurement with cardio respiratory endurance of District level of school male athletes. Drongden Gayle, conducted that there was significant difference and relationship between anthropometric measurement and physical fitness components for Maxican cities-American students. American Nigro students show significant difference with Caucasian students which shows the relationship between anthropometric measurement and physical fitness.

Purpose of study

The main purpose study was to determine the relationship in between selected anthropometric measurement (Leg Length, body height, body weight) and cardio respiratory endurance (600 yards R/W) of school athletes at District level .

Hypothesis

On the basis of available literatures and scholars own understanding the problem, it was hypothesed that there would be significant

relationship between selected anthropometric measurements and cardio respiratory endurance of school male athletes of District level.

Delimitation

- 1) All the subjects of study where District level school male athletes
- 2) The study was delimited to subjects belonging to upto 14 yrs age group male athletes .
- 3) The study was delimited to anthropometric measurement i.e. Leg Length ,body height , body weight and Cardio respiratory Endurance i.e. 600 yards R/W.
- 4) The data collection was done during competition period.

Limitation

- 1) Selection of test variables was restricted to simplicity and suitability for thee field study
- 2) Selected sublets habits were different which was beyond the control of research scholar.
- 3) Climatic variations during the data collection process were out of control of investigator.
- 4) The base line physical fitness of the subjects were unknown .

Methodology

For the purpose of these study total 25 male athletes were selected as the subjects from the District level school competition from Vidarbha region by using random sampling method.

Collection of Data

The data pertaining to the study were collected on the selected subjects by administrating the test of 600 yards Run/Walk for cardio respiratory endurance and anthropometric measurement, measure Leg Length, body height & body weight of athletes.

Before collecting the data the research scholar explained the purpose of the study to the subject and also explain the procedure of testing, so as the subject put their base . The obtained score of each athlete tabulated for further statistical treatment.

Table 1

Relationship of Selected Anthropometric Measurement with Cardio Respiratory Endurance (600 yards R/W) of District level of School Male Athletes.

Variables Correlated	Coefficient of Correlation(r)
Body Height and Cardio Respiratory Endurance	0.1727
Total Body weight and Cardio Respiratory Endurance	0.8956*
Leg Length and Cardio Respiratory Endurance	0.1682

*significant at 0.05 level
Tabulated $r_{0.05(23)} = 0.396$

Finding

It is evident from the findings of above table that Cardio Respiratory Endurance of District level of school male athletes has shown significant relationship with the total body weight as the calculated coefficient of correlation (r) value of 0.8959 is quit higher than the required table value of 0.396 at 0.05 levels for the 23 degree of freedom. The findings also reveal that there are no significant correlation in between total body height (r =0.1727) and Leg Length (r=0.1682) with the cardio respiratory endurance because both the obtained r values are quite less than the tabulated r- value of 0.396 at 0.05 level for the 23 degree of freedom.

Discussion

Findings of present study shows that there was significant correlation between Anthropometric

measurement (total body weight) and Cardio-respiratory Endurance (600yards R/W) (r=0.8959) at District level school male athletes, as Endurance plays a vital role for performing the higher level performance. Cardio-respiratory Endurance depends on energy system as well as muscle fiber of the body. Those having the greater proportion of red muscle fibers will have the better endurance capacity along with the economy of moment patterns of the athletes.

Further findings of the study shows that there was no significant correlation between Anthropometric measurement (body height and leg length) with Cardio-respiratory Endurance. The reason may be attributed to the competitors at higher level required more in average heights and more in leg length which is rigid at District level school competition.

Conclusion

With the limitation of the present study and on the basis of findings the following conclusion are drawn

- 1) Significant relationship were observed with the total body weight and Cardio-respiratory Endurance between District and Tehsil level of school athletes.
- 2) There were insignificant relationship observed between anthropometric measurement (body height, leg length) with Cardio-respiratory Endurance at District and Tehsil level school male athletes.

References

1. Cureton, Jr. T. K., Thomas et al., “Determinants of Distance Running Performance in Children; Analysis of Path Model”, Research Quarterly, 48, (1977), p. 215.
2. Dey, T. S. And R. N. Dey., “Variations in Selected Anthropometric Measurements and Physical Fitness Components of Offensive and Defensive Football (Soccer) Players”, Vyayam Vidnyan, Vol.20, No.4, (1987), p.17.
3. Gopinathan, P., “Relationship of Selected Anthropometric and Physical Fitness Variables to Handball Performance”, Research Bi-Annual for Movement, Vol. 26, No.1, (2009), p.29.
4. Lineak, Marcel Hebbel, “Anthropometric Measurements and Somato type Ratings and Certain Motor Fitness Tests of Physical Education Majors in South African”, Research Quarterly, No. 34, (1963), p. 327.

5. Mequi, Apparicio, "Comparison of performance in AAHPER Youth Fitness Test between University of Philippines Entering Freshman Students and American and Japanese Boys", Completed Research in Health, Physical Education and Recreation, Vol.8,(1966), p.40.
6. Reld, Randall W., "The Relationship of Lower Limb Flexibility, Strength and Anthropometric Measures to Skating Speed in Varsity Hockey Players", Completed Research in Health, Physical Education And Recreation, Vol.20, (1978), p.144.
7. Rafique, Faxle Sayed, P.K. Pande and Ramesh Pal, "Comparison of Anthropometric Measurements Physical Fitness and General Motor Ability of Elementary School Boys and Girls", Vyayam-Vidnyan, Vol. 19, No. 2-3, (1986), p. 10.
8. Sharma, and Pal, "Comparison of Selected Anthropometric Measurement and Motor Fitness of Mongolian and Non-Mongolian", Research Bi-Annual for Movement, Vol.7, No.2, (1989), pp. 63-64.
9. Brongden, Gayle Lynden, "A Comparison of Physical Fitness and Anthropometric Measurement of Pre-adolescent, Mexican American and Anglo-American Males", Dissertation Abstract International, Vol. 33, (1973), p. 6157-A.
10. Terral, Ruth R., "Relationship of Pre and Post Puberty Anthropometric Measurement and Physical Fitness Test Scores of American Negro and Caucasian Females as Measured by The AAHPER Youth Fitness Battery", Completed Research in Health, Physical Education and Recreation, Vol. 10, (1968), p. 75.

