

Relationship between Physical Fitness Tests and Biological Variables among the Jats of Delhi

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ABSTRACT Physical fitness, a highly complex phenomenon, influenced by an array of bio-cultural factors. Among the biological variables, body size and body physique have been found to influence physical fitness of individuals to a great extent. Using a cross-sectional sample of 580 Jat school children of Delhi, data were collected on their current physical fitness status. A battery of tests including AAHPER (American Association of Health, Physical Education and Recreation) tests with some additions was administered to assess their physical fitness. Ten anthropometric measurements were taken on all the subjects to assess their body size and body physique. Systolic and diastolic blood pressure readings were also taken. The relationship between physical fitness and these biological variables was examined statistically through coefficient of correlation values significant at five percent probability level. Measure of strength (grip strength, broad jump) in boys and girls were found to be positively and significant associated with most of the body measurements, mesomorphic component of physique and blood pressure. Speed of shuttle run, fifty yard turn and balance flamingo tests were found to be negatively and significantly associated with body size in both Jat males and females. Plate tapping and softball throw tests, however, showed positive and significant correlation with body size in Jats. In the remaining tests of physical fitness, their relationship with body size, body physique and blood pressure varied among the two sexes. Results of partial correlation medicated the confounding nature of age in the relationship between physical fitness and biological variables, whereas the results of multilinear regression confirmed the influence of age further in this relationship. Hence, it is found that the parameters involved in studying the relationship between physical fitness and biological variables have many implications targeting physical promotion programs among young children.