

## Association between Physical Composition, Swimming Performance and Somatotype of Male Competitive Swimmers of Age Group 10-13 Years

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**Abstract :** Body fat % lean body mass and body type play vital role in sports performance. A sports person who is having optional body composition can show its performance flawlessly whereas other who is not physical fit may be more prone to injury. Competitive swimming is an association of plethora of aspects like morphological, physiological, biochemical, biomechanical and psychological. The primary key of the present research is to examine the correlation among selected morphological dimensions such as height, weight, body fat%, lean body mass, somatotype and swimming performance. The present study also focused to investigate by potential deficiencies if any and to find out remedial measures to curb the training stresses. Thirty (age group 10-14 years) swimmers undergoing training under skilled and professional coaches were selected in the present study. The morphological variables and performance criterion like 50 meter swimming time and speed were calculated by using standard training methodology. Correlation coefficient among body composition, somatotype and performance variables were assessed by using standard statistical package SPSS. Mean height, weight, fat% and lean body mass of the present group is  $150.97 \pm 8.68$  cm,  $44.0 \pm 9.34$  kg.,  $15.97 \pm 4.42$  % and  $37.10 \pm 8.77$  kg respectively. Somatotype of the young swimmers of this research is revealed ectomorphic mesomorph. The analysis of the results illustrated that swimming performance is significantly correlated ( $p < 0.05$ ) with height, body weight, mesomorphic component and lean body mass. Body fat is significantly and negatively correlated ( $p < 0.05$ ) with mesomorphic component, lean body mass and swimming speed. From this present study, it can be concluded that along with techniques and tactics other the physical attributes also play significant role in swimming performance which can help the swimmers to excel in higher level of competition and swimmers having improved morphological qualities can ultimately perform well.

**Keywords :** body fat, mass, mesomorphic component, somatotype

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