

Anthropometric Characteristics, Physical Fitness Components, and Somatotypes of Male Tennis Players in Sri Lanka

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Anthropometric characteristics, physical fitness characteristics, and somatotypes are important and vital for many sports; those characteristics determine the ultimate performance levels of players. The prime aim of this study was to explain and compare the anthropometric characteristics, physical fitness, and somatotype of the top ten male tennis players with those of lower-ranked players in the Sri Lanka Tennis Association (SLTA) and moreover find the relationship between anthropometric characteristics, physical fitness characteristics, and somatotype with performance level. The study comprised 30 male tennis players (n=30) who were registered under the SLTA. Height, weight, and anthropometric characteristics such as length, girth, and skinfold measurements were measured following the Centers for Disease Control and Prevention 2007 protocol. The performance level and physical fitness characteristics were collected from the SLTA records. Somatotypes were measured under the protocol of Carter and Heath's 1990 procedure. The height and the weights were compared between the top ten ranked players and lowest ranked players; there was no significant difference ($p > 0.05$). Length parameters such as forearm ($p = 0.176$, $r = +0.210$) total leg ($p = 0.049$, $r = +0.257$), as well as girth measurements upper arm ($p = 0.001$, $r = +0.276$), wrist ($p = 0.042$, $r = +0.337$), waist ($p < 0.001$, $r = +0.286$) and only calf skinfold ($P = 0.001$, $r = 0.464$) measurements, were revealed the positive relationship with the performance level. Physical fitness characteristics such as aerobic endurance ($p = 0.002$, $r = +0.435$), muscular endurance ($p = 0.002$, $r = +0.46$), muscular strength ($p < 0.001$, $r = +0.518$), flexibility ($p = 0.001$, $r = +0.053$) and explosive leg power ($p = 0.001$, $r = +0.596$) were shown a positive relationship with performance. Both top and lower-ranked players were shown majority as mesomorph [2.55(1.0), 5.04(1.45), 4.51 (0.3)] somatotype components, and some of them are in ectomesomorph [1.8(0.63), 5.55(1.16), 4.68(0.47)] somatotype components. Mesomorphic and ectomorphic somatotype components predominate in a physique, which only serves to highlight the potential benefits of these body types.

Keywords: Mesomorph, Ectomorphic, Performance, Skinfold