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# Assessment of body build diversity of taekwondo female and male contestants

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## Abstract

Somatotype is a definite type of genetically determined traits of physical build, overlapped by an impact of external environment, climate, economics and motor activity.

Morphological diversification of contestants practising different sports disciplines is a well known phenomenon. Studies describing morphological diversification and body build profile of taekwondo contestants have been sparse so far.

The purpose of the study was determination of a body build profile of taekwondo male and female contestants practicing in Czestochowa clubs.

The study was carried out in spring 2014 in Czestochowa and involved 15 men and 15 women. Anthropometric measurements of somatic traits were made in compliance with the Martin technique and and with the use of Martin instruments (Drozdowski 1985). The measurements wer used as basis for determining: body height, length of: an upper limb and foot, width of: shoulders, hips and knees, size of: a forearm and shin, fat deposition on the shoulders, under a shoulder blade and on the stomach, as well as body mass.

Body build was assessed with the use of the Percal method of natural indicators. Results of the study were statistically processed. Mean values of somatic traits of the participants were standardized to an arithmetic average and standard deviation of the sample group, which consisted of students of physical education. Next, three body build factors were calculated: the height factor, stoutness and fat deposition factors and the body build profile was determined.

The examined female contestants were significantly taller than female PE students. They had longer upper limbs, lower widths of shoulders, hips and knees and higher sizes of forearm and shin. In relation to other students, the examined male contestants were characterized by significantly lower size of shoulders and hips, higher sizes of forearm and shin, and higher fat deposition. Body build of the examined females is dominated by the length factor, whereas the stoutness factor shows the lowest value. Body build of the examined males is dominated by the fat deposition factor, whereas the stoutness and length factors are at the same level.

**Key words:** assessment of body build • contestants • women • men

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