acteristics, the results of functional testing till total exhaustion, as well as 16-PF questionnaire of R.Cattell. Results of the study revealed the advantages of athletes with more complex somatotype characteristics, which manifest a tendency towards wonderful activity economization of energy supply. A comparison of the selected groups of athletes of different classes of professional success with the structural features of their personality showed the advantages of those with severe manifestations of reflection and action mechanism of the unconscious (intuition and fast-action).

Key words: *high-qualified athletes, factor-typological description, different classes of professional success, more complicated somatotype*

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OVERWEIGHT AND OBESITY AS RISK FACTORS FOR FALLEN ARCHES

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Overweight and obesity are associated with structural and functional limitations, mainly in terms of fallen arches or other foot deformities. Static flat foot of the adults might appear at each age if an unbalance occurs in the rate of the applied load to load bearing capacity of the foot, for a long time. The most common external factor is an excessive body weight. The main aim of this study was to confirm that the foot arch significantly falls with increasing BMI values. The measurements were performed in a sample, which consisted of 139 adult women of average age 56.67±4.80 years. Body mass index (BMI [kg/m^2]) was calculated for each person. We measured the foot dimensions in the widest and narrowest place of a plantogram to calculate the Chippaux-Smirak index (CSI). CSI values from 0% to 45% indicate normal healthy feet, over 45% – flat feet. Footprints were taken from both feet by the standard static plantography method. Data was statistically analyzed with the non-parametric tests (Spearman correlation coefficient (r) and Kruskal-Wallis test (H)) with calculating of the effect size (η^2).On the base of the increasing average CSI values in BMI categories (normal weight: n = 52, sin. = 37.27%, dex. = 35.82%; overweight: n = 51, sin. = 41.18%, dex. = 42.48; obesity: n = 36, sin. = 45.92 %, dex. = 44.94%), we showed a significant increase of the CSI values (sin. H = 27.17, $p < 0.01$,$\eta^2 = 0.2$;dex. H = 24.32, $p < 0.01$, $\eta^2 = 0.18$). CSI values showed medium positive linear relation with BMI values (sin. r = 0.42; dex. r = 0.40; $p < 0.05$), which confirmed that a foot arch significantly falls with increasing BMI values. Overweight and obesity have significant impact on the fall of the foot arch.

Key words: *flat foot, BMI, excessive body weight*

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