

THE LATENT STRUCTURE OF MORPHOLOGICAL CHARACTERISTICS OF TOP HANDBALL, BASKETBALL AND FOOTBALL PLAYERS

Abstract

The aim of the research is to apply the system of 25 variables of morphological characteristics and determine its factor structure due to forming as rational procedures as possible during the implementation of continuous selection of sportsmen in those sports and determine the transformational training process; the research has been carried out on the sample of 158 top sportsmen of male gender (51 handball players, 51 basketball players and 56 footballers). By applying factor analysis (direct oblimin) and Kaiser-criterion ($\lambda \geq 1.00$) for obtaining common characteristic roots and explained parts of common variant, in case of handball player five latent variables (mass and volume of the body and panniculus adipose of the torso, longitudinal dimension of the skeleton, transversal dimension of the lower limbs and chest, transversal dimension of the shoulder and elbow have been isolated; in case of basketball players there are also five latent variables (longitudinal dimension of the skeleton, mass and volume of the body and panniculus adipose of the torso, transversal dimension of the lower limbs and wrist, transversal dimension of hands and pelvis, panniculus adipose of the upper and lower limbs); and for footballers there are six latent variables (longitudinal dimension of the skeleton, panniculus adipose of the upper and lower limbs, mass and volume of the body, transversal dimension of the legs, shoulders and pelvis, panniculus adipose of the chest and transversal dimension of the arms). On the basis of identified factor structures of the latent variables and their common relations, it can be concluded that there are various morphological structures of sportsmen according to sports, among which there are internal and statistically important correlations.

Key words: handball, basketball, football, morphological characteristics, factor analysis
