

THE ACADEMY OF CRIMINALISTIC AND POLICE STUDIES FEMALE
STUDENTS MORPHOLOGICAL STATUS MODELS DEFINED
BY MULTICHANNEL BIOELECTRICAL IMPEDANCE

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Summary: Multi-year impact of obesity and physical inactivity can lead to negative psychosocial and health consequences, especially for girls-women whose structure has a higher percentage of body fat mass compared with men. The aim of this study was to define the characteristic groups-clusters in terms of morphological space of ACPS female students. The measurements were performed at the Faculty of Sport and Physical Education, University of Belgrade, by multichannel bioelectrical impedance method – In Body 720. The sample of examinees were 144 ACPS female students: Age – 19.7 ± 1.1 years; BH- 169.28 ± 5.27 cm, BW – 61.28 ± 6.86 kg, BMI – 21.37 ± 1.99 kg•m⁻². The basic classification variables were: body weight (BW, kg), intra cellular water (ICW, L), extra cellular water (ECW, L), proteins (kg), minerals (kg), mass of mineral content of bone (osseous, kg), total body fat mass (BFM, kg), skeletal muscle mass (SMM, kg), visceral fat area (VFA, cm²) and body cell mass (BCM kg). The derived variables were: body mass index (BMI, kg m⁻²), percentage of body fat (PBF, %) and the percentage of skeletal muscle mass (PSMM, %). The results were statistically analyzed using descriptive statistics, cluster analysis and canonical discriminant analysis. Cluster analysis yielded 3.47% in the first, 30.56% in the second, 28.47% in the third, 29.17% in the fourth and 8.33% of female students in the fifth cluster. In separate discriminant functions, the first factor consists of four variables: VFA = 0.830, BFM = 0.631, BMI = 0.467 and PBF = 0.357, while the second factor consists of the nine variables remaining. The ratio of the basic structural elements of body are obtained by the following morphological types: Endomorphic type (obese and small body height individuals), Ecto- Milivoj Dopsaj, Raša Dimitrijević [56] NBP • Žurnal za kriminalistiku i pravo Mesomorphic type (thin and average body height individuals), Mesomorphic type (normal body weight and average body height individuals), MesoEctomorphic type (normal body weight and tall individuals) and EndoMesomorphic type (obese and tall individuals).