

## CANONICAL RELATIONS BETWEEN MORPHOLOGICAL – MOTOR FEATURES IN FIRST GRADE STUDENTS

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### **Abstract**

*On the representative sample of 164 examinees, at the age of 7.5, from Valjevo, the system of 25 manifest variables in total has been applied, including 14 anthropometric measures and 11 motor tests. Data processing and deducing relations between morphological (predictive) and motor (criteria) variables have been executed using the bi orthogonal linear model of canonical correlation analysis. Algorithm of this multi-variation model has extracted only one pair of significant canonical functions. Achieved standardized coefficient of canonical correlation is  $R=0.77$ , it has positive tendency and relatively high intensity, on the level of statistical importance ( $p<.01$ ), while calculated value of determination canonical coefficient  $R^2=0.55$  indicates on maximal amount of 55% of explained information in relation to total variance of analyzed groups of variables. Extracted function has been defined (on the hypothetical level) as the general canonical morphological factor and general canonical morphological factor. Examining the complex latent structure of the first pair of canonical factors and their cross canonical maximal pressures, indicates on following statistical interpretation of linear correlations: if examinees have higher values in latent morphological dimensions (longitudinal dimensionality of skeleton, transversal dimensionality of skeleton, volume and body weight, and subcutaneous fat tissue), then they achieve better results in motor factors (explosive strength, flexibility, coordination of movements, static and dynamic strength of arms, repetitive strength, balance and frequency of movements), and vice versa.*

**Key words:** *morphological characteristics, motor abilities, canonical function, determination coefficient, variance, canonical factor*

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