UDC.796.012.1

MATHEMATICAL MODELS IN THE YOUTH MOTOR  
ACTIVITY ANALYSIS

Yu. O. Pavlova1, D. Yu. Zikrach2

*1Lviv State University of Physical Culture,  
11, Kosciuszko St., Lviv, 79000, Ukraine,  
2Ukrainian Academy of Printing,  
19, Pidholosko St., Lviv, 79020, Ukraine  
zikrach.dm@gmail.com*

**Research methodology.** The methods of theoretical and empirical level have been used. 162 boys and 238 girls from urban areas, 260 boys and 326 girls from rural areas of Lviv region have taken part in PAQ-A survey. The scientific graphing and data analysis by the Origin software have been used for statistical analysis.

**Results.** The problem of development and implementation of specialized research techniques for monitoring research and identifying of risk groups has been developed. The motor activity of 10th grade schoolchildren has been analyzed, and the overall index has been calculated. The detailed statistical analysis of motor activity of respondents of different sex has been done. The girls who live in cities have the low indices of motor activity. High indices of motor activity for only a third of boys and one-tenth of the girls have been presented.

**Novelty.** International methods and protocols for researching of motor activity have been improved, and standard ratios for Ukrainian population have been proposed.

**The practical significance.** The proposed statistical approaches can be used for identifying of risk groups among children and youth.