

## RELATIONSHIP BETWEEN BODY COMPOSITION AND VERTICAL JUMP PERFORMANCE AMONG ADOLESCENTS

*Darko Stojanović<sup>1</sup>, Zoran Savić<sup>2</sup>, Hadži Miloš Vidaković<sup>2</sup>, Tijana Stojanović<sup>3</sup>,  
Zoran Momčilović<sup>4</sup>, Toplica Stojanović<sup>2</sup>*

<sup>1</sup>University of Niš, Faculty of Sport and Physical Education, Niš, Serbia

<sup>2</sup>University of Priština – Kosovska Mitrovica, Faculty of Sport and Physical Education, Leposavić, Serbia

<sup>3</sup>Club for synchronized swimming "Niš", Niš, Serbia,

<sup>4</sup>University of Niš, Pedagogical Faculty, Vranje, Serbia

*Contact:* Darko Stojanović  
66a/3 Nemanjića Blvd., 18000 Niš, Serbia  
E-mail: darko89\_nish@hotmail.com

With the aim to investigate the relationship between the body composition of adolescents and their vertical jump performance, this research was carried out on a sample of seventh grade elementary school students (47 male students). The sample of measuring instruments for body composition assessment included: body height, body mass, sum of five skinfolds thicknesses (biceps, triceps, subscapularis, suprailiac, and calf), body fat percentage, and muscle mass percentage. The SJ and CMJ tests were used for the assessment of vertical jump performance. At the multivariate level the results showed that body composition, as a predictor system, explained 44% ( $p = .000$ ) of the variance of SJ and 41% ( $p = .000$ ) of the variance of CMJ. At the univariate level of it was noted that the sum of five skinfolds had a high influence on the predictor system for SJ ( $t = -3.77$ ;  $p = .001$ ) and also a high influence on CMJ ( $t = -2.98$ ;  $p = .005$ ). The sum of five skinfolds had a negative impact on SJ and CMJ tests for vertical jump performance assessment. It could be concluded that the relationship between body composition components and vertical jump performance was clearly demonstrated in adolescents.

*Acta Medica Medianae 2020;59(1):64-70.*

**Key words:** *relationship, body composition, vertical jump, adolescents*