



# Examination of Body Types of Powerlifters

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## Introduction

Specific body sizes (Nádori, 1991; Balogh at all, 2015) and body types are important selection criteria for professional athletes (Biróné, 2018). The aim of this study is to determine the main body sizes and body types of competitors in the sport of powerlifting. The results are compared with those described in the international literature.

## Sample & Methods

All Szombathely-based male powerlifters aged 18 and over participated in our study (N = 18). Their mean age was  $28.4 \pm 9.4$  years. The InBody720 Body Composition Analyser device was used for the examination of the body composition, and an anthropometric measurement (Martin & Saller, 1957; Weiner & Lourie, 1969) was performed to determine the body size, during which 24 different parameters were recorded. From the obtained data, we determined the body type of the subjects based on the 6 types developed for athletes by Mészáros (1990). Basic statistics and a correlation matrix were used to evaluate the results.

## Results

Athletes had an average height of  $177.44 \pm 7.12$  cm, an average body weight of  $95.04 \pm 14$ . kg, an average body fat weight of  $15.95 \pm 6.78$ kg, an average body fat percentage of  $16 \pm 5.12\%$ , an average skeletal muscle weight of  $47.2 \pm 6.15$  kg and an average BMI of  $30.4 \pm 2.91$ . (Picture 1.) A strong correlation was found between skeletal muscle mass and right and left arm mass ( $r = 0.99$ ), and between skeletal muscle mass and torso mass ( $r = 0.99$ ). BMI correlated with chest depth and circumference ( $r = 0.87$ ) and with forearm circumference ( $r = 0.88$ ). Skeletal muscle mass was significantly correlated with limb muscle mass (right arm  $r = 0.99$ , left arm  $r = 0.98$ , right leg  $r = 0.95$ , left leg  $r = 0.931$ ) and torso weight ( $r = 0.995$ ). (Picture 2) The body type of the participants was endo - mesomorphic (8 individuals) and mesomorphic (10 individuals).

## Conclusion

Since the goal in powerlifting is to move great weights, the sport assumes significantly developed musculature (Ferland at all, 2020), and the body type of athletes is characterized by the endo - mesomorphic and mesomorphic types (Mackenzie, 2001). According to the results obtained, the athletes in the study have the appropriate body type and muscle mass required for powerlifting. Half of their average body weight is muscle mass, distributed evenly to the right and left, and between the torso and the legs. From this it can be concluded that the training performed in the sample meets the criteria of the sport.

N=18	TTM	TTS	BMF KG	PBF %	SMM KG	BMI
AVAREGE	177,4	95,4	15,9	16	47,2	30.4
DISP.	7,126	14	6,78	5,12	6,15	2,91
MIN	170,3	79,1	9,8	11	39,1	26,4
MAX	190	113,6	31,6	27,8	59,2	35,8

Picture 1: RESULTS 1

N=18	Right Arm Mass	Left Arm Mass	Right Leg Mass	Left Leg Mass	Torso Mass
Skeletal Muscle Mass	0,995	0,985	0,950	0,931	0,995

  

N=18	Chest depth	Chest circumference	Forearm circumference
BMI	0,870	0,870	0,880

Picture 2: RESULTS 2

