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"ANTHROPOLOGICAL AND TEO-ANTHROPOLOGICAL VIEWS ON PHYSICAL
ACTIVITY FROM THE TIME OF CONSTANTINE THE GREAT TO MODERN TIMES"

**VOLLEYBALL-SPECIFIC MORPHOLOGY AND MOTOR PROFILE:
DIFFERENCES IN ANTHROPOMETRIC AND MOTOR CHARACTERISTICS
AMONG ELITE VOLLEYBALL PLAYERS AND PHYSICALLY ACTIVE MALES**

Nešić Goran¹, Majstorović Nikola¹, Savić Zoran²

¹University of Belgrade – Faculty of Sport and Physical Education

²University of Pristina – Faculty for Sport and Physical Education

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INTRODUCTION

- Due to the great responsibilities that are imposed on elite athletes on a daily basis, it is very **difficult to take the time to perform the appropriate batteries of tests** with them.
- That is why any research that is conducted with them is of **great importance** for science.

AIM OF THE STUDY

- The **aim** of the research was to determine and profile the morphological characteristics and motor abilities of elite volleyball players in relation to physically active men.



METHOD

Sample of subjects:

- **10 elite volleyball players (ODB)**, 23.20 (\pm 3.82) years old in the 2019/2020 season
- **10 students (STU)** of the Faculty of Sports and Physical Education, 20 (\pm 1.25) years old.

METHOD

Variables:

Morphological characteristics

- Body height (VT)
- Body weight (MT)
- Amount of muscle (KMT)
- Subcutaneous adipose tissue (KPMT)

Motor abilities

- Power (P)
- Speed (V)
- Jump height (SKOK).
- Muscle force (F)
- Rate of force development (RFD)

RESULTS

Morphological characteristics

DESCRIPTIVES		Mean	St.Dev.	Min.	Max.	Range
Body height (cm)	ODB	195,37	6,66	186,8	206,4	19,6
	STU	182,45	5,65	174	192	16
Body weight (kg)	ODB	86,34	6,17	78,2	94,6	17,4
	STU	79,01	8,73	69,5	97,7	28,2
Amount of muscle (kg)	ODB	46,03	4,05	39	50,7	11,7
	STU	40,69	4,73	36,2	49,6	13,4
Subcutaneous adipose tissue (%)	ODB	6,83	3,62	3	12,4	9,4
	STU	10,09	2,54	5,8	14,5	8,7

RESULTS

Motor abilities

DESCRIPTIVES		Mean	St.Dev.	Min.	Max.	Range
Muscle force (N)	ODB	2203	144	1975	2401	426
	STU	1780	216	1462	2064	602
Power (W)	ODB	5254	734	4410	6704	2294
	STU	4019	211	3666	4283	617
Speed (m/s)	ODB	3,01	0.33	2.68	3,85	1,17
	STU	2,51	0,16	2,16	2,70	0,54
Rate of force development (N/s)	ODB	7116	360	6421	7654	1233
	STU	5476	603	4218	6469	2251
Jump height (cm)	ODB	54	8	45	69	24
	STU	40	3	34	44	10

RESULTS

Differences

Morphological characteristics	p-value	Motor abilities	p-value
Body height (cm)	0,00	Muscle force (N)	0,00
Body weight (kg)	0,04	Power (W)	0,00
Amount of muscle (kg)	0,01	Speed (m/s)	0,00
Subcutaneous adipose tissue (%)	0,03	Rate of force development (N/s)	0,00
		Jump height (cm)	0,00

DISCUSSION

- The results showed a statistically **significant difference** in all observed variables between elite volleyball players and physically active men ($p < 0.05$).
- It has been unequivocally established that the selection of volleyball players based on **anthropometric characteristics** is a prerequisite for playing volleyball at the highest level.
- Furthermore, their **motor abilities** must be optimally developed in order to answer the training and competition tasks.

CONCLUSION

- **Training process** contributed to a more pronounced motor abilities development of volleyball players, while the game requirements itself dictated a **selection** of individuals with certain anthropometric qualities.