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Profile of Selected Physical Fitness Variables of Weight Category of -56 Kg to -60 Kg of Top-Class Indian Judokas

Arun Verma[1] and Dr. Vikas Saxena[2]
[1]PhD Scholar, Department of Physical Education, Rabindranath Tagore University, Bhopal (M.P.), INDIA.
[2]HOD, Department of Physical Education, Rabindranath Tagore University, Bhopal (M.P.), INDIA.

[1]Corresponding Author: sistecr.sports@sistec.ac.in

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ABSTRACT

The purpose of the study was to prepare the profile of selected Physical fitness variables of 20 athletes who had competed at the national level comprised only male players from Madhya Pradesh who were between the ages of 18 and 25 and who were residents of Madhya Pradesh. Each of these athletes was a native of the Indian state of Madhya Pradesh. All the physical fitness variables measured with their respective standard test. Results of the study showed that in physical fitness variables back strength was lowest in -56 kg to -60 kg. Shoulder strength was lowest in -56 kg to -60 kg. Grip strength lowest in -56 kg to -60 kg. Leg Explosive Strength lowest in -56 kg to -60 kg. Speed was maximum in weight category-56 kg to -60 kg. Speed Endurance was maximum in weight category -56 kg to -60 kg. Agility was maximum in weight category -56 kg to -60 kg. Thus, Physical fitness is the core of sports. Physical fitness of a player is influenced by age, sex, diet and condition. Legitimate co-appointment of these elements can lead a player to the pinnacle execution. In combative games like judo physical fitness assumes an essential job.

Keywords- Judokas, profiling, physical fitness, Top-Class.

I. INTRODUCTION

Athletes' physical attributes may have an impact on their game's strategy and technique. Athlete segment length is fixed from birth and cannot be altered by training, physical activity, environment, or diet. It may be advantageous at certain points in the game to adapt one's strategy and tactics in light of one's segment size and structure, provided that this is done efficiently. The coaches and athletes may occasionally employ it as a strategic tool. As the body develops, so do the abilities that make up physical performance, including as speed, strength, evidences, agility, and coordination. This remarkable improvement in fitness levels appears to finally determine performance in sports at any level of competition. However, scientifically-based training approaches, procedures, and tools yield the best outcomes with the least amount of effort and time invested. The Olympic sport of judo is another style of martial art that is widely practiced around the world (Katralli & Goudar, 2012). High-intensity, short-burst training is typical in judo (Radovanovic et al., 2009). When performing a judo technique, the practitioner will immediately enter into a phase of relentless pushing, lifting, tugging, grappling, and gripping actions in order to set themselves up for the subsequent explosive effort (Radovanovic et al., 200). Judo is a popular Japanese martial art that involves throwing and gripping techniques, wherein participants employ balance and body weight to throw or grab one other in lock, with minimal physical exertion (Wolfson et al., 1996; Douris et al., 2004). As a very explosive fighting sport (Thomas et al., 1989), judo necessitates a highly developed aerobic system in addition to exceptional anaerobic power and capacity (Ebine et al., 1991). In the present study an attempt is being made to estimate the Judo performance on the basis selected physical fitness variables by developing profile of top-class Judokas

II. MATERIAL AND METHODS

Selection of subjects:

This study's sample of 20 athletes who had competed at the national level comprised only male players from Madhya Pradesh who were between the ages of 18 and 25 and who were residents of Madhya Pradesh. Each of these athletes was a native of the Indian state of Madhya Pradesh.

Physical fitness variables

- Back strength
- Shoulder strength

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- Grip strength
- Leg explosive strength
- speed
- speed endurance
- agility

Criterion measures

S. No.	Physical fitness variable	Criterion measure
1	Back Strength	Back Dynamometer
2	Shoulder Strength	Medicine Ball Throw
3	Grip Strength	Handgrip Dynamometer
4	Leg Explosive Strength	Standing Broad Jump
5	Speed	50 m Dash
6	Speed Endurance	1000 m Run
7	Agility	Shuttle Run

III. RESULTS

Physical fitness Variables

Weight Category -56 Kg to -60 Kg

Table 1: Required Descriptive Statistics of Selected Physical Variables of National Level Judo Players of Weight Category -56 Kg to -60 Kg

	Minimum	Maximum	Mean	Std. Deviation
Back Strength (in Kg)	82.30	136.00	105.36	14.871
Shoulder Strength (in Meters)	8.10	12.60	9.66	1.038
Grip Strength (in Kg)	41.70	69.80	59.10	7.406
Leg Explosive Strength (in Meters)	2.08	2.81	2.42	0.189
Speed (in Sec)	6.37	7.78	7.18	0.348
Speed Endurance (in min)	3.01	3.77	3.36	0.195
Agility (in Sec)	13.80	19.13	16.39	1.455

Table 1 show all the required statistics to develop profile chart of national level judo players of weight category -56 kg to -60 kg in respect of selected physical variables.

Conversion of Data into Standard Scores:

After converting the data into standard score ($z = \frac{(x - \bar{x})}{s}$), the prepared c hart is mentioned below in Table 15:

Table 2: Standard score (Z) of required Statistics of Selected Physical Variables of National Level Judo Players of Weight Category -56 Kg to -60 Kg

Variables	Minimum(Z)	Mean (Z)	Maximum(Z)
Back Strength	-1.551	0	2.060
Shoulder Strength	-1.503	0	2.832
Grip Strength	-2.349	0	1.445
Leg Explosive Strength	-1.799	0	2.063
Speed	-2.328	0	1.724
Speed Endurance	-1.795	0	2.103
Agility	-1.780	0	1.883

Table 2 shows standard score (z) of required statistics for preparation of profile chart of selected physical variables of national level judo players of weight category -56 kg to -60 kg.

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Linear Transformation of the Standard Scores (Profile Chart):

For removing the effect of negative values, the linear transformation of the standard scores is done by using the transformation equation $Z_1 = 50 + 10 \times Z$. The linear transformed profile chart is given below in the table 3:

Table 3: Transformed Standard Scores of Minimum, Maximum and Mean of Selected Physical Variables

Variables	Minimum(Z)	Mean (Z)	Maximum(Z)
Back Strength	34.493	50	70.604
Shoulder Strength	34.971	50	78.324
Grip Strength	26.506	50	64.448
Leg Explosive Strength	32.011	50	70.635
Speed	26.724	50	67.241
Speed Endurance	32.051	50	71.026
Agility	32.199	50	68.832

Table 3 shows, the linear transformation of the standard scores is done by using the transformation equation $Z_1 = 50 + 10 \times Z$.

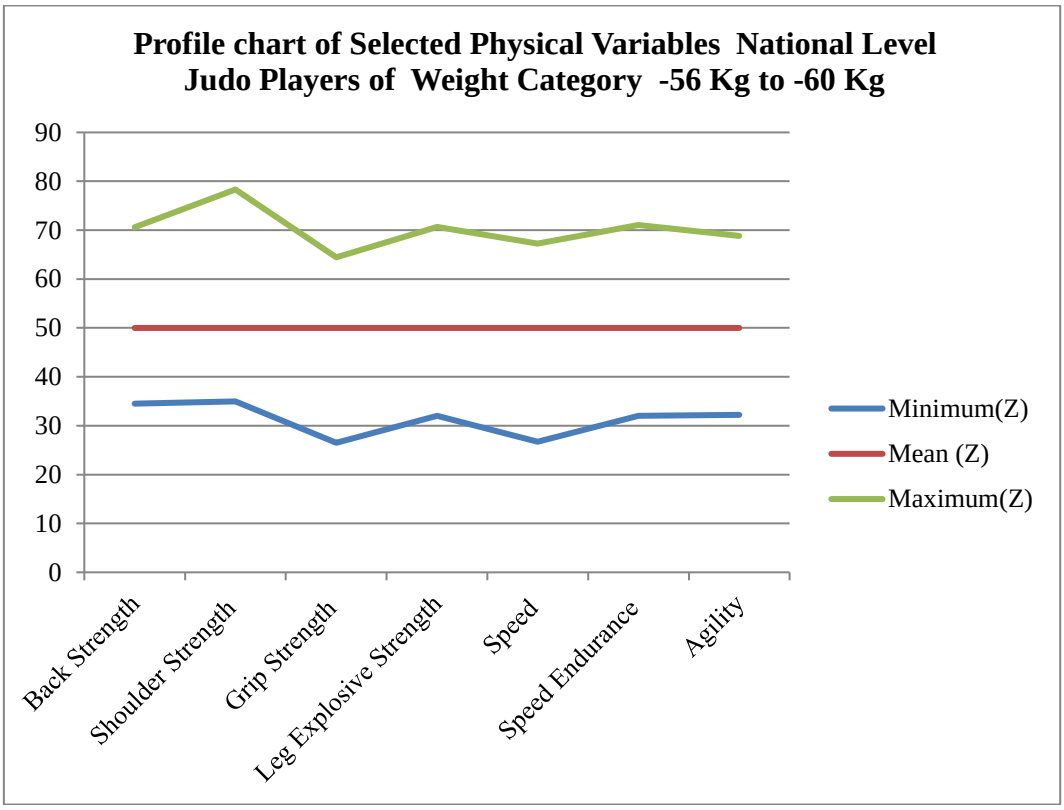

Figure 1: Profile chart of Selected Physical Variables of National Level Judo Players Weight Category (-56 Kg to -60 Kg)

IV. DISCUSSION OF FINDINGS

Results of the study showed that in physical fitness variables back strength was lowest in -56 kg to -60 kg. Shoulder strength was lowest in -56 kg to -60 kg. Grip strength lowest in -56 kg to -60 kg. Leg Explosive Strength lowest in -56 kg to -60 kg. Speed was maximum in weight category-56 kg to -60 kg. Speed Endurance was maximum in weight category -56 kg to -60 kg. Agility was maximum in weight category -56 kg to -60 kg.

Physical fitness is the core of sports. Physical fitness of a player is influenced by age, sex, diet and condition. Legitimate co-appointment of these elements can lead a player to the pinnacle execution. In combative games like judo physical fitness assumes an essential job. A Judokas needs to do punching and footwork with high speed. For this reason physical fitness is generally basic. Since Judo is a combative game, in this game to overwhelming the adversary and to

ensure himself physical fitness is basic. All in all physical fitness is the prime model for survival, to accomplish any objective and to have a sound existence. Physical fitness can be recorded via cardiopulmonary effectiveness test like Physical Fitness Index (PFI %) which is an amazing pointer of cardiopulmonary productivity. The American Alliance for Health, Physical, Education Recreation and Dance (AAHPERD) prescribed this test to think about wellbeing related physical fitness program in youth. Physical fitness has been depicted from numerous points of view. It is a multidimensional idea that has been characterized as a lot of components that individuals get that identifies with the capability to perform physical movement. It is included skill related; wellbeing related and physiologic segments (Kumar, 2018).

REFERENCES

[1] Franchini, E., Rodríguez Huertas, J., Sterkowicz, S., Carratalá, V., Gutiérrez-García, C., & Escobar Molina, R. (2011). Anthropometrical profile of elite Spanish Judoka: Comparative analysis among ages.
[2] Hernández, R., Torres-Luque, G., &Olmedilla, A. (2009). Relations among training volume, body weight, and profile of mood states for elite judoka during a competitive period. *Perceptual and motor skills*, *109*(3), 870-880.
[3] Kumar, P. (2018). A Study of Physical Fitness and Motor Abilities of Indian Judo Players. *International Journal of Physical Education & Sports Sciences*, *13*(7), 51–55. https://doi.org/10.29070/ijopess
[4] Katralli, J., & Goudar, S. S. (2012). Anthropometric profile and special judo fitness levels of Indian judo players. *Asian Journal of Sports Medicine*, *3*(2). https://doi.org/10.5812/asjsm.34710
[5] Radovanovic, D., Bratić, M., Nurkić, M,. Cvetković, T., Ignjatović, A., Aleksandrović, M. (2009). Oxidative stress biomarker response to concurrent strength and endurance training. General Physiology and Biophysics, 28(Special Issues), 205-211.
[6] Ebine K, Yoneda I, Hase H, .(1991) Physiological characteristics of exercise and findings of laboratory tests in Japanese elite judo athletes. Med Sport ; 65 (2): 73-9
[7] Thomas SG, Cox MH, LeGal YM, (1989). Physiological profiles of the Canadian National Judo Team. Can J Sport Sci; 14 (3): 142-7