International Journal of Physical Education and Sports Sciences

Vol. V, No.I, April-2013, ISSN 2231-3745

COMPARISON OF SOMATOTYPICAL VALUES FROM THE PLAYERS OF TWO FOOTBALL TEAMS PLAYING

www.ignited.in

International Journal of Physical Education and Sports Sciences
Vol. V, Issue I, April-2013, ISSN 2231-3745

Comparison of Somatotypical Values from the Players of Two Football Teams Playing

Dr. Paras Mani

Abstract – There are stationary positions in the football game plan such as defense, middle and forward. Every player takes part in the position that they are assigned and they improve their skills with practices fitting that responsibility

----------♦----------

INTRODUCTION:-

Football is the most common and popular sport across the world. It is actively played and watched by great number of people with close interest in all countries around the world (Herbin and Rethacker, 1984). Playing football requires great extent of antropometric and physiological properties besides skill, experience and intelligence (Wade, 1979; Sheldon et al., 1954). Amount of body fat is used as one of decisive factors of being healthy and it is also used as one of the most important criterion of optimal efficiency in high performance sports today (Zorba, 2005). Football is played for at least 90 min in official competitions. There are technical, tactical, physiological and psychological factors affecting the accomplishment. Football players' body composition can increase their performance in games and affect their success (Sheldon et al., 1954). High amount of fat in tissues and low amount of muscle quantity negatively affects athlete's performance in almost all sports. The amount of body fat is related with the athlete's strength, speed and internal body heat affecting his achievement in sports (Zorba, 2005). Somatotypical measurements are applied based on external features of body structure and it is accepted as one of the indicator of physical body structure (Zorba, 2005). The most common method of determining somatotypical quantity is Heath-Carter Method (Koca et al., 2003). This method involves a three phase classification: endomorphy, mesomorphy, ectomorphy (Zorba, 2005; Carter and Heath, 1990).

There are stationary positions in the football game plan such as defence, middle and forward. Every player takes part in the position that they are assigned and they improve their skills with practices fitting that responsibility.

These individual players in their positions have to function as a team to be able to be most efficient. Another factor affecting their achievement is their somatotype structure (Dogan, 2005). Recent studies suggest that antropometric properties have an influence on football players' performance (Gurses and Olgun, 1984;

Variable	Median	Mean	S.D.	Range
Endomorphy	2.20	2.28	0.41	1.5 - 3.3
Mesomorphy	4.20	4.40	1.05	2.3 - 6.9
Ectomorphy	2.35	2.31	0.64	1.2 - 3.5
Age	23.36	23.29	2.12	19.92 - 28.3
Height	180.05	179.28	5.71	167.7 - 190.4
Mass	76.70	76.86	5.39	64.1 - 88.7
Triceps SF	6.95	7.01	1.63	4.05 - 10.55
Subscapular SF	9.60	9.61	1.32	6.9 - 12.3
Supraspinale SF	5.82	6.42	1.81	4.8 - 11.6
Calf SF	4.63	4.93	1.25	3.65 - 9.75
Arm girth	29.80	30.18	2.60	26.5 - 34.9
Calf girth	40.10	40.81	3.56	35.1 - 47.5
Humerus B.	6.85	6.78	0.48	6 - 7.6
Femur B.	9.20	9.22	0.60	7.6 - 10.1

Table. The statistical data of GBO football players.

Gunay et al., 1994; Ziyagil et al., 1997). The body composition related to performance is usually evaluated on the basis of somatotype and body fat determination in performance- related issues (Turnagol et al., 1992). It is suggested that appropriate body structure plays a key role to reach high performance in sports.

REACTION TIME AND SPEED IN FOOTBALL PLAYERS :

Reaction time is the intermission between the onset of a stimulus and the commencement of a movement response (Magill 1998). The reaction time for a visual stimulus is about 250 ms and for an auditory stimulus is about 170ms (Magill 1998).Reaction time can be further broken down into three parts. The first part is perception time - the time for the application and perception of the stimulus and giving the essential reaction to it. The second part is decision time, which signifies the time for giving a suitable response to the stimulus. The third part is motor time, which is the time for compliance to the order received (Tripo 1965). Singer et al. (1993) defined reaction time as being composed of four stages, namely: the start of eye movements, eye movement time, decision time

and muscle contraction time. Reaction time is affected by various factors such as age, gender, number of simultaneous stimuli, nutrition, physical activity, training and physical fitness and fatigue (Morehouse & Miller 1976 and Spirdiso 1975). The athletes have better reaction times than non-athletes (Moka et al. 1992). Reaction time is a crucial factor affecting success in many sporting competitions. The reaction times of athletes in different sports and even in the same sports but playing in different positions show variations (Moka et al. 1992). The reaction times of high performance sprinters were found to be shorter than those of low performance sprinters. Exercise induces arousal that supports alertness to external environmental stimuli in highly trained athletes (Mouelhi et al. 2006). Explosive power, together with reaction time, decides the results of competitions in the first 2–3 meters (Akgün 1996). Since football requires 1–3-second explosive sprints, the importance of this characteristic becomes much more obvious in the performance of players. Research has shown that speed can be enhanced by strengthening the muscles (Akgün 1996). One of the most significant biomotor abilities required in sports is speed, or capacity to travel or move very quickly. From a mechanical point of view, speed is expressed through a ratio between space and time. The term speed incorporates three elements: (i) reaction time; (ii) frequency of movement per time unit & (iii) speed of travel over a given distance (Bompa 1994). Research Studies have revealed that reaction time is independent of speed (Paradis et al. 2004 and Yakut 2004). Although it is also known that physical training has positive effects on both reaction time (Davranche et al. 2006) and speed (Little & Williams 2005), the relationship between reaction time and speed has not been extensively investigated in the literature. The aim of this study was, therefore, to observe the relationship between reaction time (auditory & visual) and speed (20 meter sprint time) in male football players.

REFERENCES

- BALE, P. (1986). A review of the physique and performance qualities, characteristics of game players in specific positions on the field of play. Journal of Sports Medicine and Physical Fitness, 20: 109-121.

- BELL, W. & RHODES, G. (1975). The morphological characteristics of the association football player. Journal of Sports Medicine & Physical Fitness, 20: 196-200.

- BLUME, D.D. (1978). Zu einigen wesentlichen theoretischen Grundlagen für die Untersuchung der koordinativen Fahigkeiten. Theorie und Praxis der Korperkultur, 1: 29-36.

- BOUCHARD, C.; SHEPHARD, R.J. & STEPHENS, T. (1994). Physical activity, fitness, and health. Champaign, IL: Human Kinetics.

- CARU, B.; LECOULTRE, L.; AGHEMO, P. & PINERA, L.F. (1970). Maximal aerobic and anaerobic muscular power in football players. Journal of Sports Medicine & Physical Fitness, 10: 100-103.

- CHATTERJEE, S. & CHAKROBORTY, B. (1986). Comparative study of maximal aerobic capacity by three ergometrics in untrained college women. Japanese Journal of Physiology, 36: 151-162.

- DE ROSE, E.H. (1975). Determination of the ideal body weight and corporal composition of 16 professional soccer players. Questions of athletes nutrition: Abstract of the reports of the international symposium. Leningrad: Leningrad Institute of Physical Culture.

- DOUGE, B. (1988). Football: the common threads between the games. In T. Reilly; A. Lees; K. Davids & W.J. Murphy (Eds.), Science and Football (3-19). London: E & FN Spon.

- Čoh, M. (2003). Razvoj brzine u kondicijskoj pripremi sportaša. [Development of speed in the fitness preparedness of athlete]. International Science Professional Meeting KONDICIJSKA PRIPREMA SPORTAŠA (Conditional Preparation of Athletes). Zagrebs