Anthropometric and physiological characteristics of sub-elite male soccer players related to playing position.

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Introduction and Objectives

Previous studies have reported physiological measures of elite (Reilly et al. 2000) and sub-elite male soccer players (Reilly et. al.2000), but without reference to playing position. The importance of playing position for physiological measures has been emphasised in several studies.

Reilly (1998) suggested that footballers' fitness levels depend on the level of competition, their positional role within the team and the playing formation and tactics of the team.

Wisloff et al. (1998) and Al-Hazaa et al. (2001) stated that aerobic requirements vary between outfield players with midfielders having higher values compared to defenders.

Borms (1996), Reilly (2004) and Jankovic (1997) ….add info here

There has been one study that has assessed the differences in body mass, stature and aerobic capacity between playing positions in elite players (Franks et al.1999). However, this study did not assess the differences due to playing position in speed, agility and acceleration.

Purpose of study

The purpose of this study was to investigate the differences in anthropometric characteristics and physiological measures of sub-elite male soccer players according to playing position.

Methodology

Twenty two male sub-elite male soccer players (mean ± s), age: 17.1 ± 0.9 years, Stature 179.7 ± 7.6 cm, body mass: 74.6 ± 7.5 kg provided informed consent and were recruited to the study.

Players were classified into three groups according to playing position; defenders (n=8), midfielders (n=8) and forwards (n=6).

All players performed an agility test (Illinois), a 10m and 30m sprint test and the multistage fitness test (MSFT) on two separate occasions a week apart

The times to complete the Illinois and sprint tests were recorded and agility, acceleration and explosive speed were determined. The levels reached during the MSFT were recorded and maximal oxygen uptake (VO2max) was estimated using the estimations provided by Loughborough University (1987).

Analysis of Variance (ANOVA; test x group) was performed to identify the differences in agility, acceleration, explosive speed and maximal oxygen uptake between the three player groups. Levels of statistical significance were set at P<0.05.

The findings of this study indicated that midfielders had a marginally higher VO2max values compared to forwards and defenders, however forwards had better performance in the explosive, acceleration and agility tests (all at <0.05).

The VO2max values for the forwards, midfielders, and defenders in this study are lower compared to Franks et al (*Journal of Sports Sciences,* **17** 812) for elite soccer players.

The 30m sprint results for the soccer players in this study irrespective of playing positions are comparable to those stated by Reilly et al (2000: *Journal of Sports Sciences, 18, 695-702*) for sub-elite players.

The 10m sprint results for the soccer players in this study irrespective of playing position are comparable to those stated by Gore (2000: *Physiological tests for elite athletes*, Australian Sports Commission: Human Kinetics) for Australian soccer players.

At this time there is no currently no reliable data available for the agility test with which to compare our data.

sub-elite	17.0 ± 0.9	179.7 ± 7.6	74.6 ± 7.5	51.75 ± 3.6
Defenders	17.2 ± 1.19	184.2 ± 9.6	77.2 ± 8.2	51.43 ± 4.1
Midfielders	17.1 ± 0.9	178.7 ± 6.18	72.7 ± 6.1	52.77 ± 4.5
Forwards	17 ± 0.8	175.5 ± 4.8	74.2 ± 9.7	50.83 ± 1.3

Subject Group (2007)

elite	16	176 ± 0.06	69.9 ± 6.3	59.3 ± 3.8
Defender	16	177 ± 0.01	69.9 ± 1.1	59.6 ± 1.0
Midfield	16	173 ± 0.04	67.6 ± 1.1	60.4 ± 0.9
Forward	16	172 ± 0.02	67.7 ± 1.7	60.0 ± 1.5

Franks et al (1999)

Summary and Conclusions.

This research project has been interesting as there has been very little research published which measures the performance standards of male youth sub-elite football players. There would appear to be no defined set performance tests which could be used as a universal guide to gauge players

performance and potential at sub-elite level. A defined set of test would be useful for football managers and coaches to be able to use to evaluate and aid talent identification .

References

Reilly et al. 2000: *Journal of sports Sciences,* 18, 669-683

Reilly et. al.2000: *Journal of Sports Sciences,* **18,** 695-702

Franks et al.1999: J*ournal of Sports Sciences*, **17**, 812)