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A COMPARATIVE STUDY ON SELECTED PHYSICAL FITNESS VARIABLES OFARBA MINCH TOWN AND ARBA MINCH UNIVERSITY SPORT ACADEMY U-17MALE FOOTBALL PROJECT PLAYERS

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Abstract

The purpose of the present study was to compare the selected physical fitness variables of Arba Minch town u-17 male football project and Arba Minch university sport academy-17 male football project players who trained three days a week and one game. Total sixty (60) (30 from Arba Minch town and 30 from Arbaminch university sport academy) male players were selected for this study. Their age ranged between 15.6-16.9 years. Some youth physical fitness test was utilized to measure selected physical fitness components. It was hypothesized that no significant difference would be found between selected physical fitness variables for both football project players. For analysis of the data Mean & SD were calculated and to examine the significance difference between the group mean of different physical fitness variables, 'T' test was applied, and level of confidence was set at .05 levels. Study concluded that no significant difference found between the means of selected physical fitness variables such as10 m speed, 20m speed, static balance, broad jumping and agility (shuttle run).

Keywords: Physical Fitness, Football Players and project

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Introduction

Success in soccer requires high levels of technical, tactical, psychological and physical skills including aerobic and anaerobic power, muscle strength, flexibility and agility (Chamari et al.,2004)

Speed and explosive power are considered to beprerequisites for the success of youth soccerplayers (Reilly et al., 2000a). In particular,sprinting at short distances (up to 15 m), verticaljumping and agility have demonstrated adifference in the explosive power between eliteand sub-elite youth soccer players (Reilly et al.,2000b). Top-class players were found to perform more high-intensity actions and sprinting, 28% and 58%, respectively, compared to the moderate players (Mohr et al. 2003).

Elite players perform approximately 30 – 40 sprints of various lengths during a match and more than 700 turns (Bloomfield et al., 2007). According to Stolen et al. (2005), high-intensity activities occur approximately every 90 seconds during a match and last for 2 – 4 seconds. The distance that a player covers during sprinting (1.5 – 105 m) indicates that the game requires both acceleration and maximum speed components (Bangsbo, 1994).

. Most sprints were conducted without the ball. Thus, straight sprinting should be considered in fitness testing and training. At the level of elite adult players, a player was confirmed to perform approximately 150 – 250 short high-intensity activities during a game, including sprints, which constitute 1 - 11% of the total distance covered by a player during the game; therefore, these high intensity activities place a high demand on a player's anaerobic capacity (Mohr et al., 2003).

The ability to maintain and control a body position while quickly changing direction during a series of movements is called agility (Twist and Benicky, 1995). Agility is thus determined by the combination of power, speed, balance and coordination (Draper and Lancaster, 1985). Agility has no general definition but is often described as the ability to quickly change direction, react and stop (Gambetta, 1996). A current study has reported that agility is dependent on two factors: 1) perceptual and decision making factors and 2) factors that are related to the actual mechanics

ofchanging direction (Barnes et al., 2007). Compared with linear speed, a limitation of agility is that the player learns to anticipate the next step (Young et al., 2001).

Researchers have suggested that sprinting ability is one characteristic that is extremely difficult to improve (Gonaus et al. 2012, Vestberg et al. 2012). Agility is another very important aspect of determining how successful a player will eventually be (Jovanovis et al. 2011) and power is a critical component in both of the above mentioned parameters (Jovanovis et al. 2011, Dardouri et al. 2013).

Agility is considered one of the most important determinants of soccer performance. Adult and youth players with a high agility profile are more prone to perform better during high-speed repetitive actions and to make decisions quickly during crucial moments throughout the game (Reilly, 2007; Trecroci et al., 2016; Young et al., 2015).

The model of agility consists of two main components representing perceptual and decision-making factors and change of direction speed. Perceptual and decision-making factors are based on cognitive processes and include specific skills such as visual scanning, anticipation, pattern recognition, and knowledge of situation (Sheppard and Young, 2006). The change of direction speed is based on physical elements including technique, straight sprinting speed, leg muscle qualities (e.g. Strength, power and reactive agility) and anthropometry (Sheppard and Young, 2006).

Purpose of the study

Purpose of this study was to compare some selected physical fitness variables of Arba Minch town and Arba Minch university sport academy U-17 male football project players.

Methods and data collection

Subjects - Total 60 subjects were selected for this study. 30 players from Arba Minch town U-17projects byrandom sampling methodand all 30 playersfrom Arba Minch University sport academy U-17 football project for the studyby purposive sampling method. The test was

conducted when they were practicing their training. Their age ranged between 15.6- 16.9 years. Necessary Permission was taken fromArba Minch University and Arba Minch town sport office.

Table 1: List Variables tested and recorded

Sr. No	Subjects	Numbers	Test	Equipment's
01	AUSA football player	N=30	10 m speed	Stop watch/Nearest 0.001 seconds.
	Arba Minch town football player	N=30		
02	AUSA football player	N=30	20m speed	Stop watch/Nearest 0.001 seconds
	Arba Minch town football player	N=30		
03	AUSA football player	N=30	Illinois	Stop watch/Nearest 0.001 seconds
	Arba Minch town football player	N=30		
04	AUSA football player	N=30	Broad jumping	In CM
	Arba Minch town football player	N=30		
05	AUSA football player	N=30	Static balance	Stop watch/Nearest 0.001 seconds
	Arba Minch town football player	N=30		

AUSA=Arba Minch University sport academy

For measurement of selected physical fitness variables of Arba Minch town varies projects and Arba Minch University sport academy U-17 football project players AAHPERYouth physical fitness test was utilized. The entire Test on Players was conducted at Arba Minch university Abaya campus 5cm height natural grass football field.

Table 2: Subjects and number of selected football players from projects for the study

No,	Football Projects	No. players
1	Arba Minch University sport academy	30
2	Matifootball project	10
3	Farisfootball project	10
4	Barcafootball project	10
Total		60

Statistical Procedures

Mean and Standard Deviation was computed. Comparison was made on the basis of activity i.e. Arba Minch town U-17 projects and all 30 players from Arba Minch University sport academy U-17 football project players. For this purpose 'T' test was applied. All analyses were performed using the IBM SPSS Statistics (v. 21, New York, U.S.A.) and data are shown as mean ± SD. An alpha value of $p < 0.05$ was set as the criterion level of significance.

Results and Findings of the Study

Table 3: Comparison of Means of Selected Physical Fitness Variables of Arba Minch town projects and all Arba Minch University sport academy-17 football players.

Components	Group	Mean	S.D.	T
10 m speed In seconds	AUSA football player	2.46	.14	-.77
	Arba Minch town football player	2.48	.12	
20m speed In seconds	AUSA football player	3.91	.24	-1.65
	Arba Minch town football player	4.02	.22	
Illinois In seconds	AUSA football player	17.52	.82	.52
	Arba Minch town football player	17.62	.77	
Broad jumping In CM	AUSA football player	2.07	.18	2.52
	Arba Minch town football player	2.13	.22	
Static balance In seconds	AUSA football player	17.91	16.61	-.64
	Arba Minch town football player	19.81	19.57	

AUSA=Arba Minch University sport academy

Significance at .05 levels "T" Value required to be significant at .05 levels with 58 degree of freedom is

0

Table III - shows the comparison of means of selected physical fitness variables of Arba Minch town football U-17 projects and Arba Minch University sport academy football project players.

- The 20 meter pure speed mean of Arba Minch university sport academy football project is 3.91 the deviation of .24 and Arba Minch town is the mean of 4.02 the deviation of .22. Arba Minch university sport academy football project player's 20meter pure speed performance is

better than Arba Minch town. When we see the variation of the two projects Arba Minch university football project players are higher than Arba Minch town.

- The mean agility test of players in Arba Minch Town is around 17.2 seconds. Arba Minch university sport academy player's project players are higher variation in agility than Arba Minch town football project players.
- The broad jump test mean of Arba Minch university sport academy football project player is 2.13 meter and Arba Minch town is 2.07 meter. When we compare to the two projects Arba Minch University sport academy players are better than Arba Minch town and also Arba Minch university sport academy player's higher variation than Arba Minch town players.
- Static balance means of Arba Minch town is 19.81seconds and Arba Minch university sport academy football project player is 17.91, it shows Arba Minch town players are better than Arba Minch university sport academy players in static balance but more variation in Arba Minch university players.
- Generally speaking, the variation in the physical performance of within players is higher for Arba Minch university sport Academy football project players than Arba Minch town football project players except static balance.

Conclusion

- There is no Significant difference found between the means of selected physical fitness variables such as speed, agility, explosive strength of legs, and static balance of Arba Minch university sport Academy football project players and Arba Minch town football projects player.
- Mean value indicates that 10 m sprint speed ,20 m sprint speed, Illinois (agility) and leg strength (standing broad jump) Arba Minch university sport Academy football project players and Arba Minch town football projects player. In static balance Arba Minch town project players better than Arba Minch university sport academy U-17 football project players

As a result it was concluded that Specific Motor fitness tests should be used for monitoring and talent identification purposes need to replicate the demands of the sport as closely as possible.

Recommendation for Future Research work

Extensive research have been undertaken in several sports disciplines to identify Fitness characteristics of young football players which enables coaches to identify promising talent in their respective sports disciplines.

Therefore it is recommended to undertake research which might identify the fitness profiles of young footballers from normal population or other sporting population.

- In the present study sample size of project football players was very small. Therefore, it isrecommended to replicate such an investigation withlarger sample size.
- The present investigation involved project level. The Fitness profile atnational and international level may be accentuated forvarious reasons. Therefore an investigation involving footballers of national and internationalrepute may be undertaken.

Recommendation for Coaches and Administrators

 Therefore it is recommended that either training regimebe made demanding or select candidates with FitnessProfiles.

 It is recommended that coaches based on their knowledgeof Motor Fitness profile required for various departmentsof the game of Football.

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