

35. TALENT IDENTIFICATION

P-112 General and special physical fitness levels in young football players

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OBJECTIVE In football training special and multifaceted motor abilities have direct impact on the special fitness of the football players. Depending on the needs, they can be helpful as a selection criterion and useful for the evaluation of the progress in the player abilities. The aim of this paper was to define the level of general and special physical fitness of football players in the key stage of sports training – transition from learning to training, and investigate the correlation between general and special fitness of young football players, and their playing position.

METHODS 20 selected football players with 6-year training experience constituted the subjects of this research. International Fitness Test was used to evaluate general physical fitness, and Football Abilities Test was used to evaluate special fitness.

RESULTS The analysis of the results showed that according to the classification of International Fitness Test's norms, the players were placed in the 320 – 480 point bracket, that defined their general physical fitness as medium. In the special fitness test the strikers definitely dominated, whereas the defensive players gained the poorest results.

DISCUSSION & CONCLUSION This research confirmed the need to conduct similar tests as methods controlling the training effects and it lets one to draw the following conclusions:

1. Spearman's rate correlation indicated statistical significance ($p < 0,05$) in some tests.
2. Research on the special and general physical fitness confirm interdependence rate and the influence on the level of football player.

KEY WORDS Football, general physical fitness, special physical fitness, tests, training.

P-113 Talent identification in soccer players aged 10-12 years

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OBJECTIVE There is increasing emphasis on clubs to detect players and nurture and guide them through the talent identification process. Moreover, different factors may contribute to performance prediction at different ages. Thus any such model would need to be age-specific (Reilly et al, 2000). The aim of this research was to determine anthropometric, physiological profiles and soccer-specific skills that could be used for talent identification in players aged 10-12 years.

METHODS Data was obtained by a questionnaire. To establish the best of these profiles, a factor analysis was conducted.

RESULTS It was found that, in order to weigh physique and height related to anthropometric profiles; speed, agility and quickness related to physiological characteristics; coordination (neuro-muscular), passing and shooting related to soccer-specific skills were more important for talent identification among players aged 10-12 years.

DISCUSSION & CONCLUSION Despite difficulties in predicting long-term success in young players, the age-based model may be useful in establishing baseline reference data to select and develop talent in soccer players.

REFERENCES

Reilly et al. (2000) *Journal of Sport Sciences* **18**, 695-702.

KEY WORDS Anthropometry, physiology, soccer-specific skill.

P-114 Characteristics of selected and non-selected elite junior Australian footballers

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OBJECTIVE Previous research in successful elite junior Australian Rules football (ARF) players across a number of junior teams, has identified that successful players poses certain key anthropometric and performance characteristics (Pyne et al. 2005) as important selection variables. The aim of this study was to investigate and identify anthropometrical and physical performance differences between players who were selected in the final squad of one junior ARF club to those who were not selected.

METHODS Fifty four junior ARF players were assessed using a battery of ARF standard anthropometric, height and weight, and physical performance tests, 20m straight-line speed, planned agility course, vertical jump power, and 3km endurance time-trial. Comparisons were made using MANOVA (significance $p < 0.05$). Further analysis was completed to investigate if age was an influencing factor in selection.

RESULTS MANOVA showed significant differences between selected and non-selected players when height, mass, sprint, agility, and vertical jump were considered collectively (Table 1). However, univariate analysis revealed that the vertical jump was the only significant individual test differentiating between selected and non selected players. Further, age was not a factor as players selected were younger.

Table 1 Descriptive results.

	Selected		Non-selected		p
	Mean	SD	Mean	SD	
Height (cm)	182.57	7.95	178.73	6.63	0.64
Mass (kg)	77.43	10.31	73.60	8.60	0.15
Speed - 20m (metres/sec)	6.26	0.26	6.17	0.19	0.16
Agility (metres/sec)	2.57	0.13	2.52	0.12	0.14
Vertical jump (cm)	60.70	5.82	57.38	4.99	0.31
3km Endurance (sec)	738.60	62.08	734.20	73.94	0.82

DISCUSSION & CONCLUSION Contrary to previous research on junior ARF players suggesting specific performance indicators (Pyne et al. 2005), the findings from this study suggest successfully selected players in this squad showed consistent performance across all tests in comparison to non-selected players who performed well in one or two tests only. However, samples examined may account for differing results observed.

REFERENCES

Pyne et al. (2005) *Journal Science Medicine Sport* 8, 323-345.

KEY WORDS Australian Rules Football, junior players, selection.

P-115 Impact of playing level on skill performance in early pubescent Irish soccer players

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OBJECTIVE Soccer is played in a dynamic environment in which players are continually required to execute skills in response to verbal or visual stimuli. Consequently, it is surprising that soccer skill testing accounting for the cognitive and perceptual constraints of match play has received little attention for the purposes of talent identification. The aim of this present study was to determine if performance on two tests of dynamic soccer skill, the Loughborough Soccer Passing Test (LSPT) and the Loughborough Soccer Shooting Test (LSST), distinguished between sub-elite and novice early pubescent soccer players.

METHODS Eight sub-elite and 9 novice players (aged 11-12 years) performed adolescent versions of the LSPT and the LSST. The LSPT required 16 passes to be completed, in a circuit of grids and cones, in a set trial order as quickly as

possible. The LSST evaluates shot accuracy, shot speed and the time taken to complete a specific shot sequence. T-tests were used to compare the differences between the groups.

RESULTS The sub-elite group demonstrated superior passing skill than the novice group with significantly lower penalty (6.8 vs. 16.2 s; $t = -3.63$, $p < 0.005$) and overall performance time (68.2 vs. 81.4 s, $t = -3.04$, $p < 0.05$) on the LSPT. However, the LSST did not significantly discriminate between the two groups.

DISCUSSION & CONCLUSION This present study supported the construct validity of the LSPT and highlighted its potential value in identification of talented soccer players. Future research is required to establish the reliability and validity of both the LSPT and LSST using a larger cohort of young soccer players.

KEY WORDS Soccer, skill, talent identification.

P-116 Possible predictor of talent identification of professional soccer players

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OBJECTIVE Recently there have been a lot of studies concerned with the talent identification of soccer players. However, the explanation of this issue is not clear yet due to lack of prospective research. Moreover, the large difference of biological maturation compared to their chronological age in adolescents complicates this issue. The purpose of this study was to investigate the talent identification of professional soccer players from physical, physiological and biological standpoints. Then the training programs for preadolescent soccer players to develop their careers were examined.

METHODS The subjects of this study were thirty-one adolescent soccer players. They were divided into Elite (N=18) and Sub-elite groups. The players of the elite group were also divided into Pro (7) and Amateur (11) subgroups. The height, weight, skeletal age, stepping speed, stepping endurance and choice reaction time were measured. Then all measurements between each group were compared prospectively.

RESULTS Comparing the elite and the sub-elite groups, significant differences in physical and stepping abilities could not be found. On the other hand, elite members had significantly faster choice reaction time in all years (Table.1). However, comparing the Pro and Amateur groups, this tendency was not clear.

Table 1 Means and SD of all measurements. In each column, an upper line shows the values youth group and below line show the region's values. * $p < .05$, ** $p < .01$ (Students t-test).

Measurement	1st year	2nd year	3rd year
Chronological age (CA: yrs.)	12.6±0.4	13.7±0.4	14.7±0.4
	12.7±0.4	13.7±0.5	14.7±0.5
Skeletal age (SA: yrs.)	13.1±1.0	14.1±1.0	14.8±0.8
	13.4±1.0	14.3±1.1	15.2±1.0
SA-CA (yrs.)	0.5±0.8	0.4±1.0	0.1±0.8
	0.7±0.8	0.6±0.8	0.5±0.7
Height (cm)	157.6±7.0	164.2±5.7	169.4±3.8
	158.2±9.4	163.4±7.5	167.1±6.8
Weight (kg)	47.8±8.2	54.7±7.4	59.7±6.6
	47.3±9.4	53.2±8.6	58.7±6.6
Complex RT (msec.)	657±117*	583±68**	547±48**
	757±82	669±76	624±71
Foot RT (msec.)	601±90*	543±50*	558±45*
	674±82	593±55	592±33
Hand RT (msec.)	519±81	481±53	472±47*
	556±58	507±56	508±46
Stepping speed (rep./sec.)	10.8±1.2	11.5±1.2	11.9±0.8
	10.3±1.1	11.6±0.8	11.6±0.9
Stepping endurance (%)	84.4±5.0	85.1±5.3	85.4±3.9
	82.9±5.1	81.9±3.6	84.2±8.0

DISCUSSION & CONCLUSION The findings suggested that adolescent soccer players with faster choice reaction time had the possibility to become professional soccer players. Consequently, evaluating this ability enabled coaches to reduce the short-term dropout players. Moreover, it was suggested that during preadolescence coaches should train players to develop their reaction abilities rather than speed and endurance.

KEY WORDS Talent identification, adolescent, choice reaction time, skeletal age.

P-117 Heart rate and match analysis of Finnish junior football players

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OBJECTIVE The fatigue caused by football and the resulting decrease in physiological performance have been well documented (Mohr et al., 2005). Most of the research concerning the intensity during a football game (Reilly, 1997) and match analysis (Luhtanen, 1993) has been done with elite male players. Much less information is available on junior players in different age groups. The purpose of this study was to perform match analysis and examine work intensity of junior players at 10, 12 and 14 years of age in a 90 minute, 11-per-side football game on full-sized field.

METHODS The subjects of this study were 10 (n= 13), 12 (n=16) and 14 (n=14) years old male football players. Each age group played a normal game on full-sized football field wearing Suunto T6 heart rate monitors. The games were analyzed using Dartfish Team Pro software. The reference values were measured from adult players. The differences were analyzed using the One-way Anova, T-test and Pearson.

RESULTS Average HR (HRavg), average HR relative to maximal HR (HR%max), average oxygen consumption (VO₂avg), average VO₂ relative to VO₂max (VO₂%), energy expenditure (MJ), percentage of time under aerobic[AnT]threshold as well as match analysis were assessed. Data are presented in in figure 1 Furthermore, the physical load of the game is expressed with EPOC. Aerobic energy consumption of 10 years old male football players was higher than that of the other age groups.

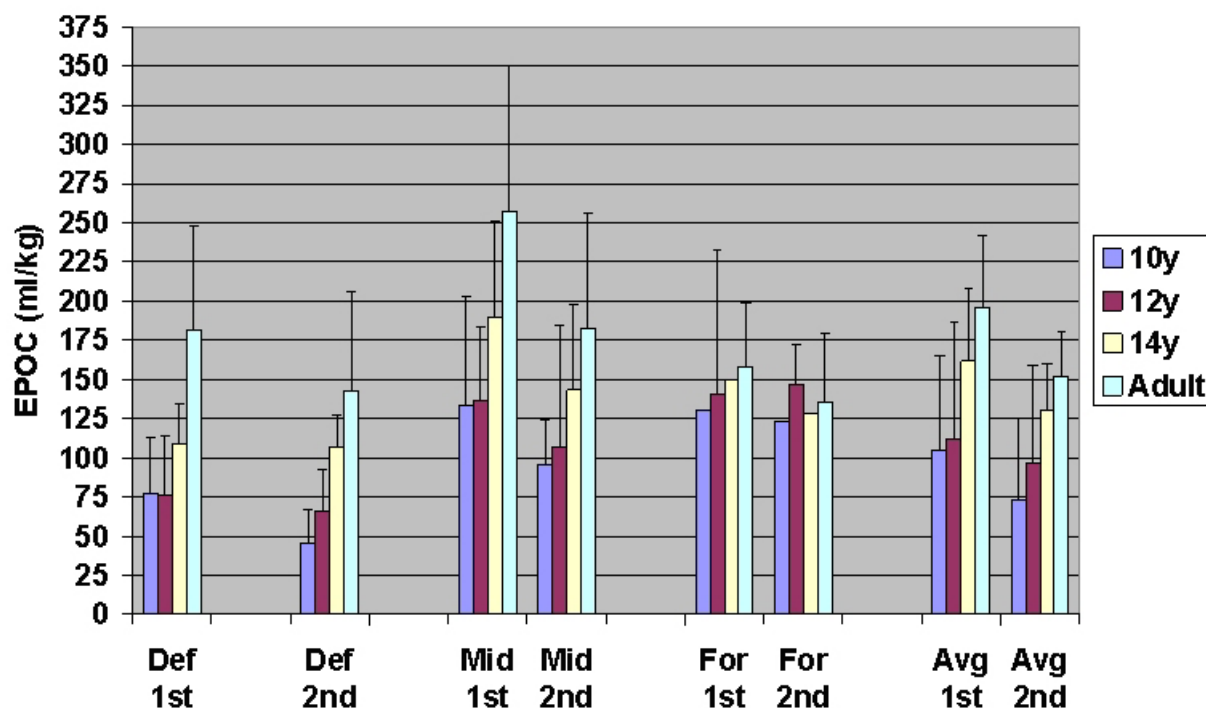


Figure 1. EPOC results.

DISCUSSION From the results of this study it can be concluded that before puberty, children rely on aerobic energy production more than adult players and that the playing position has marked influence on the physical load of the game.

A wide range in the intensity demanded from various playing positions should be considered in youth football to avoid a discrepancy in training effects.

REFERENCES

- Luhtanen (1993) *Science and Football*, 215-220.
Mohr et al. (2005) *Journal of Sport Sciences* **23**, 593-599.
Reilly (1997) *Journal of Sport Sciences* **15**, 257-263.

KEY WORDS Football, children, heart rate, match analysis.

P-118 Career development of youth football players in J-League Academy: Focus on occupational identity

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OBJECTIVE Professional sport has been proliferated in the Japanese society and has been the inspiration of child dreams. Although little number of players can be successful in reality, a larger number of children desire to become a professional player. It is interesting to investigate those young players' psychological development at the young stage. It is the identity formation that can be seen as the central element of psycho-social development and that can be synchronized with the formation of the occupational identity. This study analyzed the relationship between the career orientation and the identification of occupation made by young football players.

METHODS The subjects of this research were 261 youth football players from 11 different J-League academies. Occupational Identity Scale (Melgosa: 1987), which comprises of four statuses: achievement, moratorium, foreclosure and diffusion, was used to measure attributes, future career orientation and occupational identity.

RESULTS ANOVA revealed that professional-career oriented players had significantly higher achievement [$F(2,258)=4.05$, $p<0.01$] and low moratorium [$F(2,258)=9.34$, $p<0.001$], and oriented towards higher education have lower achievement [$F(2,258)=4.30$, $p<0.01$] and high moratorium [$F(2,258)=12.25$, $p<0.001$].

DISCUSSION Occupational Identity Scale was reflected from the work by Marcia (1966), which argued four ego-identity status, and analyzed the career decision through understanding crisis and commitment. It was understood from this research that young players who committed to be professional players had higher attributes to crisis and commitment.

REFERENCES

- Melgosa (1987) *Journal of Adolescence* **10**, 385-397.

KEY WORDS J-league academy youth football players, career development, career orientation.