

14. TALENT IDENTIFICATION AND CHILD TRAINING

O-080 Role of morphological and physical factors in the evaluation of the abilities of young footballers

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OBJECTIVE The young footballers' ability evaluation has had multitude of intents on the part of diverse authors to establish the ideal pattern for evaluation, while optimizing the resources, providing the minimum number of tests, avoiding loss of data, and giving the most accurate data to develop ideal training methods in order to enhance their performances. We try to go beyond and to realize a study in which the aspects are related morphological and physical factors with the specific skills of the football in youth categories. The aim of this work is to know what is the influence of morphological and physical characteristics in the skills' assessment. We study what abilities, tests of physical condition and morphological measurements would be the minimum ones necessary to determine the yield and we determine if the morphological factors and physical condition influence the abilities inside the soccer.

METHODS The population were 54 young football players. From Siete Picos Football Academy (age +/- 15.27 years old, height: 1.68 m.; weigh 57.67 kg) with at least three years of sport practice. We assess the different variables with those tests: Ability: Eight tests of abilities; Physical condition: yo-yo IET n2., 30 m., 10x5 m., 7 Sprints, SJ, CMJ, Abalakov; and morphology: height, weight, 6 skinfolds, 2 Perimeters, 5 diameters.

RESULTS Of the 8 test proposed by means of the study of the main components, they decreased to 3 explaining 78% of the variance in physical tests, the abilities at 4 explaining 70,9% of the variance. The analysis taking as dependent variables the three extracted abilities of the main components and as independent the equally extracted other components, so much physical as morphological.

CONCLUSION The results of this study induced that despite the relationships settled down by previous studies it was not possible to assess different abilities only by means of physical and morphological measurements. As a result, for the young footballers' ability evaluation we may consider the analyses of variety of aspects besides technical and physical constraints.

KEY WORDS Young, soccer, skills, evaluation.

O-081 Decision-making skill and visual search behaviour in soccer: Practical implications for training and coaching

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OBJECTIVE Coaches frequently adopt small-sided games in training sessions to improve technical, tactical and physiological capacities. Exercise-intensity in small-sided games can be manipulated by varying the number of players, field dimensions and encouragement. The aims of this paper were to: (1) examine the effect of different types (i.e., number of players) of small-sided games on information processing load and visual search behaviour, and (2) investigate the practical utility of a laboratory decision-making skill test for the testing and training of soccer players.

METHODS Participants were 65 youth soccer players (M age = 14.6 ± 0.6 yrs) with similar experience, but differing in competition level (elite, sub-elite and regional). Perceptual-cognitive skill was examined using film simulations of offensive patterns of play in soccer, movement-based response measures and an eye movement registration technique. The simulations varied in the number of players presented.

RESULTS An increase in the number of players on screen and a lower ratio offensive/defensive players led to an increase in information processing load (slower decision times and lower response accuracy scores) and more exhaustive visual search patterns (higher search rate). Significant differences in performance were observed across groups of players with similar experience but varying in playing level.

CONCLUSION Performance on a tactical test and visual scanning behaviour varied as a specific function of the unique task constraints conveyed by the number of players and the ratio of offensive/defensive players. These results demonstrate the practical value of decision-making skill tests for training of soccer players and highlight some tactical issues coaches should refer to when planning training sessions.

KEY WORDS Eye movement recording, decision-making skill test, perceptual-cognitive skill, task constraints

O-082 Assessing explosive strength in young soccer players

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OBJECTIVE Explosive strength (power) is apparently one of the factors that determine sporting achievement in actions such as kicking the ball, jumping, sprinting and dribbling (Cometti et al., 2001). Players of a high level who display superior speed, agility and strength show a greater probability of success in handling the ball when faced with rivals (Esposito et al., 2004). The aim of this study was to investigate interactions of physical condition and technical skill in young soccer players.

METHODS Fifty-six soccer players with 3 years of experience in soccer training (aged between 8-12 years) were asked to perform slalom with a ball (with the dominant and non-dominant leg), explosive force of the upper and lower body, speed and precision at which the ball was kicked (with either the dominant or non-dominant leg), and speed over 20 m were assessed by an electronic timekeeping system (0.001s), photocells, sound sensor and strength platform (Wisløff et al., 2004).

RESULTS Differences between the dominant and non-dominant leg were established in the slalom and ball-kicking tests ($12.75 \pm 1.75\%$ and $14.82 \pm 0.87\%$ respectively; $p < .05$). The results of the group (10-12 years, $n=28$) were significantly better than those of the group (8-9 years, $n=28$) in all physical and technical variables ($p < .05$). Kicking the ball with either leg was significantly correlated with other physical variables [CMJ; $r = .70$; $p < .001$ / ABK; $r = .37$, $p < .001$ / upper limb force; $r = .60$, $p < .001$ / 20 m speed; $r = -.56$, $p < .001$].

CONCLUSION The assessments showed in physical and technical tests with regard to age groups. It appears that older players and those with more training experience influence the results. Kicking speed with either leg presents positive correlations with the jumping tests and negative correlations with speed. A positive correlation for precision is only found with the dominant leg.

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KEY WORDS Field tests, soccer kick, dominant leg, young players.

O-083 Relative age effect in a professional football club setting

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OBJECTIVE A relative age effect phenomenon, that is an uneven distribution of birth date favouring subjects born in the first months of a selection year, was identified in competitive association football, at both senior and youth development levels (Helsen et al. 1998; Vaeyens et al., 2005). This may be a problem for football clubs with limited access to young talented players. The aim of this investigation was to assess the extent of the relative age effect in a professional football club characterised by its heavy reliance on players developed at its own academy, and to identify bias in the development process.

METHODS The 2005-06 season was analyzed in four data sets as Athletic Club Bilbao first division squad ($n = 24$), Athletic Club Bilbao youth development ($n = 189$), Football Federation youth players ($n = 4382$), school level youth

players (n = 8834). Chi-square analysis was used to determine the differences between observed and expected birth dates distribution by quarter, based on data from the general population.

RESULTS Significant differences ($P < 0.001$) were observed in the birth date distribution by quarter in all four data sets compared with the expected distributions, with a clear over-representation of players born in the first and second quarters of the selection year (Table 1). The percentage of players born in the first quarter of the selection year progressively increased with competition level.

Table 1. Percentage birth date distribution by quarter (%), 1st quarter corresponding to the first three months of the selection year.

Group	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
First Division	50.0	29.2	12.5	8.3
Youth Academy	45.9	39.3	14.8	9.9
Youth Federation	29.0	26.6	23.5	20.9
Youth Scholar	27.1	27.4	22.7	23.0
General Population	24.8	26.4	24.9	23.9

CONCLUSION In conclusion, players born in the first quarter of the selection year were over-represented in the investigated professional football club setting. This bias started at the lowest level of participation, and the club's talent identification and selection process seemed to aggravate the bias.

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Vaeyens et al. (2005) *J Sports Sci*, **23**, 747-756.

KEY WORDS Talent identification, youth development, maturation, performance.

O-084 ACE genotype biochemical and physiological variables of different level soccer players in Egypt

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OBJECTIVE Many of us recognize that some individuals seem gifted in sporting ability. We may also have noted the association of such elite performance with past parental success, recognizing intuitively the role of inherited traits. This paper examines the role played by ACE gene and the related Physiological and Biochemical variables of different levels of soccer players.

METHODS 36 soccer players of 1st class club (n:12), 2nd class club (n:12), student of physical education (n:12) participated with the mean demographics of age (18.8 ± 0.9 yrs), height (176 ± 0.7 cm), weight (73.4 ± 5.1 kg) ACE genotype was determined using PCR for all the three groups using venous blood, with EDTA. Biochemical variables (LA., glucose, total protein) physiological variables (BMI, Fat %, FF Mass) were also assessed.

RESULTS 1st and 2nd class clubs, ACE genotype was ACEDD for both Defenders and Forwards, while Midfielders were ACEID. 3rd group ACE genotype revealed ACEDD, ACEID, ACEII for Forwards, Defenders and Midfielders. LA, glucose and total protein were lower in case of Midfielders compared to Forwards and Defenders in 1st and 2nd class club. Biochemical variable decreased Physiological variable.

DISCUSSION The current findings are similar to those previously reported. Fogelholm (1994) reported daily energy intake of 2131 ± 400 kcal with a 111 ± 450 kJ energy deficit in normal weight female soccer players. Carbohydrate is the primary fuel substrate during soccer, and consequently high dietary intakes of 60-70% of total calorific intake have been recommended for footballers (Schokman et al., 1999). In the present study carbohydrate intake was significantly lower than these recommendations ($53.8 \pm 6.8\%$, $p < 0.05$), but fall within the range previously reported for female soccer players 47.8 ± 9.8 to $55.0 \pm 7.5\%$ (Clark et al., 2003; Scott et al., 2003).

CONCLUSION It is concluded that ACE genotype might be used for selection, and assigning soccer players to the positions, and that the midfielders might have a higher fitness level than the other soccer players, and depend more on aerobic capacity.

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KEY WORDS Genotype, biochemical variables, soccer.

O-085 Influence of age, maturity and body dimensions on selection of under-17 Algerian soccer players

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OBJECTIVE Selection procedures in soccer tend to favour players who are born early in the competition year (Helsen et al., 2005). Additionally, individual differences in the maturity status are associated with variations in the functional capacities of the youth and may influence their selection. Thus, in football, early maturing adolescents are likely to be selected because they present greater body size, strength and power. The purpose of the present study was to analyze the influence of age, maturity status and body dimensions on the selection criteria for the under-17 (U17) national Algerian soccer team, by comparing their parameters with those of the players of the various regional teams.

METHODS Anthropometric characteristics of 91 boys (U17) (28 elite and 63 sub-elite) were measured. Subjects were subsequently dispatched in 4 groups named quarter according to their month of birth. Their age to Peak Height Velocity (PHV) was calculated according to the equation of (Mirwald et al., 2002). Student's t test and Khi-square were used to compare characters of the two groups.

RESULTS No differences were found in age and birth-dates distribution between national and regional selections. Subjects of the national selection reached or exceeded the PHV. They were significantly more mature (1.11 ± 0.49 year; 0.46 ± 0.54 year; $P < 0.01$), taller and heavier ($P < 0.001$) and they presented significant higher lean body mass ($p < 0.01$) and higher thigh circumference ($p < 0.001$) than regional ones (Table 1).

Table 1. Age and anthropometric characteristics of regional and national under-17 Algerian players.

	Regional selection	National selection	p
	Mean (\pm SD)	Mean (\pm SD)	
Age (years)	16.60 (0.27)	16.59 (0.28)	-
Height (cm)	171.96 (5.42)	176.46 (6.87)	0.001
Weight (Kg)	61.45 (7.71)	69.23 (7.77)	0.001
Lean body mass (kg)	49.74 (7.22)	53.99 (7.32)	0.001
Thigh circumference (cm)	53.03 (3.59)	55.87 (3.56)	0.001

DISCUSSION Opposite to (Helsen et al., 2005), relative age had no effect on the selection process of the under-17 national Algerian team. In accordance with Malina et al. (2000) maturity status influenced the selection of young players in national team.

CONCLUSION To conclude, further longitudinal studies are needed to determine which of anthropometry, maturity status and relative age becomes determinant at each age.

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KEY WORDS Football association, adolescence, body dimension, peak height velocity, selection.