Selection criteria in identifying and developing the sporting talent of a football player

Authors' Contribution:
A Study Design
B Data Collection
C Statistical Analysis
D Manuscript Preparation
E Funds Collection

Jerzy Brzyski[1ABCDE], Tomasz Potejko[2ABCDE]

[1] Paweł Włodkowic University College, Płock, Poland
[2] Stoczniowy Klub Sportowy Stoczniowiec Gdańsk, Gdańsk, Poland

Abstract

The term "talent" in football refers to a certain type of aptitude and innate motor as well as intellectual pre-disposition, which manifests itself in an above-average degree of physical fitness and the ability to quickly learn new motor activities (especially those related to the game of football). We propose to assess the quality of play (in a sense a quasi-test) on the basis of participation in so-called small games, e.g. 3 × 3 or 5 × 5 with goalkeepers in three competition groups, differing in the age of the competitors. The assessed player first takes part in a 3 × 20 minute "test game" competing against peers (e.g. born in 2007). During the second game, he confronts players born in 2006 and 2005, i.e. one and two years older. In the last game, the observed player participates with players (e.g. reserves of the first team of the respective league). We recommend a pitch size of 30 × 40 metres with a break of 5 minutes between games. In our opinion, an accurate determination of an adolescent player's current competence for the individual game can be helpful in developing their individual sporting talent in the future. It is a proposal open to substantive criticism. Thus, it can be supplemented or replaced by new indicators (methods and diagnostic tools) or even supplemented with new components.

Keywords: agonology • encounter • individual player performance • praxeology

Copyright: © 2021 the Authors. Published by Archives of Budo Science of Martial Arts and Extreme Sports

Conflict of interest: Authors have declared that no competing interest exists

Ethical approval: Not required

Provenance & peer review: Not commissioned; externally peer reviewed

Source of support: Departmental sources

Author's address: Jerzy Brzyski, Jelitkowski Dwór 3a/7 St., 80-365 Gdańsk, Poland; e-mail: jerzy.brzyski@onet.eu

Paper presented at the International Scientific Methodological Conference 'Identification and Development of Sports Talent', 2021 Nov 19-21, Gdańsk, Poland (in the published version, as a scientific essay, contains separate passages).

Praxeology (praxiology) – science about good work. A Treatise on Good Work, a fundamental lecture of praxeology by T. Kotarbinski (the first edition in 1955) has been translated into majority of the so-called congress languages (English, German, Russian) and as well: Czech, Japanese, and Serbo-Croatian.

Encounter (conflict, dash) – is a destructive fight in the stage of each other's hit of two fighting parties, nevertheless destroying an escaping foe is no encounter [12, p. 231]. In a wide meaning an encounter is a simultaneous mutual knock – both sides attack, or one party attacks and the other counter-attacks. Such situations are typical for males of some animals' species for primacy in a herd. By an encounter begin contemporary sumo fights. An encounter is frequent on fencing fights, boxing, and other combat sports which are in knocking a competitor [29, p. 258].

Team sport – *noun* any sport that is played between two or more teams, e.g. football, tennis or hockey [30].

Football – *noun* 1. UK a game in which 2 teams of 11 players try to kick or head a round ball into the goal defended by the opposing team. Also called soccer 2. any game in which two teams kick or carry a ball into a goal or over a line, e.g. rugby, Australian Rules or Gaelic football 3. the large round ball used in the game of football [30].

Soccer – *noun* US same as football [30].

Performance – *noun* the level at which a player or athlete is carrying out their activity, either in relation to others or in relation to personal goals or standards [30]

Technique – *noun* a way of performing an action [30].

IOA – individual offensive activity [8]

IOE – individual offensive effectives [8].

Personal Index POD – indicators of personal offensive dynamics = $\frac{IOA+IOE}{2}$ [8].

Talent in football

The term "talent" in football refers to a certain type of aptitude and innate motor as well as intellectual predisposition, which manifests itself in an above-average degree of physical fitness and the ability to quickly learn new motor activities (especially those related to the game of football). In the training process, with proper and wise guidance of the players by the club coaches, the young player has the chance to compete creatively, concentrated and intrinsically motivated with the other peer players (actually qualified for the age group). They all share a common goal: the pursuit of high sporting performance.

Main rationale for identifying talent in football

Identifying sporting talent in football and the main enablers of this phenomenon is not that simple (as it seems to many professionals and those involved in the football community – and we say so based on our own years of coaching experience). However, almost everyone agrees that this process is necessary in order to achieve the highest possible sportsmanship of a football player in the future precisely in accordance with his talent and social expectations.

Practice (coaching and from collaboration with research facilities and the study of professional literature) suggests that the knowledge base needed to identify sporting talent should be based on the following disciplines in particular: anthropology, anatomy, physiology, biochemistry, nutrition, biomechanics, pedagogy, psychology and – what may surprise many practitioners – the widely understood **science about struggle** (based on the general theory of combat, that is agonology [1, 2] and four specific theories: destructive [3], non-arm struggle [4], defence struggle [5] and combat sports [6]).

Individual player performance as a criterion for team effectiveness

Not only in modern football, although it is a team game, the basis for team action is the individual player's actions. It has been proven through research that in a team game, the individual actions of the players with the highest sporting competence can influence the number of points scored (and not always the right measure is the higher number of goals scored, but often a goalless draw) and the value of the football team's sporting score [7, 8].

Main dilemmas and recommendations

One of the prerequisites for the accurate identification of sporting talent is many years of experience, primarily of coaches, and the making of many observations (direct and indirect, i.e. on the basis of tests), of many players and many phenomena [9, 10]. The main objective of these observations is assessment of the player's suitability for a specific football team, and one of the intermediate objectives (means) is to forecast his sporting development. Selecting a talented player is a complex process, as it is a matter of identifying an individual who, in a given age group, surpasses the aptitude and sporting competence of their peers.

In training practice, not only do coaches often say 'this is a great talent', but after some time they are surprised to find that the talent 'disappears'. Based on our own experience and a review of the literature, we believe that there are three main reasons for this phenomenon. Firstly, the methodological errors of the coaches guiding these talents. Secondly, incompletely recognised sporting talent, which as a rule is characterised by an individual compilation of characteristics (often difficult to identify unambiguously). Thirdly, poor forecasting of the individual development of a sporting talent, as well as ignoring objective reasons in the training process.

If the basis for proper identification of sporting talent is accurate and reliable selection between the ages of 6 and 12, then this process should be completed by that time. However, the procedure for identifying sporting talent should be properly documented. Thus, we propose four components to avoid errors in guiding the development of sports talent. Blended into a multi-stage selection.

Multi-stage selection of talented players

We distinguish between three types of selection: **recruitment**; **annual**; **to staff at different levels.** In accordance with the administrative division of Poland and the current rules of international competition, these are the following groups of teams: the youth provincial team; the junior national teams of Poland U-15, U-19 and U-21; the senior national teams A and B. A parallel process (with many points of contact to the above-mentioned stages) is selection for league teams: premier league, first, second and third division; and selection for football academies and sports schools and other entities.

This complex, multi-stage process should also distinguish between specific selection objectives, which need to be named precisely (unambiguously) and how they need to be defined. Thus, we distinguish between 'complementary selection', 'selection for specific positions in the team', 'selection for specific team formations'.

In such a process, there can be no lack of space to distinguish either the extent of selection, its size, the methods, forms and tools used, or innovation. The scope of selection is city, district, province and country, while the size of selection is the number of players included in the selection from 1 to 100, 300, 500, 1000 and more (we are talking about system solutions). Methods, forms of selection and applied: participatory observation, direct observation, secondary observation (based on repeated study of footage or recordings with video technology), while the basic tools are: camera, drone or commonly available smartphone.

Among the innovative solutions, we mention selection based on praxeological indicators [11-13] (it concerns the player's performance [14-20]). More precisely, in line with the latest science recommendations, it is about agonology [1, 2] indicators, linked to a specific theory of science about struggle – in this case with defence struggle [5] and combat sports [6]).

Indeed, it is about the analysis of the fight during the game of one against one (1↔1), one against a group (1↔G) and the analysis of the encounter (⊗), when it is impossible to clearly indicate which player attacks the ball first [8].

Administrative data
Surname and first name; date and place of birth; nationality; sports club; position in team formation;

Component of indicators of somatic health, eating habits, sleep and genetic potential
Prognosis indicators of psychomotor development (mental, intellectual, somatic, motor, energetic, etc.): body mass and height (centile formula based on parents' height); aerobic capacity VO2max – result of any test having norms; vision of the game; player's applied technique; speed of learning and remembering new exercises; speed of tactical thinking, variants and their solution; vitamin D content in the body; number of hours of sleep (9-10); sleep onset is 21.00 (growth hormone stimulation) 6-12 years; amount of water drunk per day 2-3 litres; possible hidden defects of the heart or skeletal system; nasal septum diagnosis; muscle structure (slow or fast); genetic ability (maybe someone in the family had many years of football practice). It is also important to know how tired the body (muscles) is and whether the athlete is achieving full recovery after three days, or sooner.

Mental health and social health indicators component
The elementary criteria are knowledge based on the results of at least two personality tests and an estimation of the player's needs, dreams and goals.

Desirable qualities: high courage and determination in action, resilience to stress; appropriate behaviour at school and on the pitch towards own and opposing team players; high personal culture in any operating environment; commitment to language learning (2-3).

Knowledge component of the immediate social environment
The most important criteria include knowledge of: family support or lack of it; the number of hours of training per week; the quality of care provided by the general practitioner and possibly a psychologist; whether the environment in which the player resides is suitable in all other respects.

Evaluable phenomena and recommendations influenced by those formally responsible for the education and upbringing of the player (especially the juvenile): support of club coaches and activists as well as school management; adequate number of training hours per week and concern for the personal safety of the athlete (above the age of 12 it is recommended to train and play only on a full-size grass pitch to avoid overloading joints, ligaments); care of a psychologist, physiotherapist and club pedagogue; a professional coaching environment (expectations include competent support and ongoing monitoring of the player's training effects); care for appropriate training loads matched to the biological development of the player; and special attention should be paid to care for appropriate stimuli in and out of the player's comfort zone.

Supplementary notes

When collecting information about specific players, difficulties may arise due to the conflicting goals of coaches in relation to their subordinate players. On the one hand, coaches require players to be humble and obedient, while on the other hand, they require players to be independent, tough and feisty. Based on many years of experience in training young players, we find a frequent paradox that the more independent and difficult an individual is in the early stages of their football education, the easier it is for them to succeed in sport when they reach senior age.

Once all the necessary information has been gathered to determine a candidate's suitability for football and to identify sporting talent, however, the most important part of the selection process is to assess his or her game and current sporting competence. We propose to assess the quality of play (in a sense a quasi-test) on the basis of participation in so-called small games [21, 22], e.g. 3 × 3 or 5 × 5 with goalkeepers in three competition groups, differing in the age of the competitors. The assessed player first takes part in a 3 × 20 minute "test game" competing against peers (e.g. born in 2007). During the second game, he confronts players born in 2006 and 2005, i.e. one and two years older. In the last game, the observed player participates with players (e.g. reserves of the first team of the respective league). We recommend a pitch size of 30 × 40 metres with a break of 5 minutes between games.

Based on the results of observing an athlete participating in these three games, the questions to be answered are: can he/she perform a quick ball pick-up?; whether he or she is able to drive and hold onto the ball in direct contact with an active opponent in 1↔1, 1↔G situations and analysis of encounters [8]; whether he or she has a habit of so-called "playing forward" (towards the opponent's goal) and if is he or she able to gain the so-called "playing field"; is he or she able to gain a numerical advantage under the above circumstances?; whether he or she is characterised by a high level of effectiveness in offensive play in 1↔1, 1↔G situations and encounters (indicators: IOA, IOE and Personal Index POD – see glossary)?; can he or she create goal-scoring situations and can score goals?

If an observed player (e.g. a 15-year-old) is able to successfully perform these actions when confronted with players two years older and with reserve players, we obtain the most valuable empirical evidence that we are dealing with a talented athlete and we should in this situation wisely guide his development in the pursuit of sports mastery. We further stress that the proposed profile for predicting the talent of an adolescent soccer player can be complemented by the results of tests recommended by innovative agonology [23, 24], especially those diagnosing the susceptibility the body injuries during the fall [25], effectiveness of avoiding collision with an object in motion [26] and safe fall [27].

Conclusions

We believe that the knowledge of the actions indicated above performed by a player are the most significant in modern football and are used to evaluate his or her game and in identifying sporting talent. In our opinion, an accurate determination of an adolescent player's current competence for the individual game can be helpful in developing their individual sporting talent in the future. It is a proposal open to substantive criticism. Thus, it can be supplemented or replaced by new indicators (methods and diagnostic tools) or even supplemented with new components.

REFERENCES

1. Kotarbiński T. Z zagadnień ogólnej teorii walki. In.: Kotarbiński T. Wybór pism. Vol 1. Warszawa: Państwowe Wydawnictwo Naukowe; 1957: 549 [in Polish]

2. Kalina RM. Agonology – the unknown science. Arch Budo 2016; 12: 231-237

3. Konieczny J. Cybernetyka walki. Warszawa: Państwowe Wydawnictwo Naukowe; 1970 [in Polish]

4. Rudniański J. Kompromis i walka. Sprawność i etyka kooperacji pozytywnej i negatywnej w gęstym otoczeniu społecznym. Warszawa: Instytut Wydawniczy Pax; 1989 [in Polish]

5. Kalina RM. Przeciwdziałanie agresji. Wykorzystanie sportu do zmniejszania agresywności. Warszawa: Polskie Towarzystwo Higieny Psychicznej; 1991 [in Polish]

6. Kalina RM. Teoria sportów walki. Warszawa: Centralny Ośrodek Sportu; 2000 [in Polish]

7. Brzyski J. Analiza przebiegu gry indywidualnej graczy wysoko kwalifikowanych drużyn w piłce nożnej w aspekcie uzyskiwanych rezultatów sportowych. [PhD dissertation]. Kraków: Akademia Wychowania Fizycznego; 2015 [in Polish]

8. Brzyski J. The individual offensive effectiveness of top level soccer players during an encounter and in close contact with an antagonist – secondary analysis based on the methodological criterion of the theory of combat sports. Arch Budo Sci Martial Art Extreme Sport 2016; 12: 77-86

9. Helmer O. Korzystanie z ocen ekspertów In: Findeisen W, editor. Analiza systemowa – podstawy

i metodologia. Warszawa: Wydawnictwo Polskiej Akademii Nauk; 1985: 235-285 [in Polish]

10. Duda H. Intelektualizacja procesu nauczania a rozwój dyspozycji do gry sportowej (na przykładzie piłki nożnej). Studia i Monografie. Vol 50. Kraków: Akademia Wychowania Fizycznego; 2008; 50 [in Polish]

11. Kotarbiński T. Traktat o dobrej robocie. 1st ed. Łódź: Wydział I Łódzkiego Towarzystwa Naukowego; 1955: 18 [in Polish]

12. Pszczołowski T. Mała encyklopedia prakseologii i teorii organizacji. Wrocław–Gdańsk: Zakład Narodowy imienia Ossolińskich; 1978 [in Polish]

13. Łasiński G. Prakseologiczne podstawy przygotowania zawodnika do walki sportowej. Zesz Nauk Akad Wych Fiz Wroc 1984; 35 [in Polish]

14. Dziąsko J. Teoria walki jako podstawa efektywnych działań w sporcie. Kult Fiz 1978; 6: 250 [in Polish]

15. Dziąsko J, Naglak Z. Teoria sportowych gier zespołowych. Warszawa-Wrocław: Państwowe Wydawnictwa Naukowe; 1983 [in Polish]

16. Dziąsko J, Jaskólski E. O sposobach analizy i doskonalenia metod prowadzenia walki sportowej. Sport Wyczynowy 1988; 9(285): 7-9 [in Polish]

17. Naglak Z. Zespołowa gra sportowa – studium. Studia i Monografie. Vol 45. Wrocław: Akademia Wychowania Fizycznego; 1994 [in Polish]

18. Naglak Z. Teoria zespołowej gry sportowej – kształcenie gracza. Wrocław: Akademia Wychowania Fizycznego; 2001 [in Polish]

19. Naglak Z. Kształcenie gracza na podstawowym etapie. Wrocław: Akademia Wychowania Fizycznego; 2010 [in Polish]

20. Panfil R. A paradigm for identifying ability competition (providing examples of sport game and fight). Hum Mov 2011; 12 (1): 16-23

21. Szwarc A, Kromke K, Lipińska P. The efficiency of football players in one against one game in the aspect of situational factors of a sports fight. Arch Budo 2012; 8(2): 91-102

22. Szwarc A, Lipińska P, Chamera M. The efficiency of action of young soccer players in competitive games and small-sided games. Arch Budo Sci Martial Art Extreme Sport 2015; 11: 145-154

23. Kalina RM. Agonology as a deeply esoteric science – an introduction to martial arts therapy on a global scale. Proc Manuf 2015; 3: 1195-1202

24. Kalina RM. Innovative agonology as a synonym for prophylactic and therapeutic agonology – the final impulse. Arch Budo 2016; 12: 329-344

25. Kalina RM. Language and methods of innovative agonology as a guide in interdisciplinary research on interpersonal relationships and people with the environment – from micro to macro scale Arch Budo 2020; 16: 271-280

26. Gąsienica Walczak B, Kalina RM. Validation of the new version of "the susceptibility test to the body injuries during the fall" (STBIDF-M). Arch Budo 2021; 17: 371-400

27. Michnik R, Wodarski P, Bieniek A et al. Effectiveness of avoiding collision with an object in motion – virtual reality technology in diagnostic and training from perspective of prophylactic of body injuries. Arch Budo 2017; 13: 203-210

28. Michnik R, Jurkojć J, Wodarski P et al. Similarities and differences of body control during professional, externally forced fall to the side performed by men aged 24 and 65 years. Arch Budo 2014; 10: 233-243

29. Krzemieniecki LA, Kalina RM. Agon – a term connecting the theory of struggle with belles-lettres. A perspective of inter-disciplinary research. Arch Budo 2011; 7(4): 255-265

30. Dictionary of Sport and Exercise Science. Over 5,000 Terms Clearly Defined. London: A & B Black; 2006