The Identification of Talent in Soccer – a Brief Review

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Abstract: In this review, we aim to identify and provide the most important research results in talent identification in soccer and highlight information for those who are interested in future research in this field. Some peer-reviewed empirical articles were collected and analyzed. The literature reveals considerable evidence demonstrating that 8 indicators must be taken into consideration in talent assessment: maturity, physiological abilities, technical skills, tactical skills, psycho-social attributes, deliberate practice, genetic factors and the context.

It seems that the traditional trend of selecting young players based on physical, technical, psychological, cognitive and sociological attributes must be completed with other several factors: perceptual and tactical skills and abilities, genetics.

Keywords: *talent identification; soccer; elite; performance; players.*

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Introduction

Talent is generally considered a natural, exceptional ability which, through development, leads to remarkable results. Thus, sports talent should be the natural and exceptional capacity of an individual to perform tasks or activities related to sport. The identification of talent in football has been defined as "the current recognition process of participants with the potential for becoming elite players" (Williams & Reilly, 2000).

Although there is a consensus in the literature on the definition of talent, there is also an agreement that this concept is interpreted differently in the context of sport. From this perspective, talent may be seen as a static or dynamic concept. The *static definition* refers to talent as something innate, which involves performances at an early age, while the *dynamic definition* sees talent as something that can be developed. The concept of talent is often used, in many contexts, to legitimize the identification of players in a ranking, and usually at an early age. Such an agreement shows the intention to rank players based on talent, and to a lesser extent, on the development of skills and abilities. The idea of identifying talent at the tender age is based on the fact that there are early, observable clues to the talent that a practised eye can identify, and that such early indicators can predict success in the future (Coutinho, Mesquita, & Fonseca, 2016; Zamfir, 2011).

The process of identifying young talents for football has become a priority issue in recent years, early recruitment in a professional football Academy being an increasingly necessary condition when considering the long-term development of the footballer. More than ever, top football teams are looking for talented people with a view to developing elite players and early identification of talented players has led to a growing number of "Centers of Excellence" around the world.

There is still a conflict between talent scouts who "recognize talent when they see it" and statisticians who rely on the previous evaluations and performances of athletes. The opinions on players' talent will vary from observer to observer, reflecting the coach or researcher's level of knowledge and experience. The ability to obtain information beyond a subjective analysis allows coaches to recognize potential elite players who can match the club's playing style. Ajax, a successful club in the Netherlands, renowned for its efficacy in producing young talents, encourages coaches to look for players who correspond to TIPS acronym (technique, intelligence, personality and speed). Similarly, other acronyms, such as TABS (technique, attitude, balance and speed) and SUPS (speed, understanding, personality

and skill) are used by coaches in England, to compensate intuitive judgements for a scientific justification.

Method

The process of collecting information and its analysis followed the guidelines previously developed in the field of sports psychology research. In order to achieve the goals of the study and ensure the scientific quality of this paper, the following criteria were considered in the selection of the reviewed articles:

(1) the article had to focus on the development of talent, pathways and activities to identify talent

(2) the article had to be published in, at least, a BDI journal.

The first author analyzed the titles, abstracts and complete reports of all the identified studies, and then, all authors reviewed the conclusions and decided on the structure of the present article.

Results

Predictors of Talent

With topics related to the identification of talent in football, research and the literature indicate two orientations/methods:

- the opinions of coaches and scouts based on practical sense and visual experience;
- tests results and game analysis based on pre-established criteria.

Practical sense and visual experience

There are studies which show that many coaches refer to a small number of factors when they identify talent. Among these studies, two draw attention, in particular, to the knowledge of coaches and the criteria used to identify talented football players (Christensen, 2009; Saether, 2014).

Practical sense is a key concept in Pierre Bourdieu's theory of practice (1998a). This theory was developed as a combined analysis of how a practitioner performs an action and how he learns to do so. Experts in a particular activity, such as football coaches, are considered to be experts because they have got a flair for detecting what will happen, in other words "they feel the game". In this context, practical sense is not a result of logical thinking or declarative knowledge. It is based on practical intuition.

Firstly, by adopting the concept of practical sense, Christensen (2009) found that coaches use their practical sense and visual experience to recognize the patterns of movement among players. Secondly, it was shown

that coaches use classifying schemes to characterize "autotelic players", i.e. players who, from the coaches' perspective, have great potential for learning, practising and improving. In this process, these coaches focused mainly on specific skills and the importance of attitudes in identifying talented football players.

Coaches describe the ability to identify talents as something that comes from intuition – an inner standard, something that is seen with the mind's eye, a visual experience. According to Lakoff and Johnson (1999), "seeing" is a primary metaphor for knowledge. Generally, they receive the greatest amount of knowledge through the sense of sight and, therefore, often use the visual expression "I see" with the meaning "I understand". To put it differently, the logic of visual representation is transferred to the logic of knowledge. The main source of knowledge for these coaches comes from their constant observation of players. However, the ability to see talent is not the same as describing it.

Nash and Collins (2006) concluded that the activities of coaches with expertise (including talent identification) imply a complex interaction between the knowledge and memory of similar situations, refined in years of experience and reflection. Thus, "the good players" showed a similar behaviour to that set by the coaches, while "the weak players" did not meet the expectations in terms of the skills and attitudes determined by the coach. The power and experience to judge and label observable abilities and personal qualities are essential, and the fact that each coach has his own style or philosophy seems to be widely accepted in top football. That is why, we will always select our own type of player. The very subjective variation of taste among coaches is a further confirmation of their power as referees. Consequently, selection and rejection in the process of identifying talent seem to be completely random to outsiders.

Sæther (2014) presents an overall image of the criteria used by football coaches in Norway to identify talented players, analyzing all the studies carried out between 2004 and 2014.

The main findings of the studies could be the following:

- controversies in identifying players, related to the importance of *basic or specific skills*. Even if the importance of basic skills is invoked, many coaches have emphasized the importance of specific, technical skills. Coaches training elite players have ranked the technical factor as the most important, fundamental factor in the identification process;

- *tactical skills* come second in the order of the importance of talent prediction in football. Many coaches state that these skills are the most

difficult to develop and that their existence is vital to the players (Jenssen 2011);

- *dimensions and physical abilities* are also mentioned as criteria for player selection with emphasis on speed and coordination.

- *mental abilities*, represented by intelligence during the game, attitudes towards training and participation in competitions, inner motivation, personality, courage, perseverance, passion, and so on. Some coaches have argued that attitudes have been one of the decisive factors in identifying talents, and that this factor actually decides how professional the player will become (Roaas, 2011; Roca, Williams, & Ford, 2012).

- *talent development* depends mainly on the player, and secondarily on the coach and the environment. Many coaches focus on mental abilities, indicating that they consider the process of talents development as being, to a large extent, dependent on the players themselves (Moberg, 2010; Jenssen, 2011).

In conclusion, Norwegian coaches seem to have clear points of view on how to identify the most talented players. Even so, they show difficulty in defining some criteria they use for identification.

Objective evaluations

In 2014, Fernandez-Rio and Mendez-Gimenez made an inventory of all the articles published between 1985 and 2012, dealing with direct or collateral aspects related to talent identification and development. After a careful selection they chose 114 articles for analysis and synthesis. In their study, the authors suggest that 8 indicators should be taken into account when assessing talent in football: *maturity, physiological capabilities, technical skills, tactical skills, psycho-social characteristics, individual practice, genetic factors, context.*

Maturity. The effect of relative age

According to Pearson, Naughton, and Torode (2006), physical parameters are not trusted to identify talents for more reasons: the high variation in the growth potential among players during puberty, the differences in weight between early and late maturity teenagers, body fats that can be modified through physical activity and nutrition.

Unfortunately, many of those dealing with scouting among young football players are strongly influenced by the physical features and maturity period of children (Vandendriessche et al., 2012), making the process of selection extremely subjective (Williams & Reilly, 2000). In fact, a few months' difference over the years of adolescence can cause significant differences among children in their physical, cognitive and emotional traits. In this way,

many potential players are not taken into consideration because they were born later in the selection year, and they are, therefore, less developed. This trend was called "the effect of relative age" (Vaeyens, Philippaerts, & Malina, 2005) and prevents many young people from receiving opportunities to value their talent and reach the highest level in football. Unfortunately, recent research has shown that the effect of relative age continues to have a strong impact on detecting and identifying talent in football (Helsen, Baker, & Joerg, 2012; Meylan, Cronin, Oliver, & Hughes, 2010).

Physiological capabilities

Many sports talent identification programs are based exclusively on evaluating physiological parameters, such as strength, aerobic capacity and anaerobic strength to select the best players:

Aerobic capacity: expressed in absolute values (per kilogram of body mass) increases in adolescence. However, its improvement must be validated in endurance tests, on the pitch. The training of the adolescents' aerobic capacity depends on the initial ability of the participants, the observance of the training program as well as the quality and training duration.

Anaerobic capacity: the training of muscular strength, the body-dimensions relationship and the anaerobic capacity, as well as the non-linear growth during adolescence make the extrapolating results from young athletes to adult performers at least problematic. Therefore, the training results seem very specific and transient.

Strength: is related to factors, such as hormones (testosterone serum) and body size, and is mostly enhanced by well-done training. Therefore, the results from adolescent strength testing are problematic predictors for athletic performances as adults. Safety remains a priority in strength training Morgan (2014), Cazan, Rizescu, Georgescu, Gidu & Negrea (2013).

Pearson et al. (2006) consider that the traditional methods of physiological evaluations are frequently used despite their low predictability and specific limitations. Williams and Reilly (2000) believe that assessing the physical and physiological parameters of young players can create an interesting database. These records could help coaches identify the strengths and weaknesses of young players, monitor their progress, improve their individual performance. This knowledge could be used as reference to monitor the young players' progress.

Technical skills

Williams and Reilly (2000) strongly believe that young players should be selected considering technical skills rather than physical dimensions. In

agreement with Williams and Reilly (2000), Gidu, Straton, and Gidu's (2010) article also states that "*Technical ability involves not only the correct execution of a technical element (passing, stopping, receiving, kicking), but also the adaptation of motric behaviour to the actual situation due to the nature of the field, wind, speed and direction of the ball. Therefore, it contains sensory elements (external perception, proprioception - kinetic sensations and balance), logical understanding of the situation (reported to the task and intent), and data memory, combined with specific skills*". Football is a game characterized by a constant interaction between players who play their ball in offensive and defensive situations. Players are engaged in an unstable context under the extra pressure of time. They need to perceive all the information related to the game and make the right decision, with or without a ball, at the right time. Thus, talented football players need perceptual skills at a high level. Coaches name it the ability to "read the game".

In terms of perceptual skills, Williams highlighted several features that talented players possess:

Performance memory: the ability to rediscover more effectively, from memory, information related to football.

Game scan: the ability to continually look at the important aspects of the game.

Anticipation: the capacity to make accurate predictions based on the posture and / or actions of the opponent.

Tactical skills

On the other hand, these perceptual indicators are closely linked to "tactical" skills necessary in the game. Kannekens, Elferink-Gemser and Visscher (2009) defined them as: "the individual skills of a player to perform the right action at the right time quickly and adapt to the new game configurations and the movement of the ball". The tactical skills were related to more cognitive skills, and they were classified into:

Declarative knowledge: knowing the rules and objectives of the game (Williams & Davids, 1995).

Procedural knowledge: knowing what to do at the right time (McPherson, 1994).

Each tactical action has its constraints, and the player has to decide how to perform it, appropriate to the goal. In another study, Kannekens, Visscher, and Elferink-Gemser (2011) pointed out that "*positioning and decision-making*" were the tactical skills associated with the performance of professional players. Therefore, these tactical skills should be considered when selecting and developing talented football players.

Psycho-social skills

Yperen (2009) emphasized four major psycho-social skills associated with success in football and identified during adolescence: *discipline*, *commitment*, *resilience* and *social support*.

In another study, with expert coaches in football talent detection, Mills, Butt, Maynard, and Hardwood (2012) found some psycho-social skills needed to improve the performance of football players:

Awareness: the ability to perceive what happens to me and the others;

Motivation: personal characteristics, such as passion, professional attitude;

Specific attributes: personal traits, such as training, competitiveness, and so on;

Environment: context elements like other significant people (friends, family, colleagues), game culture.

In a research on the psychological profile of adolescent footballers, Gidu (2009) highlights *sociability*, *communication*, *calmness*, *self-confidence*, *optimism* as basic factors.

Genetics

Sport performance can be considered a complex, multi-factorial phenotype. To achieve sport performance, the DNA predictive profile can be used to help select the sport and develop customized training and nutrition programs. The DNA predictive profile can be able to detect athletes with potential or risk of injuries and can help maximize potential and improve sport performance (Kambouris, Del Buono, & Maffulli, 2014). Certain variations of DNA sequences have been associated with specific phenotypes involved in sport performances, including strength, muscle performance, injury sensitivity, body mass composition and provide information on the genetic advantages and barriers which reflect the sports performance phenotype.

As Reilly, Williams, Nevill, and Franks (2000) pointed out, the genetic influence on sport talent is difficult to quantify. Several studies have attempted to predict the potential of a subject to identify a genetic predisposition for increased resistance to effort, muscle strength, and/or the risk of injury to muscle disorder. However, none of these studies have been conducted to detect or develop talent in football.

Considering that lately, everything that is related to the development of athletes has been thoroughly researched based on specific tests, we cannot ignore the ideas of the authors who apply objective tests (Kannekens,

Visser, & Elferink-Gemser, 2009; Kannekens, Elferink-Gemser, & Visser, 2011; Reilly, Williams, Nevill, & Franks, 2000). We do not exclude the fact that the coach's experience can lead to the identification of talented footballers, but the evidence of the last decades makes us consider specific tests, both technical and tactical, to be much more accurate and predictable. At the same time, we consider that the impact of psycho-social factors on the development of footballers is as important as that determined by technique and tactics.

In addition to selecting and extracting the most relevant data in the literature, this paper contributes to highlighting the importance of technical, tactical and psycho-social factors to the detriment of the empirical ones – the intuition of the coaches. Thus, it comes to eliminate the gaps of field specialists, by providing clear information about the latest aspects of talent identification in football. This information will facilitate a more scientific approach to talent selection in football (as a result, the application of specific tests developed and validated by specialists will lead to the identification and promotion of the most talented players).

Conclusions

The main concern of this overview is that the eight indicators must be taken into consideration in talent assessment: maturity, physiological abilities, technical skills, tactical skills, psycho-social attributes, deliberate practice, genetic factors and the context.

On the one hand, all of these indicators - physical, physiological, psycho-social, perceptual, technical and tactical elements - have been identified as influential on talent programs. On the other hand, the context where the coach-learning process takes place, as well as the pedagogical techniques and the amount of practice are also important features in the process.

Therefore, talent detection and development in soccer is a multifaceted issue, a complex phenomenon that needs a multidisciplinary approach.

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