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## EDITORIAL

# Player talent identification and development in football



## Identificación de talento en el jugador y su desarrollo en el fútbol

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Sport has the power to captivate people watching and supporting or consuming sp in every country making it one of the most universal aspects of popular culture.<sup>1–3</sup> Approximately 4.1% of the worlds population plays football professionally, making it the worlds most popular sport. There are numerous more amateur and recreation players. The global interest and increased competitiveness of the sport has led to elite clubs scouting throughout the world for the best players and players with the potential to become the best.<sup>3,4</sup>

Good players are not created overnight, but instead natural talent and ability must be nurtured in order to enable players to fulfill their potential. The processes that shape the success of sportspeople in any sport are conditioned by the player's response to the multiple environmental interactions and stimuli that are presented day by day. Consequently, it is important to regard the player as a multifactorial entity and assess if he will be able to adapt to the situations that are presented to him.

Talent identification is a key area within sports development. The identification of sports talent aims to detect, capture, select and promote the athlete who has the skills and competencies and thus the potential to ensure, as far as possible, the achievement of competitive success. Despite the fact that the international federated sport has been focused on dissemination and the promotion of specific plans for the development of sports talent, there is no

universal consensus, neither in the elaboration nor in the strategies of action, how to configure each of these plans.<sup>5</sup> This has led to many countries developing their player identification programs in unsystematic and unstructured ways which can compromise the development process. Often, a trial-and-error approach, "collision theory" has been used, where the player collides with the sport for the one with the most casually conditions, rather than being selected as the result of an intentional, coordinated and systematic process.<sup>6</sup> This could result in players with potential to succeed in one sport actually participating in sports that do not give him the best chance of success, and within a specific sport can lead to players ending up playing in positions that do not maximize their natural potential.

Talent needs to be identified at a young age so that it can be properly nurtured to develop top players. It is vital that athletes receive the best possible service in predicting their attributes and abilities, while some athletes arise by "spontaneous generation", others do so as a product of systematic search campaigns based on scientific and methodological criteria. There are four stages involved in the conversion of a talented player into an elite sportsman. These include detection, identification, development and selection. Different aspects of scientific support can be used in the last three stages. Despite the availability of scientific resources and expertise, many talent identification programs lack a strong scientific base.<sup>7</sup>

One of the biggest challenges facing football is the lack of good scientific and medical support within developmental structures. Player development is also a key goal and

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currently there are limitations on talent programs being run in several countries. The lack of good development structures means that very few players actually reach the highest levels of performance and compromises length of football careers, leads to players being more susceptible to injury and affects the results of national teams. The situation is even worse for female players since the highest female leagues are still amateur leagues.

Within any sporting domain, talent and potential alone does not automatically translate into capability and success. Talent identification is a multifactorial process and it is important to not only view the player as he is now, but look at what, with the right support he may become. There are definitely other variants just as important as the natural talent itself; such as the social, affective, motivational and temperamental factors.<sup>8</sup> Who is more "talented", the athlete who possesses a series of skills suitable for a particular sporting specialty, or who has the best ability to adapt, over time, to the demands of training and competition?<sup>9</sup>

There has been progress within football development. Footballers are now provided with full physical training programs. The availability of more training tools and disciplines develop players that are not only good footballers but are also stronger and faster athletes.<sup>7,10</sup> Often talent identification programs may be focused on physical performance or isolating specific fitness components rather than looking at all factors which are key for performance. Football is a multidimensional sport with players required to have different skills and capabilities in various disciplines to be successful. Historically talent identification programs have focused on objective but limiting physical skills, without taking into consideration the complexity of football performance.<sup>11</sup>

Talent identification in football related to finding the potential in players to play at a higher level. It involves predicting performance over various periods of time by measuring physical, physiological, psychological, cognitive and sociological attributes as well as technical abilities. Performance characteristics tested during this phase must be based on those required during games.<sup>12</sup>

In football, components such as speed, agility, muscular strength and power are all important but just as key is the ability of a player to read the match, and use those fitness components within a football-specific domain. The brain obviously plays a large role, because of its astounding ability for neuroplasticity.<sup>13</sup> Cognitive ability and visual-perceptual skills as well as general psychological skills are just as key as technical and physical skill in the process of player identification and development.

Player development is all about players learning specific technical skills and beginning to understand tactical play. Talent identification is not based on merely what the player knows at the time of being evaluated but also his ability to learn, develop and progress in his ability to execute his skills. An infinite number of factors interact with the athlete who during their learning as well as being instructed in specific skills, automates them, and assimilates them in the form of rules, and customs acquiring values and principles inherent to their own sport.

Neurons play an important role in the transfer of information to process stimuli and then to execute actions. The creation and functioning of neurons can be modified

by a combination of physical and mental. Physical training increases the number of new neurons while mental training increases the survival of these. When combined mental and physical training with stimulation, cognitive functioning increases.<sup>14</sup>

In the cognitive area there is a correspondence between automatic and unconscious. Therefore, we see athletes repeatedly practice one or several actions to get them to become one with these characteristics and thus be able to focus and focus attention on other objectives that have to be approached more consciously (Joan Riera and Pau Riera Brugulat, 2005).<sup>15</sup> Players are required to learn not only each specific skill, but how to integrate those individual skills within a dynamic context or segment of play. That is why the creation of brain maps, is one of the fundamental pillars for the development of a player.

Every football action includes a cognitive element. Players make decisions with the brain playing a role in analysing all the stimuli a player is exposed to and enabling players to make correct decisions. Football decisions are naturalistic and dynamic with players required to make correct decisions while under pressure, with limited time, during various intensities of exercise and sometimes with limited resources and information.<sup>14,16</sup> The sequences of these actions are not replicated throughout the match nor can they be precisely predicted. The decision-making process in football is a very complex one, requiring a high level of skill. Each player will approach a situation in their own individual ways and rely on a combination of intuition, experience and the laws of the game. The domain specific cognitive mechanisms that experts acquire enable them to anticipate future retrieval demands, correctly predict the outcome of a situation and adapt in a dynamic environment.<sup>14,16</sup> Acquiring these skills is a process that begins at youth level and should be a core component of talent development.

A player may have high cognitive ability but execution of cognitive skills may be situation-specific with things such as fatigue, lack of concentration, fear and anxiety, self-doubt, arousal level, match situation, history with opponents, muscle tension, injury etc. all impacting level of cognitive functioning. Thus actively training cognitive skills within a football context under different conditions is an important consideration in the training and development of players.<sup>16</sup>

Body composition has always been looked at as a component of talent identification. Predicting the players height on maturity can provide information on what types of sport and positions the player is suited for. Additional information can be obtained from biomechanical analysis. Nowadays morphological characteristics should be a secondary determinant in the selection of talents. It is evident that a player with genu valgo had in principle less skills than one with genu varo.

Development of young players is a very systematic and complex process that is vital to the future of the player.<sup>17</sup> Young players are put through very rigorous forms of football education including on-the job training (competitive matches) extensive of-the-job training (Physical conditioning) and cultural induction. Skill development is dependent on a strong physical foundation. Players need to be conditioned to run faster, become stronger and more flexible and agile.<sup>17,18</sup>

The ages included in the middle schools are a crucial stage in their sports training, which should therefore be conducted with great precision, attention and care.<sup>19</sup> High-performance sport demands more and more qualified athletes to withstand heavy training loads in volume and intensity. Each stage of growth corresponds to specific biological characteristics that must be respected.<sup>20</sup> The incidence of injuries in youth soccer ranges from 2 to 7 injuries per 1000 h of football in players between 13 and 19 years. The number of injuries sustained during training and matches increases from infancy to adolescence.<sup>21</sup>

One of the key principles of training is overload, where players are exposed to greater workloads than previously. This exposure creates some 'damage' to the player but is the catalyst for improvement in conditioning. Players must be able to withstand these new workloads and adapt to the damage. However, training workloads, when not managed correctly, or incorrect methods of training can lead to injury. The injury has to be understood as a process of adaptation and natural selection, to which the athlete is constantly adapting, giving him the qualities and abilities that allow him to stand out in his sport or to withdraw him forever. The sequence or imbalances that has caused an injury have to be considered as positive adaptations before implementing preventive measures of correction, which in most cases and especially in professional athletes can be highly counterproductive.

Injury profiles also vary across different age groups. This information can play a role in improving the quality of training for different age groups and contribute to both short and long-term injury prevention strategies.<sup>21</sup> It is important, therefore, to take into consideration the moment of biological/evolutionary development that the athlete is having at young or very young age, since the intensity of the actions often means that the muscles create a predisposition to the injury. Coaches are faced with the challenge of loading players enough to adapt and progress, but not exaggerate, to avoid the risk of injury. However, there are situations in which coaches and parents do not engage in, handle or rest when injured, or perform actions to increase the risk of injury during training and matches.<sup>21</sup>

Training young players differs from mature players, because during the later teenage years, players are undergoing physical development. In order to ensure that players develop to fulfill their potential, there are numerous aspects that need to be considered. Training has to be based not only on age but more importantly on the stage of physical development that the player is undergoing. From ages 16 to 18 the neuromuscular system develops optimally. In conjunction with physical development, this dictates training programs. It is during these years that the different physical components can be efficiently incorporated into training programs. Thus during these years coaches ensure that balance co-ordination, muscular function, speed and agility are introduced in a well-rounded program.<sup>18,22,23</sup>

It is vital that players are treated as individuals and programs are designed to meet their specific needs. Many teams, both at international and club level spend time working on small groups and individuals. Placing some emphasis on the individual accommodates for the fact that each player is at a different phase of puberty. This helps

ensure that players each get the best benefit out of the training.<sup>18,22-24</sup>

Many professional clubs around the world invest in youth structures and allocate as many resources as possible to nurture this talent. One of the problems with recruiting players between ages of 16–19 is the fact that rate of physiological development during these years is very rapid and this can hamper the development steps if the correct expertise is not used (Monk and Olsson, 2006).<sup>25</sup> Maturity influences linear running speed, isometric maximal strength and the rate of force development.

The coach exerts an enormous psychological influence on his young athletes and must take advantage of it to promote processes of mental functioning that contribute favorably to his sporting and human formation. Researchers (Smith and Smoll, 1996; Riera and Cruz, 1991; Buceta, 2004) have observed in different studies that coaches of young athletes who are characterized by a specific operating style (adequate goal planning, frequent use of positive reinforcements, communication skills, empathy) make their athletes feel more satisfied with the sport, have more continuity in the sport and, ultimately, train better and reach higher goals. Therefore when looking at youth coaches, it is important to not only possess the football knowledge, but also the right personality to nurture children and liaise with the parents of the children.<sup>26-29</sup>

Players have to be prepared for specific skills and then receive training to improve their skills. They should be educated and given the support to develop their football minds, be encouraged to ask questions and learn the reasons behind the program they must follow. This could improve adherence to the program. The adherence of the athletes to the training plan will be linked to the motivation they have. The aim is to emphasize execution rather than results. It is about achieving athletes oriented to the mastery of the motor tasks of the sport that they practice. The psychopedagogical field at both the child and juvenile/adult levels has to be directed to the perception of efficacy in their abilities; and that this be developed in a pleasant and socially integrated work environment.

Success in any sport is not just limited to the physical, cognitive, technical and tactical development of a player. At elite level, even young players are exposed to numerous stresses and pressure and it is important that they have the psychosocial support to help them cope with the intense highs and lows that are associated with being part of the sporting world.<sup>30</sup>

Recently there has been an increase in the importance of mental health in sport professionals. Studies have shown higher levels of depression than the general population. Biological components play a big role, but a part from that, different factors linked with the biological predisposition as injuries, overtraining, sleep disturbance, retirement, alcohol, pressure and stress highlights the importance of proper social support structures that stakeholders within the clubs have to pay attention to, and invest in.<sup>30</sup>

Globalisation has resulted in increased migration for sports participation. Talent identification tends to take place in different environments, with teams and federations willing to travel to remote areas to identify the talent. However, the development of the talent might require players to leave their homes and relocate to live at or near academies,

which are tasked with ensuring the academic progress of the player, but also tasked with overall development on and off the field.<sup>3</sup>

Leaving home and moving to a new city or country requires adjustment and may increase levels of stress experienced by players. The impacts of the move may have consequences for the player both on and off the field. Things like missing family and friends, adjusting to a new language, and adjusting to a new style of football were the most prominent difficulties experienced by the players. One of the challenges of the modern football game is ensuring that homesickness is limited and that players have enough support and time when they move to new cities. Clubs play a key role in this process and by helping players find a suitable atmosphere. The football part is a vital component, and it is important for coaching staff and other players to welcome new players, and give them enough time and support to adjust. Young players, particularly, require the support and the facilitation to ensure that they do not become isolated from their family or their core non-football support structure. Having an environment that welcomes the families of players and makes them feel like they are part of the club can help with the transition for the young player and will provide more solid psychosocial support.<sup>3,16</sup>

In conclusion, it is necessary to investigate in order to achieve a scientific methodology at the universal level, on which talent identifiers are based, to recruit young people and to be progressively trained in order to achieve their maximum possible development, being faithful to the process of biological and psychological maturation in which each player is and considering factors other than the physical abilities that he presents to develop footballers with a promising and lasting future and not young promises that remain half way.

## References

1. Dima T. The business model of European Football Club Competitions. *Proc Econ Finance*. 2015;23:1245–52.
2. Tainsky S. Population migration and team loyalty in professional sports. *Soc Sci Q*. 2010;9:801–15.
3. Bahdur K, Pruna R. The impact of homesickness on elite footballers. *J Nov Physiother*. 2017;7:331, <http://dx.doi.org/10.4172/2165-7025.1000331>
4. Darby P, Solberg E. Differing trajectories: football development and patterns of player migration in South Africa and Ghana. *Soccer Soc*. 2010;11:118–30.
5. Irurtia A, Iglesias X. La formación de los jóvenes deportistas: de la detección del talento a la intervención federativa. [revista electrónica] n.d. Available from: [http://www.gr.unicamp.br/ceav/revista/content/pdf/Talento\\_Irurtia\\_Iglesias.pdf](http://www.gr.unicamp.br/ceav/revista/content/pdf/Talento_Irurtia_Iglesias.pdf) [accessed 01.10.17].
6. Pérez Leguizamón A. Identificación y desarrollo de talentos deportivos: análisis comparativo de los sistemas en algunos países líderes. [revista electrónica]. 2006; n° 94. Available from: <http://www.efdeportes.com/efd94/talento.htm> [accessed 28.09.17].
7. Vaeyens R, Coutts A, Philippaerts RM. Evaluation of the “under-21 rule”: do young adult soccer players benefit? *J Sports Sci*. 2005;23:1003–13.
8. Hahn E. *Entrenamiento con niños*. Barcelona: Martínez Roca; 1988.
9. Irurtia A, Iglesias X. La formación de los jóvenes deportistas: de la detección del talento a la intervención federativa. Institut Nacional d'Educació Física de Catalunya (Universitat de Barcelona). Available from: [http://www.gr.unicamp.br/ceav/revista/content/pdf/Talento\\_Irurtia\\_Iglesias.pdf](http://www.gr.unicamp.br/ceav/revista/content/pdf/Talento_Irurtia_Iglesias.pdf)
10. Reilly T, Gilbourne D. Science and Football: a review of applied research in the football codes. *J Sports Sci*. 2003;21:693–705.
11. Woods CTC. The development of an objective multidimensional approach to talent identification in junior Australian football. [electronic reference]; 2015. Retrieved from: <http://ro.ecu.edu.au/theses/1672> [accessed 25.09.17].
12. Williams AM, Reilly T. Talent identification and development in soccer. *J Sports Sci*. 2000;18:657.
13. Damasio A. *Self comes to mind: constructing the conscious brain*. London: William Heinemann; 2000.
14. Pruna R, Bahdur K. Cognition in football. *J Nov Physiother*. 2016;6:6, <http://dx.doi.org/10.4172/2165-7025.1000316>
15. Riera J, Brugulat PR. Habilidad deportiva, cuerpo y consciencia. [revista electrónica]; 2005. Available from: [http://www3.udg.edu/publicacions/vell/electroniques/V.Jornades\\_tactica-tecnica-esportiva/pdf/c06\\_esports.pdf](http://www3.udg.edu/publicacions/vell/electroniques/V.Jornades_tactica-tecnica-esportiva/pdf/c06_esports.pdf) [accessed 28.09.17].
16. Bahdur K. The effect of a visual psychological and physical intervention on the decision-making of South African footballers. [Electronic reference]; 2016. Retrieved from: <http://hdl.handle.net/10210/58080> [accessed 15.09.17].
17. Smith S. Nurturing elite players at the FA. [Electronic reference]; 2004. Retrieved from: <http://www.kmmagazine.com/xq/asp/sid.80FC2439-B7C1-4FD8-8F60-701A092EA0FE> [accessed 21.09.17].
18. Assheaton-Smith S. *Soccer action beyond 2010*. Perform Pro. 2007:18–23.
19. Gerardo JA, Barco J, López Nazzer J. Identificación de niños con aptitudes para la práctica de fútbol grama, en las edades comprendidas entre 9 y 10 años del Municipio Santa Rosalía del Estado Portugués. *EFDeportes*. [revista electrónica]; 2012. Available from: <http://www.efdeportes.com/efd168/aptitudes-para-la-practica-de-futbol-grama.htm> [accessed 28.09.17].
20. Pancorbo A, Blanco J. Consideraciones sobre el entrenamiento deportivo en la niñez y adolescencia. *Archivos de Medicina del Deporte*. 1988;7:309–14.
21. Bahdur K, Pruna R. A glance over youth footballers (Soccer) injury profile: next step required to be professional. *Int J Orth*. 2017;4:1–3.
22. *Ajax Training Method – Part 1*. Video recording. Amsterdam: Produced by Ajax Amsterdam; 1999.
23. *Ajax Training Method – Part 2*. Video recording. Amsterdam: Produced by Ajax Amsterdam; 1999.
24. Roxburgh A, Klinsmann J. The Technician #32. [Electronic reference]; 2006. Retrieved from: <http://www.uefa.com/newsfiles/536670.pdf> [accessed 14.08.17].
25. Monk D, Olsson C. 'Modern apprenticeships in English professional football'. *Educ Train*. 2006;48:429–39.
26. Smith RE, Smoll FL. The coach as a focus of research and intervention in youth sports. In: Smoll FL, Smith RE, editors. *Children and youth in sport. A biopsychosocial perspective*. IA: Brown & Benchmark; 1996. p. 125–41.
27. Riera J, Cruz J. *Psicología del deporte: aplicaciones y perspectivas*. Barcelona: Martínez Roca; 1991.
28. Buceta JM. *Estrategias psicológicas para entrenadores de deportistas jóvenes*. Madrid: Dykinson; 2004.
29. Mandado A, Díaz P. Deporte y educación: pautas para hacer compatible el rendimiento y el desarrollo integral de los jóvenes deportistas. *Revista de Educación*. 2004:35–44.
30. Pruna R, Bahdur K. Depression in football. *J Nov Physiother*. 2016;6:317, <http://dx.doi.org/10.4172/2165-7025.1000317>