



Youth Coaches' Conception and understanding of Football talent selection in Amhara region, Ethiopia

Ashenafi Kefyalew Tariku^{1,*}, Yesewzer Tefera G/hiwot¹

¹Sport Science Academy, Debre Markos University, PoB 269, Debre Markos, Ethiopia

*Corresponding Author's Email: ashutizi@gmail.com

Abstract

Good concepts and better understanding of talent in soccer is among the key variables of excellence development. Talent selection, by its very nature, is an incredibly subjective topic that lends itself to many opinions and perspectives. Talent selection criterions, which utilized by coaches in Amhara region, Ethiopia, were not well documented. The Purpose of this study was to identify the key criterion coaches' utilize to make decisions on "Talented" youth football Players in Amhara regional state development centres and compare the differences in educational background of coaches for selection. Cross-sectional survey design was utilized, with Available sampling of twenty coaches (n=20) identified with whom conducted semi-structured interviews. Interview transcripts were organized and analysed using techniques and principles of qualitative analysis method (thematic analysis) then, the process which assigning of themes into categories involved both inductive and deductive analysis approaches. The findings displayed in to two broad categories within the dataset (inductive) i.e. pre-selection and Talent identification stages (deductive) which helps to vividly present the study. Under the pre-selection screenings; birth and elementary school certificate were used. Whereas, Several Talent identification criterion were acknowledged in the study area, the most and highly credited variables were: - Psycho-social elements, i.e. parental support, love of the game and fighting spirit (brevity), Technical skill elements, i.e. Attacking and defending skills (passing, dribbling with speed, ball controlling, shooting, and interception); physiological qualities, i.e. speed and physical strength, and Tactical elements, i.e. game reading and positioning. In addition, there is no differences were observed in terms of their educational background utilization (in between sport science related graduates with other disciplines) for selection purpose. Up on the findings, Coaches seems to acknowledge the process of talent selection in a multi-dimensional perspective. But, the process doesn't recognize physical growth, and maturation.

Keywords; Football, Talent Identification, Youth Football Development Centre

1. Introduction

The attainment of excellence in sport is similar to the primary goal in many other domains such as science, music and the arts (Williams & Reilly, 2000; Baker & Schorer, 2010). Identifying and nurturing talented individuals is an important element of education, music, and art, but no field has embraced the concept as

tenaciously as sport (Baker & Schorer, 2010). Indeed, understanding the qualities that underpin elite or performance excellence and facilitating their development, is a cornerstone of the sport sciences (Baker & Schorer, 2010).

Organized programs of talent identification and development (TID) can be traced to the 1950s (Baker & Schorer, 2010).

Different features such as the promise of financial wealth, better education and training encourages parents, coaches and administrators to support soccer development programs, that focus on 'recognizing a future star' (Stratton et al., 2004). In line with this, Different sports organizations, including National Governing Bodies (NGB's), whose role is primarily to manage and grow a sport, are all concerned with facets of talent identification and development (Pankhurst & Collins, 2013), but National Sports Federations are under pressure by their governments to yield results at all age-group levels in order to achieve visibility, status and funding.

In addition, there is a scarce of documents concerning the process of TID. It is when and how talent identification and development were commenced in Amhara region and in Ethiopia as well, but the practice become common nowadays. The study area (Amhara regional state), is the second largest state, i.e. in terms of population in Ethiopia, holds one third of the men's Youth football development centres (N=30), in U-13, U-15 and U-17 age development category, is the focus area of this investigation.

There are different Youth development programs in the region, i.e. run by Government; Ethiopian Youth Football Player Development Program (EYFDP), and by Football clubs. The latter development program is designed in the form of team 'B' and 'C', whereas, the EYFDP is a national development scheme, designed for the development of "talented" youths, through identifying, selecting and delivering of appropriate training environments (Federation, 2011). And the development activity begins at the age of 11-12 years and phases-out (graduated) at the age of 17, which takes place at the development centre level with a boldly stated objectives, of producing fresh leg football players for clubs and for the

national team at all age-group levels (Federation, 2011).

It is clear that good concepts and better understanding of talent in soccer is among the key variables of excellence development (Williams, 2020). Talent Identification, by its very nature, is an incredibly subjective topic that lends itself to many opinions and perspectives (Levett & Levett, 2018). Talent identification programs are associated with the subjective evaluation of players' potential by coaches and scouts, who base their criteria primarily on personal taste, knowledge, and experience (Bergkamp et al., 2019).

Traditionally, the identification and selection of talented boys into a youth soccer development centre has been interrelated to a talent scout or coaches subjective, predetermined image of the ideal player (Williams & Reilly, 2000; Miller et al., 2015; Hill & Sotiriadou, 2016; Wilson et al., 2016; Bergkamp et al., 2019). It is expected that, in the Amhara regional state youth Football Development centres, similar sinario were observed but the extent in which this method is implemented is not clear.

However, this method can result in a repetitive poor judgment in Talent identification processes (Unnithan et al., 2012a) and can lack reliability (Williams & Reilly, 2000) when used in personally (i.e., a coach or scouts). As such, currently, using of science-based support systems offering a more holistic method has been an increasing emphasis on Talent identification in soccer (Reilly et al., 2000; Wilson et al., 2016). In line with this, the researchers tried to addressed the question of what are the key criterion do coaches make decisions about "Talented" youth football Players, and compare the differences in educational background of coaches for selection process in the development centres of Amhara regional state.

2. Materials and Methods

A cross-sectional survey research design was utilized. Regarding coach's sample size, who were registered in 2022/23 as youth development coaches, each development centre has one coach, thus total coaches were forty (N=40) from the EYFPD (N=30) and Clubs run development Program (N=10). Then, the researcher prepared inclusion and exclusion criteria, i.e.; coaches having coaching license, had prior experience in identifying football talent, had at least five years of coaching experience in the development centre and willingness to participate in the study. Whereas, exclusion criteria includes; working without coaching license, had no prior experience in identifying talent and had less than five years of coaching experience in the development centres. Accordingly, thirty (N=30) potential coaches satisfied the inclusion criteria and reject the rest. Subsequently, it's because of data saturation and unavailability, twenty coaches (n=20) were Participated with whom interviews were conducted, using available sampling method, (i.e. individuals are selected for the research not because they meet some criterion, but because they are readily available during interview).

The researcher, considered the 'middle ground' of semi-structured interviews to be most appropriate for the purposes of answering the research question. Identifying a framework of questions meant that the researcher would be able to keep myself and the interviewees 'on track' with the objectives of the research and allow comparison across interviews, while retaining freedom to probe for clarification and further depth along different avenues as they arose (Creswell, 2012).

Coaches are considered as the first line of stakeholders, for talent identification process in the Amhara regional state

development centres. Semi-structured interviews were therefore employed in order to identify key criterion, which coaches run through in identifying of 'talented' football players in the development centres, and the administration of interviews took place as follows:

First, a background interview questions were created for coaches used as an initial contact, to gain their biographical information, i.e. level of coaching license, coaching experiences, and frequency of participating in talent selection processes. Secondly, the researcher utilized semi-structured interview guide questions (open-ended), by developing areas of interest, and relevant issues in line with the research questions and existing literature, then grouped into broad categories and converted into clear and understandable main and additional questions, as well as taking into consideration of preparation of the semi-structured interview guideline listed in Matthews & Ross, (2010).

The interview approach was employed in this enquiry included a three chain of prearranged open-ended questions of: defining 'elements' of talent', Criteria used and prominence of the selected qualities of talent, and Methods to assess the identified elements of talent. All coaches agreed to participate in the study, and the interview processes were held in the Amharic language (Among Ethiopian working languages), and audio recorded with permission granted, then, transcribed into the English language by professional language translator and the researchers, resulting in 32 pages of transcribed text.

To develop credibility of data interpretation, Members checking were employed to confirm which the transcripts were accurate. Prior to data analysis, a copy of the Amharic transcribed interview was delivered to the entire (n=20) coaches. Coaches were offered the chance to explain or alter any of their responses and

also requested if they had any doubt, concerns around the interviews. So as to confirm that participant replies and notions have been equally represented, were exact and comprehensive, member checking is significant (Sparkes & Smith, 2014).

Finally, the data collected from interview transcript was organized and analysed using techniques and principles of qualitative analysis methods (thematic analysis). A thematic analysis method is 'a process of segmentation, categorization and relinking of aspects of the data prior to final interpretation' (Matthews & Ross, 2010). Then, the process of assigning themes into categories involved both inductive and deductive analysis approaches.

3. Results and Discussions

One-third (35%) of the coaches had more than 10 service years and they were categorized as more experienced, whereas the rest two-third (65%) had between 5-10 years of service in the development centres. Two-third of the coaches had, bachelor degree in sport science/physical education. Which expects that, better familiarity in coaching and good perceptions into how they conceptualize football talent and detect the upcoming best soccer players. Coaches understanding and intuition identification for the talented player in football is a cornerstone of effective talent identification and development schemes in addition to sports sciences support (Huijgen, 2013).

The researcher forms two stages of data analysis process. These are an inductive process, which is formulated within the dataset, helps to vividly present the result of this study, i.e. pre-selection stage and potential identification stage (Deductive approach), which is considering research coding on talent identification. At the pre-selection stage of the identification process, all Twenty (n=20) coaches recognized the task of identifying a

promising youth footballer by announcement on the schools' noticeboard and registering an interested youth.

Then, pre-selection requirements were birth certificate and elementary school certificate to triangulate age of a youth (must not less than 11 years). Those players who satisfied the above requirements, became a candidate for the next potential talent identification process. Then each development centre will recruited 25-30 potential youth footballers annually for U-13 development category.

Next to the pre-selection process, coaches proceed to the Talent Identification process and the process are presented in the following themes: (a) Psycho-Social elements (b) Physiological qualities, (c) Tactical-Technical skills. The main categories (themes) presented below were considering study results on talent identification in football through a deductive approach. Pseudonyms were employed to guarantee anonymity of coach participants.

3.1. Psycho-Social elements

Most coaches in the Amhara regional state youth development centres, boldly acknowledged the power of being brave, and better fighting spirit had better credit for selection. They believe youths who displayed this element, are considered as talented and have a chance to become successful football player. For instance: *'during common ball situations I prefer who is fighting more for winning the ball' coach Yonas'.*

On the other hand, majority of coaches in this study recognized that, parental support was an important element for a talented youth. A few coaches stated that parental support is a key element for talent identification process. To elaborate this, Coach 'Alemu' indicated that *"...not only talented youths but also their parents are part of the sports growth because without their parents' consent and involvement in*

the development of a youths' potential is unthinkable".

Similarly, coach 'Jemal' mentioned "...I need confirmation from player's family, because family support is an important element for athletes' future development career". In agreement with this result, studies show that parental support and a positive attitude to the Childs involvement in sport are extremely important during the entire period of growth (Côté, 1999).

In similar fashion "love of the game", is also under consideration. Coach 'Behailu' believes that: "...youths at this age are not to be ready to display good performance. So, I closely observe whether a youth is prone to a hot desire for the sport (love of the game). In similar fashion, results from this study, backing the concept that hard work or motivation to succeed is essential for effective execution in football (Holt & Dunn, 2004).

The results of this study shown that, sociological and psychological elements were under consideration by some coaches. However, parental support, love of the game and fighting spirit (brevity), were believed to be as a preliminary investigative criterion than considered as a key potential identification criterion.

3.2.Physiological Qualities

Almost all coaches in the study area recognized that, physiological quality elements, such as speed, physical strength and height, to some extent, endurance are key elements of talented football players. However, the way coaches detecting those variables are simple observation of the phenomenon under investigation.

Specifically, speed is well recognized by the majority coaches. This result was consistent with the works that has acknowledged speed as a vital physiological variable, for fruitful execution in soccer, mostly distances

ranging between Twenty-Five to Ten meters (Unnithan et al., 2012; Fernandez-Rio & Mendez-Gimenez, 2014; Dodd & Newans, 2018).

"Speed is an important element when I recruit the talented one; for example, the most repeated in soccer is five, ten, up to twenty meters running speed, so that it is so an essential. Being able to win someone else to a ball at times, and then the next run is probably twenty-five meters, or thirty meters because that is where they are making runs without the ball and the quicker they get back into their positions the better he is "(coach 'Dessu').

Likewise, another coach 'Degu' stated that:

"Speed with or without the ball is so vital to support and help his teammate, as well as covering short distance as quickly as possible".

Several Coaches recognized, height as a physical element that differentiate talented players. For example, Coach 'Beniam' stated that:

"I will anticipate the probable physical element development of a young boy in the future based on his current height... much less emphasis is put for youth of short height despite their technical ability... But it doesn't mean I never allow short height youths to be embraced in the development centre. They have their own probable place in the playing position. I don't recruit them in the striker position. But they may fit in the midfield position and in the left and right defensive positions, are thought to be ideal place for short height talented players. Our restrictions for short height youths are in secret, we don't make it public".

According to Furley & Memmert (2016), this is a result of coaches are even implicitly biased towards physically larger players, when no apparent performance advantage is evident. Consequently, soccer

coaches automatically associate tall players with positive performance attributes and small players with negative performance attributes (Furley & Memmert, 2016). With this in mind, due to maturational effects, literature's has suggested that using talent identification strategies that exclusively focus on physical attributes may exclude talented players who develop later and thus it has been suggested that youth talent identification models in soccer should also include a technical aspect (Bar-on, 2016).

Strength is one of the most vital predictors of potential in football. Also, similar with the studies, physical strength was an element emerged as a key element of talented footballers. Mostly, coaches' recognized strength as an important factor in winning one-on-one contests with the opponent.

In relation to physical strength, it has been inferred that coaches decide on soccer players that are athletic and more maturers in physically, than physically less maturers of soccer players (Helsen et al., 2012). But, the use of physical strength as a potential or performance forecaster for the purpose of talent identification has been greatly criticized as a result of differences in physical growth and maturation in adolescents (Hill & Sotiriadou, 2016). However, in the talent identification process, players physically less mature may be ignored and being out from soccer totally (Roberts, 2014; Finnegan et al., 2016). A similar understanding has reflected by coach 'Dessu':

"To tell you frankly, my identification process favours for normal and for early matures because our baseline is chronological age (age between 10-12 year and sometimes at the age of 13 or 14 or 15) but we have no room for late matured youths. Because I consider late physical maturity as an indication of less potential in football talent. At the moment of identification process of a potential

youth, with relatively short height physical appearances are highly dominated by taller ones".

In several studies, it is stated that, fruitful footballers exhibit better aerobic qualities than their less effective equivalents (Ali, 2011). Uniformly with these findings, coaches stated that "endurance" was a vital element for talented footballers. For instance,

"...in the identification process, I mainly focused on the potential of a youth's...and physical quality elements; such as ...and endurance are take into accounts" (Coach 'Jemal').

The result of this study shown that, physiological qualities were a central concern in detecting talented footballers; specifically, height, speed, endurance and physical strength were believed to be the most vital physical quality. Many participants perceived height, speed, and physical strength as a key elements, in detecting talented footballers in the Amhara regional state development centres. Other physiological elements such as endurance was, however, also an essential element identified by coach participants in this study.

3.3. Technical-Tactical Elements

The majority of coaches recognized that, talented footballers are those who have superior cognitive-perceptual elements, for instance the capability to 'read the game', 'positioning' and 'instruction understanding'. For example, Coach 'Mulusew' mentioned about game reading and positioning. *"...organizing small-sided games to observe their game reading and positioning quality of a potential young".*

It is consistent with the ability to "read the game", that has been shown to distinguish elite from non-elite soccer players (Ali, 2011). Similarly, Buekers, Borry, & Rowe (2015) indicated the most prevailing finding was that players who excelled in

the tactical elements positioning and deciding had a significantly higher chance to reach the professional soccer level. Perceptual-cognitive skill relates to the ability of an individual to identify, locate and process environmental information so as to incorporate it with existing knowledge and current motor abilities in order to select and accomplish fitting actions (Broadbent et al., 2014). These perceptual-cognitive skills combine to produce two judgments, namely, decision-making and anticipation (Broadbent et al., 2014). In addition studies of O'Connor, Larkin, & Mark Williams, (2016) indicated that in perceptual-cognitive skill between selected and not selected for an elite youth talent development scheme differences were demonstrated, in favour of the selected players.

On the other hand, instruction understanding or receptive to instruction was recognized as being a vital cognitive-perceptual (tactical) element of a talented player. For instance, Coach 'Degu' stated: *"I provided them with drills as a second helpful step to further recognize where their physical and technical skills plus their instruction understanding. Observing how they process and apply the given drills, then I decide whether the youths understand the given instruction to perform the training drills or not"*.

Similarly, coach 'Elias' said *"...the ability to understand and implement a coach's instruction is mandatory for future learning"* and Coach 'Goshu' *"...It is simple to expect that some youth potentials would react against the instruction given to them during training sessions"* were mentioned as an important element.

On the other hand, Coaches in the study area stated that a diversity of technical qualities, such as attacking (ball controlling, passing, dribbling with speed, shooting, juggling) and defending skills. Technical skills are a prerequisite for playing soccer and are fundamental in

soccer performance (Huijgen, 2013). Whereas, some coaches also believed that defending skills (interceptions, tackling) were vital elements. But, the majority of coaches described the importance of attacking skills as avital elements, and coaches also recognized these qualities as differentiating the technical elements between talented players and those considered as less talented. For instance,

"Controlling a ball with speed and arranging the ball for the next step, is an indicator of talent in football, and the other is passing with different parts of the feet; I have followed one basic and guiding slogan on passing technique 'if you don't pass, don't play football', these shows that, how much passing is vital in football sport" (Coach Zewede).

Similarly, coach 'Fetsum' mentioned, *.....technical skills were used as key identification criteria: "I put emphasis on the capability to passing a ball, controlling a ball with different parts of his body, dribbling a ball with speed, heading a ball and other techniques like shooting, tackling..."*

In agreement with this, studies have emphasized that, the execution of skills is one of the most important aspects of soccer and sound technical ability has been identified as the best indicator for success in soccer (Ali, 2011). Technical skills are grouped as with the ball performance actions and consist of: ball control, passes, crosses, dribbles, tackles, headers, shots, corners, free-kicks, and throw-ins (Russell & Kingsley, 2011). Consistent with this study, dribbling speed is considered as vital to the result of the match, with elite soccer players performing 150-250 brief strong actions during a game (Huijgen, 2013).

Even though, majority coaches in the study area, identified technical skills as vital criteria of talented youth; the identification methodology has fundamentally relied on

subjective measurements (observation), and logical estimates. Studies in the area of talent identification, and technical skill aspects indicated that, this method, could result in repetitive poor judgment (Unnithan et al., 2012b) and can lack reliability (Williams & Reilly, 2000). Those youths who have prior long time contact with a ball, by their family support may seem more talented in technical skills than those youths who start playing football late, but it doesn't necessarily display talent (Fernandez-Rio & Mendez-Gimenez, 2014). *Likewise, coach 'Habte' mentioned: "...it is not an easy task, and is a matter of time to clearly identify whether nature or nurture (prior practice) plays great role in the current performance (technical performance) of a youth".*

4. Conclusion

In agreement with the research findings in football and Talent identification, the results of this investigation acknowledged several Talent identification criterion which coaches in the study area recognized as an important in becoming an elite player were identified. These are Psycho-social elements, such as; parental support, love of the game and fighting spirit (brevity), Technical-Tactical elements, as a form of attacking and defending technical skills (such as; passing, dribbling with speed, ball controlling, shooting, tackling and interception); physiological qualities, such as; speed, physical strength, height and endurance; and cognitive-perceptual/Tactical elements, such as; game reading, positioning and instruction understandings.

Although coaches acknowledged many elements in becoming top player, physical strength, running speed, height, attacking and defending skills, game reading, positioning and instruction understanding, fighting spirit (brevity) and love of the game, were key elements that alienated between talented and less talented players. These findings suggest a need for more holistic assessment methods that consider

a player's potential for future development rather than just current physical attributes. Finally, there is no significance difference were observed in between coaches, in terms of utilizing their educational background for selection purpose.

Implications: - findings of this investigation, on talent identification criterion utilized in the study area indicated that, coaches seem to acknowledge the process of talent identification, in a multi-dimensional or holistic perspective. But, it may look like problematic in the assessment methodology of a potential player.

Primarily, the identification process does not recognize physical growth and maturation of potential players. They were dependent only on the chronological age of the athlete (10/11/12/13/14/15 years). As such, growth and maturation are the main confounders in the prediction of future performance (Pearson et al., 2006). Inter-individual differences in biological maturation, physical growth, interactions with peers, and behavioural changes persuaded youth coaches, and clubs to select soccer players with an advanced maturity status (Malina et al., 2005). In addition, differences in chronological age, reflected in the relative age effects, result in a bias in the selection strategy (Mujika et al., 2009).

These factors cause considerable dropout rates in youth soccer potential. In addition, coaches were recognized physical strength as an identification criterion but literatures in the field of study does not support it. As was indicated in the studies of Furley & Memmert, 2016, the findings are in line with theories of grounded cognition by showing that the abstract concept of "sport giftedness" is partly grounded in the perception of physical height amongst youth sports coaches; and argued that this grounded cognition has the potential to influence coaches' selection decisions and in turn account for relative age effect as

coaches are biased towards physically more matured players, even when no apparent performance advantage is evident. Finally, in this study, the identification criterion does not take in to account of the playing position, especially Goal keepers.

Acknowledgments

We, the authors, would like to thanks to all study participants (Youth coaches) who provided valuable data for the success of this study.

Funding

The authors declare that no funds, grants, or other support were received during the preparation of this manuscript.

References

- Ali, A. (2011). Measuring soccer skill performance: a review. *Scandinavian Journal of Medicine & Science in Sports*, 21, 170–183. <https://doi.org/10.1111/j.1600-0838.2010.01256.x>
- Baker, J., & Schorer, J. (2010). Identification and Development of Talent in Sport – Introduction to the Special Issue. *Talent Development and Excellence*, 2(2), 119–121.
- Bergkamp, T. L. G., Niessen, A. S. M., Hartigh, R. J. R. Den, Frencken, W. G. P., & Meijer, R. R. (2019). Methodological Issues in Soccer Talent Identification Research. *Sports Medicine*, 1–19. <https://doi.org/10.1007/s40279-019-01113-w>
- Broadbent, D. P., Causer, J., Williams, a. M., & Ford, P. R. (2014). Perceptual-cognitive skill training and its transfer to expert performance in the field: Future research directions. *European Journal of Sport Science*, 1–10. <https://doi.org/10.1080/17461391.2014.957727>
- Côté, J. (1999). The Influence of the Family in the Development of Talent in Sport. *The Sport Psychologist*, 13(1995), 395–417. <https://doi.org/10.1177/1527002502003003001>
- Creswell, W. J. (2012). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. In *Educational publication* (3rd ed.). Pearson.
- Dodd, K. D., & Newans, T. J. (2018). Talent identification for soccer; Physiological Aspects. *Journal of Science and Medicine in Sport*. <https://doi.org/10.1016/j.jsams.2018.01.009>
- Federation, E. football. (2011). *Under-17 Men's Ethiopian youths football coaching manual*. (pp. 1–145). Ethiopian Football Federation.
- Fernandez-Rio, J., & Mendez-Gimenez, A. (2014). Talent Detection and Development in Soccer: A Review. *Journal of Sport and Health Research*, 6(1), 7–18.
- Finnegan, L., Richardson, D., Littlewood, M., & Mcardle, J. (2016). The influence of date and place of birth on youth player selection to a National Football Association elite development programme. *Science and Medicine in Football*, 1–10. <https://doi.org/10.1080/02640414.2016.1254807>
- Furley, P., & Memmert, D. (2016). Coaches' implicit associations between size and giftedness: implications for the relative age effect. *Journal of Sports Sciences*. <https://doi.org/10.1080/02640414.2015.1061198>
- Helsen, W F, Hodges, N. J., Van Winckel, J., & Starkes, J. L. (2000). The roles of talent, physical precocity and

- practice in the development of soccer expertise. *Journal of Sports Sciences*, 18(9), 727–736. <https://doi.org/10.1080/02640410050120104>
- Helsen, Werner F., Baker, J., Michiels, S., Schorer, J., Van winckel, J., & Williams, a. M. (2012). The relative age effect in European professional soccer: Did ten years of research make any difference? *Journal of Sports Sciences*, 30(15), 1665–1671. <https://doi.org/10.1080/02640414.2012.721929>
- Hill, B., & Sotiriadou, P. (2016). Coach decision-making and the relative age effect on talent selection in football. *European Sport Management Quarterly*, 1–24. <https://doi.org/10.1080/16184742.2015.1131730>
- Holt, N. L., & Dunn, J. G. H. (2004). Toward a Grounded Theory of the Psychosocial Competencies and Environmental Conditions Associated with Soccer Success. *Journal of Applied Sport Psychology*, 16(3), 199–219. <https://doi.org/10.1080/10413200490437949>
- Huijgen, B. C. H. (2013). *Technical skills the key to success? A study on talent development and selection of youth soccer players*. University of Groningen, the Netherlands.
- Levett, N., & Levett, N. (2018). Foreword: talent identification in English junior- elite football. *Soccer & Society*, 0970, 1–2. <https://doi.org/10.1080/14660970.2018.1432387>
- Malina, R. M., Cumming, S. P., Kontos, A. P., Eisenmann, J. C., Ribeiro, B., & Aroso, J. (2005). Maturity-associated variation in sport-specific skills of youth soccer players aged 13–15 years. *Journal of Sports Sciences*, 23(5), 515–522. <https://doi.org/10.1080/0264041041001729928>
- Matthews, B., & Ross, L. (2010). *Research Methods: A Practical Guide for the Social Sciences*. Pearson. <https://doi.org/10.1093/bjc/azs016>
- Miller, P. K., Cronin, C., & Baker, G. (2015). Nurture, nature and some very dubious social skills: an interpretative phenomenological analysis of talent identification practices in elite English youth soccer practices in elite English youth soccer. *Qualitative Research in Sport, Exercise and Health*, 7(5), 642–662. <https://doi.org/10.1080/2159676X.2015.1012544>
- Mujika, I., Santisteban, J., Impellizzeri, F. M., & Castagna, C. (2009). Fitness determinants of success in men's and women's football. *Journal of Sports Sciences*, 27(2), 107–114. <https://doi.org/10.1080/02640410802428071>
- Pankhurst, A., & Collins, D. (2013). Talent Identification and Development: The Need for Coherence Between Research, System, and Process. *Quest*, 65(1), 83–97. <https://doi.org/10.1080/00336297.2012.727374>
- Pearson, D. T., Naughton, G. a., & Torode, M. (2006). Predictability of physiological testing and the role of maturation in talent identification for adolescent team sports. *Journal of Science and Medicine in Sport*, 9(4), 277–287. <https://doi.org/10.1016/j.jsams.2006.05.020>
- Reilly, T., Williams, A. M., Nevill, A., & Franks, A. (2000). A multidisciplinary approach to talent

- identification in soccer. *Journal of Sports Sciences*, 18(9), 695–702. <https://doi.org/10.1080/02640410050120078>
- Roberts, S. J. (2014). Talking relative age effects: a fictional analysis based on scientific evidence. *Asia-Pacific Journal of Health, Sport and Physical Education*, 5(1), 55–66. <https://doi.org/10.1080/18377122.2014.868290>
- Russell, M., & Kingsley, M. (2011). Influence of Exercise on Skill Proficiency in Soccer. *Sport Medicine*, 41(7), 523–539.
- Sparkes, A. C., & Smith, B. (2014). *Qualitative research methods in sport, exercise and health, from process to product*. Rosen publishing group. <https://doi.org/10.4324/9780203852187>
- Stratton, G., Reilly, T., Williams, A. M., & Richardson, D. (2004). *Youth Soccer: from science to performance*. Routledge taylor and francis group. <https://doi.org/10.4324/9780203644133>
- Unnithan, V., White, J., Georgiou, A., Iga, J., & Drust, B. (2012a). Talent identification in youth soccer. *Journal of Sports Sciences*, 30(15), 1719–1726. <https://doi.org/10.1080/02640414.2012.731515>
- Unnithan, V., White, J., Georgiou, A., Iga, J., & Drust, B. (2012b). Talent identification in youth soccer. *Journal of Sports Sciences*, 30(15), 1719–1726. <https://doi.org/10.1080/02640414.2012.731515>
- Vaeyens, R., Lenoir, M., Williams, a. M., & Philippaerts, R. M. (2008). Talent identification and development programmes in sport: Current models and future directions. *Sports Medicine*, 38(9), 703–714. <https://doi.org/10.2165/00007256-200838090-00001>
- Williams, A. M. (2020). Talent identification and development in soccer : An update and contemporary perspectives. *Journal of Sports Sciences*, 38(11–12), 1197–1198. <https://doi.org/10.1080/02640414.2020.1773075>
- Williams, A. M., & Reilly, T. (2000). Talent identification and development in soccer. *Journal of Sports Sciences*, 18(9), 657–667. <https://doi.org/10.1080/714004845>
- Wilson, R. S., James, R. S., David, G., Hermann, E., Oliver, J., Niehaus, A. C., Hunter, A., Thake, D., & Michelle, D. (2016). Multivariate analyses of individual variation in soccer skill as a tool for talent identification and development : utilising evolutionary theory in sports science. *Journal of Sports Sciences*, 34(21), 2074–2086. <https://doi.org/10.1080/02640414.2016.1151544>