TITLE: A Bioecological Perspective on Talent Identification in Junior-Elite Soccer: A Pan-European Perspective

Authors: Matthew J. Reeves[1] and Simon J. Roberts[2]

[1]School of Sport & Health Sciences, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

[2]School of Sport & Exercise Sciences, Liverpool John Moores University, IM Marsh Campus, Barkhill Road, Liverpool, L17 6BD.

Corresponding Author: Matthew J. Reeves

Email: mreeves4@uclan.ac.uk

Telephone: +44 (0)1772 893314

ORCiD: 0000-0002-3903-2910

TITLE: A Bioecological Perspective on Talent Identification in Junior-Elite Soccer: A Pan-European Perspective

Abstract

Elite soccer clubs across Europe spend ever-increasing sums of money on transfers and salaries for world-class players. Consequently, clubs' talent identification and development processes for junior players have become more professionalised. Based on a holistic ecological approach, this study presents an analysis of talent identification practices across some of the most productive soccer academies in Europe (N = 11). Data were collected via semi-structured interviews with 11 heads of academy recruitment from clubs in the 'big five' European leagues. Clubs were purposively sampled based on their player productivity ranking. Interviews ranged from 52:26 minutes to 114:06 minutes in length (m = 87:53 ± 20.10 minutes). This study argues that holistic ecological approaches the environments were characterised through the interplay of factors that ranged from high-level internal to international level relationships. This resulted in the identification and recruitment of players from local and international environments. The purpose of recruitment was suggested to have a dual purpose: recruitment of players for the first team; recruitment of players for further development/monitoring and/or selling to another club.

Keywords: scouting; recruitment; talent selection; ecology; culture

Introduction

Professional soccer clubs across Europe are spending ever-increasing sums of money on the transfer fees and salaries of world-class players. Consequently, increasing sums are also being spent on academy level talent identification and development (TID) processes and practices, which continue to become increasingly professionalised (Larsen et al., 2013). Indeed, identifying and developing junior talent in soccer has become a critical issue for clubs and national federations. It is, therefore, unsurprising that the Union of European Football Associations (UEFA) and some national leagues have launched 'localised' initiatives designed to promote their TID outcomes (Richardson, et al., 2012); though recent findings suggest that home-grown players have lower employment rates in their home country than players developed elsewhere (Poli, Ravenel, & Besson, 2015; Poli, Ravenel, & Besson, 2018). Whilst there have been a number of initiatives to develop and increase the number of home-grown players, there appears to be wider issues affecting these developments. For example, evidence suggests that the Premier League has the second lowest number of indigenous players when compared to the other major European leagues (*i.e.* Bundesliga, Ligue 1, Serie A, and La Liga) (Littlewood, Mullen, and Richardson, 2011). Whereas, Spain and Italy are highlighted as having the largest percentage of indigenous players in their leagues, suggesting that there are both cultural and philosophical conditions within those countries that encourages players to remain in their native country (Richardson, Relvas & Littlewood, 2013). However, the most recent data suggest that the footballers' labour market across Europe has become de-territorialized, evidenced by a decreased number of club-trained players at their indigenous club, increased numbers of expatriate players, and greater player mobility; these factors contribute toward difficulties for clubs

adhering to league or federation requirements on home-grown talent numbers within their squads (Poli, Ravenel, & Besson, 2018).

Identifying and developing elite soccer players is a time-consuming and complicated process (Baker et al., 2018) and it is no surprise that most professional soccer clubs have their own systems and structures for determining the level of complexity they are willing to accept as part of their TID strategy (Richardson, Relvas & Littlewood, 2013). However, it is also important to recognise that 'identification' is only the first step (Larkin & Reeves, 2018) in a long and winding talent development road (Baker, Wattie & Schorer, 2019). Therefore, when discussing talent identification and/or selection, it is also important to recognise the integration of the talent development environment and how these mechanisms, processes, and decisions operate at a pragmatic and functional level (Collins, MacNamara & Cruikshank, 2018; Ivarsson et al., 2015). However, we add a note of caution here, as it is not our intention to promote or extend the debate into *what* is talent in sport as this is adequately covered elsewhere (see Baker et al., 2019).

In this article, we provide a theoretical insight into the talent identification processes and development environments from some of Europe's most productive professional soccer academies. In terms of advancing best practice in the field of TID research, Urie Bronfenbrenner's (1979, 2005) bioecological model of human development acts a useful framework, as it can represent both the dimensions and outcomes of the athletic environment and the roles and functions of the participants involved in the talent recruitment process. Although it must be noted, the working model applied in this paper does not fully correspond with Bronfenbrenner as it does not include the meso and exo levels. However, as Collins, MacNamara and Cruikshank (2018, p. 8) suggest, this still contributes a 'contextually situated perspective' to the

86 talent research literature and provides a unique opportunity to examine TID from an
87 applied ecological setting. Specifically, the holistic ecological approach (HEA) to talent
88 in sport (*i.e.* Henriksen, Stambulova, & Rossler, 2010a, 2010b, 2011) shifts the
89 researcher emphasis away from the physical, perceptual-cognitive, technical, and
90 tactical attributes of the individual player to the context of the environment where the
91 player develops (*i.e.* the academy). This shift in focus is represented by two applied
92 theoretical models (Henriksen, Stambulova & Roessler, 2010). The first, which is
93 termed the athletic talent development environment (ATDE), and is defined as a
94 framework that comprises of the following:

95 "…a dynamic system comprising (a) an athlete's immediate surroundings at the
96 microlevel where athletic and personal development take place, (b) the
97 interrelations between these surroundings, (c) at the macrolevel, the larger
98 context in which these surroundings are embedded, and (d) the organisational
99 culture of the sports club or team, which is an integrative factor of the ATDE's
100 effectiveness in helping young talented athletes develop into senior elite athletes"
101 (Henriksen, 2010, p. 160).

102 Empirical evidence to support the applied architecture of the ADTE has
103 previously been reported across individual sports such as kayaking (Henriksen,
104 Stambulova & Rossler, 2010), golf (Henriksen, Larsen & Christensen, 2014) and track
105 and field (Henriksen, Stambulova & Rossler, 2010b). The ATDE has also explored the
106 dynamics and interactions between players and coaches in team sports such as soccer,
107 however, these have tended to be restricted to isolated case studies of professional
108 soccer clubs in Scandinavia such as Denmark (Larsen et al., 2013) and Norway
109 (Aalberg & Saether, 2016). The second working model, the environment success
110 factors (ESF), is grounded in organisational psychology (Schein, 1990) and emphasises

111 the organisational culture of the environment. The ESF model comprises a set of
112 preconditions (*i.e.* human, material, financial), the process (*i.e.* training and formal
113 competition), the organisational culture (*i.e.* artefacts) and the team development,
114 which operates in tandem with the ADTE and acts as a framework to measure impact
115 and effectiveness (Henriksen et al., 2010). Features of successful ADTEs have
116 included: inclusive training environments; role models; emphasis on long-term
117 development rather than short-term success; a consistent and rationale organisational
118 culture; and the assimilation of sporting demands.

119 To our knowledge the ADTE and ESF have not been empirically examined
120 across recruitment systems and cultures other than Scandinavia. Furthermore, whilst
121 we understand that the ADTE and ESF were designed, initially, to provide holistic
122 descriptions of the talent development environment, we also believe this could be
123 adapted to offer a more detailed insight into the identification processes that exist within
124 this particular domain. We also agree with Collins et al. (2018) that previous TID
125 research has relied typically on singular methodologies, such as the retrospective recall
126 interviews, and despite the methodological limitations (*i.e.* self-report bias) associated
127 with this methodology it continues to permeate the TID literature. In view of these
128 shared concerns we believe that these two working models has much to offer in terms
129 of how socially constructed interview data can inform the current TID landscape in
130 junior-elite soccer. For instance, the interview guides designed by Henriksen et al.
131 (2010) gathered data that were captured from interviewees in their 'current'
132 organisational role (*i.e.* coaches, recruitment staff, *etc*.) and, therefore, may go some-
133 way to address the reliability issues associated with retrospective recall. The present
134 study also represents a response to Henriksen et al. (2011) who called for more research
135 of environments in which senior athletes continually achieve top level results.

Therefore, the focus of this study was to explore how talent identification is framed within the context of ADTE and operationalised within the ESF at some of the most successful soccer academies in Europe. Specifically, the aims of the present study were: (1) further our understanding of talent identification processes and mechanisms in ATDEs in junior-elite soccer; and (2) examine the factors influencing its success in developing junior-elite soccer players.

Method

Situated context

Across Europe, a professional soccer academy, defined as an *elite performance development environment*, is where potentially talented players are identified and recruited with the aim of becoming professional players (Mills, Butt, Maynard and Harwood, 2012; Larsen *et al*., 2013). For junior players (*i.e.* 8-16 years old) selected for an academy, especially academies of elite professional clubs, these environments offer some of the very best resources and training facilities (Ashworth & Heyndels, 2007). The organisational structure of professional academies can vary, but will typically include personnel such as head of academy/academy director, full-time coaches, part-time assistant coaches, sports scientists, heads of recruitment, and full-time and part-time talent scouts. See Relvas (2010) for a detailed analysis of the organisational structures and working practices of European soccer academies.

Participants

Eleven heads of recruitment aged between 34 and 62 years old (*m* 48.5, ± 9.5 years) participated in this study. To provide a balanced and geographically diverse perspectives on junior-elite player environments (Mills *et al*., 2014), heads of

recruitment from 11 professional clubs' academies around Europe agreed to participate in this study. Further, to include a depth and richness to the information required (Patton, 2002), it was necessary to recruit a sample that could be considered responsible for the identification of players that had progressed to the highest levels of performance within their respective professional leagues. Unlike other staff (*i.e.* coaches, sports scientists), it is not a pre-requisite for a head of recruitment to hold recognised qualifications. Therefore, given the specific nature of the inquiry, participants were recruited on the basis that participants were responsible for the day-to-day recruitment decisions across the academy. Each participant was male and had held their current position between 1.5 and 16 years (m = 8.5 years, ± 4.8 years).

Procedure

In order to satisfy the stipulated inclusion criteria, the most productive academies, as determined by the Centre International d'Etude du Sport (CIES), were contacted (CIES, 2016). Academies identified in the CIES training club data were e-mailed (n = 55), either directly to the named head of recruitment, or addressed for their attention via a club-based email address. There were 16 responses to the original request with a total of 11 heads of recruitment agreeing to participate. This represented a 20% response rate and included responses from professional clubs currently playing in the English Premier League (n = 3), French Ligue 1 (n = 3), German Bundesliga (n = 2), Italian Serie A (n = 1), and Spanish La Liga (n = 2). Institutional ethical approval was obtained, and informed assent and written consent was provided by all participants. Before starting the interview, participants were reminded of the purpose of the interview and informed they were free to withdraw at any time. There were not considered to be any language barriers as all participants were fluent in English and fully understood the questions that were posed.

In-depth interview guide

As this study formed part of a larger multidisciplinary talent identification project surrounding junior-elite soccer academy environments in the United Kingdom, Western Europe, and Australia, rigour surrounding the pilot testing of interviews was already established (*i.e.* Reeves et al., 2018). All interviews were conducted by the principal researcher over a ten-month period, at dates and times convenient to the participants and included venues such as the respective clubs' academy or stadium offices. The interviews were semi-structured (Kvale & Brinkman, 2009), which enabled the researcher the opportunity to probe issues that were considered important for the identification and development of talented youth soccer players. Similar to Henriksen *et al*., (2010) the interview guide was divided into four sections. In the introductory part, rapport-building questions (*i.e.* can you tell me a little about your career journey and your current role) were asked. In the descriptive section, the interview guide was informed by the ADTE and ESF models, and questions were asked around the roles and function of the specific components of the identification processes and the relationship between these mechanisms at the micro- and macro-levels. The explanatory section included questions which probed the reasons behind the environments success and factors that included preconditions, process, individual development, and organisational culture. In the final part of the interview further questions were posed that were designed to explore past traditions and future obstacles for the environment. Interviews were digitally recorded and lasted between 52 minutes and 114 minutes (*m* 87:53 ± 20.10 minutes). The combined total of all interviews was ~16 hours. Following each interview critical discussion points were noted in theoretical memos for use during analysis alongside fieldnotes (Rapley,2011).

Data analysis

All audio data were transcribed verbatim with field notes and theoretical memos digitised to aid the analysis process. Transcribed material produced over 607 pages of single-line spaced text (~450,000 words). All transcribed data were imported into QSR NVivo 11 and subjected to constant comparative analysis (Rubin & Rubin, 1995). Data collection and analysis occurred in parallel; with each subsequent interview the generated categories were compared with existing ones to determine whether data produced new discrete categories, became property of an existing category, or represented a category with a higher level of abstraction (Parry, 2004). Analysis began with open coding, whereby data were segmented into meaningful expressions before being coded axially – reassembling the data that had been broken down during the open coding process (Strauss & Corbin, 1998). During the coding process, fieldnotes and theoretical memos were shared amongst the research team, though there was no attempt to seek consensus at this stage. All data treatment was performed by the principal investigator, but final categories, interpretations and concepts of the ADTE and ESF were shared until final agreement was reached. Field notes acted as *aide memoires* but also provided context on interactions and process to support the credibility of date interpretation (Koch, 2006). A final effort to ensure credibility was to share the final proposed ATDE and ESF models with participants (Guba & Lincoln, 1989). In total nine participants responded to our request to review and comment. Aside from some explanatory commentary, there was agreement as to the overall presentation and representativeness of the model from all respondents.

FINDINGS & DISCUSSION

Overview of all Clubs as Talent Environments

This study focussed on 11 of the most productive European academies to understand the talent identification processes and mechanisms in ATDEs in junior-elite soccer, whilst also examining the factors influencing their success in developing elite adult players. The investigation was concerned with the entirety of TID and, thus, focussed on all ages groups as a departure for the describing of the empirical ATDE model of these clubs (see Figure 1). Considering that all components of the environment are interconnected and influence each other, the model demonstrates the most important components and relationships alongside the structure of the environment (Larsen *et al*., 2013). The thickness of arrows demonstrates the closeness of the relationship, with the most important relationships focussed around the *Head of Recruitment*.

Figure 1: The ATDE Empirical Model of European Talent Identification & Recruitment

!INSERT FIGURE 1 ABOUT HERE!

Micro-environment: athletic domain

The micro-environments of the elite clubs were characterised by a range of playing squads which range from pre-academy/development squads (*i.e.* players from u8 down who cannot be officially registered with the national federation by the club), then U9s to U23s.

Club-based support structures included coaches, assistant coaches, sports scientists (including performance analysts and strength/conditioning coaches), medical services (including physiotherapists, podiatrists, and a medical doctor). Here, staff were qualified in a range of football qualifications (*i.e.* UEFA A licence and Pro-licence) and

academic qualifications (*i.e.* BSc, MSc, and in some cases PhD). In addition, all of the clubs involved in the study had relationships with universities – sometimes local, sometimes at distance – and had some form of consultancy or support-role offered by those institutions. To close the research-practice divide these clubs were making best use of research evidence to inform their talent identification and talent development procedures and practices. For example, well established growth, maturation and anthropometric research had permeated through the clubs' recruitment philosophy, and there was consensus that predictability of talent based on physiology testing alone was flawed. All the clubs adopted assessment protocols for measures of functional capacity but combined these with soccer-specific tests for dribbling, ball control, shooting speed and accuracy and perceptual-cognitive passing tests in congested areas in an attempt to replicate the decision-making demands of competition. Furthermore, imposed environmental constraints (*i.e.* a skewed distribution of selecting players born earlier in a pre-defined age group comparative to those players born later due to an imposed cut-off date), commonly referred to as relative age effects (RAEs; Haycraft, Kovalchik, Pyne, Larkin, & Robertson, 2018) which are known to affect a player's prospect of becoming a full-time professional (Furley, Memmert, & Weigelt, 2016) were understood across all the clubs in this study. We documented pedagogical age group modification strategies similar to those reported by Mann and van Ginneken (2016), where talent scouts were provided with birthdates of players *a priori* and, in some instances, the decimalisation of players' ages was provided on training vests during real-time scouting assignments. Integrated age-ordered shirt numbering was also mentioned as a pedagogic means by which academy coaches applied *in situ* age appropriate coaching, thus ensuring technical and tactical skills were provided in positive, supportive and developmentally appropriate environments. These findings are,

281 therefore, at odds with recent qualitative investigations surrounding the implications of
282 RAEs in elite academy environments (Andronikos *et al*., 2016).

283 From a biological perspective, variations between chronological age and
284 biological maturation was also understood and, in some cases, estimates of
285 skeletal maturity were in place to measure and monitor players classified as late,
286 average or early maturity according to birth date quarter. One club mentioned the
287 adoption of bio-banding strategies following the recommendations of the
288 literature (Cumming et al. 2017), that is, adolescent soccer players were grouped
289 according to biological maturation bands given by percentage of predicted mature
290 stature that was attained by participants at a specific chronological age. Together
291 these findings suggest the academies are perhaps more 'educated' about the
292 nuances of talent than has been suggested previously. We recorded no evidence
293 that recruitment staff were mis-understanding anthropometric characteristics as
294 a beneficial variable for future performance, however, saying that, it was outside
295 the scope of this study to capture statistical date-of-birth data, maturational
296 indicators, or anthropometric measures, so we are unable to report as to whether
297 these well-established talent recruitment problems were mediated.

298 Pivotal to the working demands of this model across all these clubs is the
299 relationship between the *head of recruitment*, *club-based support structures* and other
300 recruitment staff, who were classified as *full-time recruitment staff*, *local scouts*, or *at*
301 *distance scouts*. *Full time recruitment staff* were an essential component of the TID
302 paradigm, mainly responsible for administrative components of talent identification (*i.e.*
303 liaising with scouts regarding games to attend), though these roles also included
304 attending games and observing potentially talented youngsters.

Grassroots clubs (locally)

Local grassroots clubs were largely held as critical components of the scouting and recruitment process. All participants indicated that local clubs and, thus, local players, was *"…what it's all about…getting youngsters who know and probably support the club, playing for the first team if we can…they understand our history, our culture*" (Participant ES2). Therefore, the relationships between academy staff (*i.e.* scouts and recruitment) and local clubs was seen as being of paramount importance, but also had a financial benefit as there were lower associated costs with these players during their developmental period (Reeves *et al*., 2018).

Micro-environment: non-athletic domain

Education structures spanned both micro and macro-structures and had close connections with club-based support structures. This was, in part, due to the link between an education officer (or similar) who was employed by the club and acted as a liaison between school and academy. Education was a critical characteristic for all players involved with their respective academies, though the nature of this link varied between clubs and even between individual players at the same club (Christensen & Sørensen, 2009) . Participants highlighted how schools were often seen as useful sites of inside knowledge of an individual players' behaviour, motivation, and capacity to learn. This insight gathering was typically undertaken by *full time recruitment staff*, including the *head of recruitment*.

Macro-environment

The macro environment comprised people and groups with whom the players do not have regular (*i.e.* at least weekly) contact. In some instances, player contact was

not identified at all (*i.e. At Distance Scouts*). Here, it was possible to see the head of recruitment as the cornerstone of communication. Similar to findings from Relvas *et al*. (2010), structural differences were apparent between participating academies, with reserve teams/under 23 teams positioned differently. For example, in England, two of the under 23 squads were all positioned within the academy environment with seemingly tangential contact with the first team, whilst one was embedded alongside the first team. In all instances, the teams were located in the same physical environment (*i.e.* a single site training ground), though separated by organisational and facility-based barriers (Dowling *et al*., 2018).

Director of Football

The role of the director of football (DoF) is common amongst European football clubs, albeit with slight variances on the title and their associated responsibilities (Parnell *et al*., 2019). Indeed, the functions performed in this role varied between clubs from a focus on first team recruitment activities to oversight of all club activities including: first team, academy, sports science and medicine, amongst other things (Parnell *et al*., 2019). This resulted in variance in the types of communication that study participants had with the DoF, and a largely hierarchical structure became apparent. However, regardless of the organisational structure, contact between academy players and academy-level staff (*i.e.* head of academy recruitment) was infrequent, typically once per week, unless there were pressing matters (*i.e.* registration/contractual issues).

First Team

The first team environment was considered the '*end goal*' by participants: their job was summarised as *"…identifying the best potential talent, bringing it to the club, allowing it to be developed and hoping that it turns into a professional footballer*"

(Participant GR1). There was acknowledgement that the first team environment was used symbolically to motivate and sell the club to potential youngsters looking to join. However, the closeness to the first team environment was suggested to be mostly relevant to the professional development phase within the academy (*i.e.* U17 upwards). Indeed, there is a growth in the research focussing on phases of transition (e.g. Morris, Tod & Eubank, 2017), organisational transitions (*e.g.* Morris, Tod & Oliver, 2015), and stakeholder perceptions (*e.g.* Morris, Tod & Oliver, 2016).

Professional Club (Globally)

Relationships between clubs tended to have a focus on first-team performance, with academies focussed on players within the professional development phase of their careers, mainly exploring the transfer or loan transfer of those players: "*Most stuff tends to focus on the first team, and relationships with other clubs is the same…but we have to work on it, too. We have lads who need loans and permanent moves and so do those clubs, so it helps if there is an existing relationship in place*" (Participant UK3). There was also acknowledgement of the need to be aware of players that might be of interest, what might be considered more traditional recruitment practice, as one participant explained, "*We have good links with clubs around the world…we have to, you never know who is going to get spotted and whether you're going to need to consider them…that's why you need breadth of coverage and why you need to build relationships with clubs so you can easily get on the phone and discuss things"* (Participant BE1). There appeared a desire for academies to find the best young talent to develop in order to save money later down the line (Reeves *et al*., 2018; Pruna, Tribaldos & Bahdur, 2018) and relationships emerged as an important aspect of that (Gerke & Wäsche, 2019). Indeed, contemporary studies, adopting a network perspective suggest that

clubs' success in the transfer of players is strongly associated with their networks and relationships (Liu *et al*., 2016).

At distance scouts

Academies, as well as first teams, operate a number of scouts at distance, including nationally and internationally. These individuals were unlikely to have regular contact with others at the academy, except for the head of recruitment or, sometimes, recruitment staff. Depending on the size of the club, these scouts sometimes also undertook duties for the first team environment, too. "*…we have about a dozen global scouts, some who just do academy-related work, and some who do academy and first team…it depends on where they are* [geographically], *how well we know them and what they produce…in some of the smaller places, for example Scandinavia, Joris* [pseudonym] *does about 50:50, first team and academy…we've worked together for a long time and I know I can trust him to get on and do very well and he only comes to me if it's something important*" (Participant ES1). Of note, here, was the emphasis on trust between the head of recruitment and scouts working at distance; undoubtedly the operating distance required trust that the work required would be undertaken and that the quality of information would be sufficient to enable clubs to make decisions in a timely manner. "*Because of the climate we operate in, we have to try and be first to know things: who's playing well, who's coming through, who's had injury issues, who might be worth keeping an eye on, it's an information industry masked as a football one [laughs]*" (Participant UK2).

There have been a number of high-profile clubs that have broken rules regarding 'tapping up' players, in their own countries and abroad. For example, in 2017 Liverpool FC were banned from signing academy players and fined £100,000 for 'tapping up' a

player registered with another club (Hunter, 2017). Participants suggested that in a period of increased scrutiny, it was important to ensure scouts, particularly those operating at distance, were mindful of these issues, and did not engage in practices that might undermine the club's credibility. *"We do our best to make sure things are done correctly and procedures are followed, but there are lots of moving parts in recruitment and typically, lots of people involved from agents, players, parents and club officials…all wanting to have their input and all having different discussions. It can be a minefield at times"* (Participant UK1).

The ESF working model

The ESF model (Figure 2) represents the factors influencing the success of these 11 clubs in relation to the ADTE. Unlike previous iterations of this model from different sports, we were unable to suitably distinguish between preconditions, process, and organisational development and culture. Thus, these three components overlap in order to demonstrate the strong congruence between them and the inseparable nature of one from another.

Figure 2: The ESF Empirical Model of European Talent Identification & Recruitment

!INSERT FIGURE 2 ABOUT HERE!

Preconditions

Financial resources offered a competitive advantage in the identification of players. Specifically, finance was linked to the global breadth of coverage that a club was able to achieve in their identification efforts. "*We're lucky that the club takes global*

recruitment seriously…we have invested in this recently…I think because it is always getting harder to do what we do" (Participant IT1). A club's ability to identify and recruit players internationally was considered closely linked to their international image, as was being able to establish satellite academies. "*Part of being at a club like this is realising that we are a global brand and we need to operate like one…having academies in other countries is just part of this"* (Participant DE3). Importantly, a club's history, identity and the expectations of club leaders and fans alike, was a key precondition and manifest in the clubs overall playing philosophy and, thus, recruitment practices (Nesti & Sulley, 2014).

Process

A critical component of identifying talented youngsters, was considering whether they would be suitable for the clubs playing philosophy. "*We have to be sure what and who we're getting involved with…that's why we spend so much time getting to know as much about a player as we can. Their attitude, their resilience, and everything else going on in their heads…will they be able to work with us? Are they willing to listen and to learn? They are the basic questions we have to answer.*" Recruitment to a club's academy was typically at the under nine age group, though all participants indicated that they ran a range of 'pre-academy' opportunities, though the exact operation of these varied from club-to-club. These pre academies enabled clubs to offer their coaching curriculum to youngsters who might have the potential to join the academy proper at the appropriate age. This was noted as an opportunity for scouts and recruitment staff to begin building and developing relationships with potential future players and their parents. Such relationships with parents can be seen as crucial, with the needs and identities of parents shifting and mutating as their child becomes further enveloped in junior-elite football (Clarke & Harwood, 2014). However, scouts

and recruitment staff were also expected to place significant emphasis on building and developing relationships with other stakeholders, including other scouts, grassroots clubs and leagues, regional squads, coaches, and administrators. In essence, no stone was expected to be left unturned in the quest for unearthing potential talent.

Cultural Paradigm

All clubs' facilities were utilised to position the club positively. For example, walls were frequently adorned with large photographs of successful academy teams, academy graduates, and positive written statements. There was also a significant use of club colours on walls and emphasis of the club's philosophy and values around the academy buildings, including reception, waiting areas, gyms, and changing rooms. Such artefacts have been suggested to manifest into the currency and discourse of the club. However, previous work in the UK (Reeves *et al*., 2018) has suggested that such artefacts do not always manifest in such positive ways, emphasising that culture cannot be built through words and images alone. "*It's important for the boys that messages are consistent, probably for some staff, too [laughs]…it's also important that they know and are reminded what our goal is. The first-team wall [an artefact, listing all players who have passed from the academy to play for the first team] is where it is specifically, so every boy has to see it every time they come into the building…a constant reminder of why they're here – to become a professional footballer*" (Participant DE1).

It was particularly important for *communication* pathways to be *clear, open, and honest*. This, it was suggested, was not related to just scouting and recruitment, but to all club departments. Indeed, due to the fast-paced, fluid, and value entrenched nature of football clubs (Ogbonna & Harris, 2014), culture is, arguably, of greater importance here than in other organisational environments. *Wanting to be the best* referred to being

the best scouts and recruiters possible and wanting to be part of a club that was acknowledged for producing players. "*…we like to think that we operate, at all times, clearly and honestly with each other, no matter who it is…it's part of what we are about and helps us to work as well as we can do and achieve the best*" (Participant FR1). Continually being aware of the requirements and expectations of the club was an organisational need and cultural norm, but also veered toward being an environmental deliverable. For example, by being sensitive to the requirements and expectations of the club automatically generates an outcome, though it is not necessarily tangible. "*Part of being honest with people is setting out exactly what their role is, how we would like them to perform it, what we expect from them – whether it's formally reported or verbally communicated back – that's crucial to my guys knowing what we need, knowing what the level is we're expecting boys to be at…it's all connected, they have to know our successes to be able to sell the club to others, but they've also got to be sure someone they're putting forward is on that level"* (Participant UK3).

Individual Development

Working in football recruitment has, historically, been based on gut feelings, an expert eye, and numerous opinions (Reeves *et al*., 2018; Day, 2011; Christensen, 2009).Though there have been recent attempts by national federations to develop the profession and provide educational development opportunities (Levett, 2018). Whilst there have been limited formal opportunities for scouts and recruitment staff to develop professionally, the norm has been internal professional development (Reeves *et al*., 2018) and an expectation to reflect on their own practice, whether formally or informally. "*We have meetings every year, but it's difficult to get them all* [scouts] *here at the same time…especially international scouts, we usually have to just talk things through with them on the phone*" (Participant FR3).

Environment Deliverables

The often-cited single goal of developing players for the first team (Littlewood, Mullen & Richardson, 2011) appeared to no longer be the sole focus of clubs and academies. Whilst that remained a priority, clubs indicated how they now considered different opportunities for players in their development environments. "*…Take this kid, for example [pointing out of an office window overlooking a training session taking place outside], he's got good potential, he's 14 [years old], athletic, good family background, does well at school…but he's not likely to play in our first team…we'll keep hold of him for as long as its right to do so for us and him, and he'll probably go on to have a career in the game somewhere, but it's not likely to be here. Obviously, I can't say a 100% that'll be the case, things might suddenly click and he's exactly right for us, but it's more likely when he gets up to the 18s he'll get a deal and be sent on loan or we'll look for a more permeant move for him*" (Participant UK2).

This effectively shifts the traditional paradigm of football recruitment. Indeed, such approaches have a dual purpose: Firstly, they serve to position the club favourably amongst stakeholders (*i.e.* players and parents). By keeping younger players in the development system for a longer period, they 'keep the dream alive' for youngsters, with a view to providing their 'career in the game', albeit not necessarily with that club. It also allows the club to demonstrate and emphasise their capacity for player development; even if a players' endpoint is not with that club, they can legitimately claim they have developed a youngster that has become a professional player. Second, it provides an opportunity for a club to retain a player's registration, but for the player to go on loan in order to further develop, or to attain a permeant transfer. In both scenarios the parent-club may benefit in multiple ways. For example, the parent-club are able to keep-hold of a player's registration and let others take responsibility for their

development; they are able to reduce their overall wage bill by having another club pay some or all of a player's salary whilst they are on loan; a permeant transfer might be arranged for the player due to the loan and, thus, the club benefits from a transfer fee, but might also benefit over a longer period through contractual agreements (*i.e.* sell-on and appearance clauses) that continue to provide an income after the player has left the club. However, such scenarios would appear to favour those clubs with a strong financial position from which to start (see preconditions), as higher numbers of players has increased costs in salaries, equipment, support staff, *etc.*, and loan deals are not guaranteed, meaning players may be let go (*i.e.* made redundant) if a loan or permanent deal cannot be achieved.

STRENGTHS & LIMITATIONS

This study contains several strengths and limitations. This is the first study, to our knowledge, that has attempted to apply the ATDE and ESF framework outside of Scandinavia. It is also the first attempt to integrate multiple environments into one analysis as well as apply the generic framework to talent identification as opposed to talent development. However, caution must be applied when considering the findings of this study, as the participants and their respective clubs comprised 11 of the most productive academies in Europe. As such, our study does not highlight localised issues, or cultural differences that may be present in different countries, leagues, and clubs. The findings cannot be unconditionally incorporated into other contexts or sports.

CONCLUSION

Professional soccer clubs are notoriously secretive about their talent identification, recruitment, and development procedures and access for researchers to these environments can be a challenge (Roderick, 2006). Using a holistic ecological

framework this study examined the talent identification environments of some of the most productive soccer academies in Europe. Findings suggest that there are several key factors that are influential in the identification of talented young players within these clubs including the breadth of coverage at local, regional, national, and international level. This study provides support for the use of ATDE and ESF as a framework for junior-elite football environments to evaluate their talent identification environment and structures. Findings indicate a shift from recruitment to develop players for a clubs' first team, to a multi-faceted talent identification and recruitment process that seeks players who might not quite make the first team, but still retain some value by being loaned or sold for profit. Future studies might consider the interplay between specific aspects identified in this study and to what degree each influences the other.

References

Aalberg, R. R., & Sæther, S. A. (2016). The Talent Development Environment in a Norwegian top-level football club. *Sport Science Review*, *25*(3–4), 159–182. https://doi.org/10.1515/ssr-2016-0009

Andronikos, G., Elumaro, A. I., Westbury, T., & Martindale, R. J. J. (2016). Relative age effect: implications for effective practice. *Journal of Sports Sciences*, *34*(12), 1124–1131. https://doi.org/10.1080/02640414.2015.1093647

Ashworth, J., & Heyndels, B. (2007). Selection Bias and Peer Effects in Team Sports. *Journal of Sports Economics*, *8*(4), 355–377. https://doi.org/10.1177/1527002506287695

Baker, J., Schorer, J., & Wattie, N. (2018). Compromising Talent: Issues in Identifying and Selecting Talent in Sport. *Quest*, *70*(1), 48–63. https://doi.org/10.1080/00336297.2017.1333438

Baker, J., Wattie, N., & Schorer, J. (2019). A proposed conceptualization of talent in sport: The first step in a long and winding road. *Psychology of Sport and Exercise*, *43*, 27–33. https://doi.org/10.1016/j.psychsport.2018.12.016

Bronfenbrenner, U. (2005). *Making human beings human: Bioecological perspectives on human development*. Thousand Oaks, CA: Sage Publications.

Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Harvard University Press.

578 Christensen, M. K. (2009). “An eye for talent”: Talent identification and the “practical
579 sense” of top-level soccer coaches. *Sociology of Sport, 26*(3), 365–382.

580 Christensen, M. K., & Sørensen, J. K. (2009). Sport or school? Dreams and dilemmas
581 for talented young Danish football players. *European Physical Education*
582 *Review*, *15*(1), 115–133. https://doi.org/10.1177/1356336X09105214.

583 CIES Football Observatory. (2016). *Training Clubs: Real Madrid and Ajax head the*
584 *rankings, Barcelona downgrades*. Neuchâtel. Retrieved from
585 http://www.football-observatory.com/IMG/sites/b5wp/2016/163/en/

586 Clarke, N. J., & Harwood, C. G. (2014). Parenting experiences in elite youth football:
587 A phenomenological study. *Psychology of Sport and Exercise*, *15*(5), 528–537.
588 https://doi.org/10.1016/j.psychsport.2014.05.004

589 Collins, D., MacNamara, Á., & Cruickshank, A. (2018). Research and Practice in
590 Talent Identification and Development—Some Thoughts on the State of Play.
591 *Journal of Applied Sport Psychology*.
592 https://doi.org/10.1080/10413200.2018.1475430

593 Collins, D. J., Macnamara, A., & McCarthy, N. (2016). Putting the Bumps in the
594 Rocky Road: Optimizing the Pathway to Excellence. *Frontiers in Psychology*, *7*.
595 https://doi.org/10.3389/fpsyg.2016.01482

596 Cumming, S. P., Lloyd, R. S., Oliver, J. L., Eisenmann, J. C., & Malina, R. M.
597 (2017). Bio-banding in Sport. *Strength and Conditioning Journal*, *39*(2), 34–47.
598 https://doi.org/10.1519/SSC.0000000000000281

599 Day, D. (2011). Craft Coaching and the 'Discerning Eye' of the Coach. *International*
600 *Journal of Sports Science & Coaching*, *6*(1).

601 Dowling, C., Reeves, M. J., Littlewood, M. A., Nesti, M., & Richardson, D. (2018).
602 Developing individuals whilst managing teams: perspectives of under 21 coaches
603 within English Premier League football. *Soccer & Society*, *19*(8), 1135–1150.
604 https://doi.org/10.1080/14660970.2018.1432381

605 Furley, P., Memmert, D., & Weigelt, M. (2016). "How Much is that Player in the
606 Window? The One with the Early Birthday?" Relative Age Influences the Value
607 of the Best Soccer Players, but Not the Best Businesspeople. *Frontiers in*
608 *Psychology*, *7*. https://doi.org/10.3389/fpsyg.2016.00084

609 Gerke, A., & Wäsche, H. (2019). Football, networks, and relationships. In C. A.
610 Simon Chadwick, Daniel Parnell, Paul Widdop (Ed.), *Routledge Handbook of*
611 *Football Business and Management* (pp. 273–281). London: Routledge.
612 https://doi.org/10.4324/9781351262804

613 Guba, E., & Lincoln, Y. (1989). *Fourth generation evaluation*. London: Sage
614 Publications.

615 Henriksen, K., Stambulova, N., & Roessler, K. K. (2010). Successful talent
616 development in track and field: considering the role of environment.
617 *Scandinavian Journal of Medicine & Science in Sports*, *20*, 122–132.
618 https://doi.org/10.1111/j.1600-0838.2010.01187.x

619 Henriksen, K., Larsen, C. H., & Christensen, M. K. (2014). Looking at success from
620 its opposite pole: The case of a talent development golf environment in

621 Denmark. *International Journal of Sport and Exercise Psychology*, *12*(2), 134–
622 149. https://doi.org/10.1080/1612197X.2013.853473

623 Henriksen, K., Stambulova, N., & Roessler, K. K. (2010). Holistic approach to
624 athletic talent development environments: A successful sailing milieu.
625 *Psychology of Sport and Exercise*, *11*(3), 212–222.
626 https://doi.org/10.1016/j.psychsport.2009.10.005

627 Henriksen, K., Stambulova, N., & Roessler, K. K. (2011). Riding the Wave of an
628 Expert: A Successful Talent Development Environment in Kayaking. *The Sport*
629 *Psychologist*, *25*(3), 341–362. https://doi.org/10.1123/tsp.25.3.341

630 Hunter, A. (2017, April). Liverpool banned from signing academy players and fined
631 £100,000. *The Guardian*. Retrieved from
632 https://www.theguardian.com/football/2017/apr/05/liverpool-banned-signing-
633 academy-players-fined-stoke

634 Ivarsson, A., Stenling, A., Fallby, J., Johnson, U., Borg, E., & Johansson, G. (2015).
635 The predictive ability of the talent development environment on youth elite
636 football players' well-being: A person-centered approach. *Psychology of Sport*
637 *and Exercise*, *16*(1), 15–23. https://doi.org/10.1016/j.psychsport.2014.09.006

638 Khamis, H. J., & Roche, A. F. (1994). Predicting adult stature without using skeletal
639 age: The Khamis-Roche method. *Pediatrics*, *94*(4), 504–507.

640 Koch, T. (2006). Establishing rigour in qualitative research: the decision trail. *Journal*
641 *of Advanced Nursing*, *53*(1), 91–100. https://doi.org/10.1111/j.1365-
642 2648.2006.03681.x

643 Kvale, S., & Brinkmann, S. (2009). *InterViews: Learning the craft of qualitative*
644 *research interviewing* (2nd ed.). Thousand Oaks, CA: Sage Publications.

645 Larsen, C. H., Alfermann, D., Henriksen, K., & Christensen, M. K. (2013). Successful
646 talent development in soccer: The characteristics of the environment. *Sport,*
647 *Exercise, and Performance Psychology*, *2*(3), 190–206.
648 https://doi.org/10.1037/a0031958

649 Levett, N. (2018). Foreword: talent identification in English junior-elite football.
650 *Soccer & Society*, *19*(8), 1079–1080.
651 https://doi.org/10.1080/14660970.2018.1432387

652 Littlewood, M., Mullen, C., & Richardson, D. (2011). Football labour migration: an
653 examination of the player recruitment strategies of the 'big five' European
654 football leagues 2004–5 to 2008–9. *Soccer & Society*, *12*(6), 788–805.
655 https://doi.org/10.1080/14660970.2011.609680

656 Liu, X. F., Liu, Y.-L., Lu, X.-H., Wang, Q.-X., & Wang, T.-X. (2016). The Anatomy
657 of the Global Football Player Transfer Network: Club Functionalities versus
658 Network Properties. *PLOS ONE*, *11*(6).
659 https://doi.org/10.1371/journal.pone.0156504

660 Mann, D. L., & van Ginneken, P. J. M. A. (2016). Age-ordered shirt numbering
661 reduces the selection bias associated with the relative age effect. *Journal of*
662 *Sports Sciences, iFirst*. https://doi.org/10.1080/02640414.2016.1189588

663 Mills, A., Butt, J., Maynard, I., & Harwood, C. (2014). Examining the Development
664 Environments of Elite English Football Academies: The Players' Perspective.

665 *International Journal of Sports Science & Coaching*, *9*(6), 1457–1472.
666 https://doi.org/10.1260/1747-9541.9.6.1457

667 Mills, A., Butt, J., Maynard, I., & Harwood, C. (2012). Identifying factors perceived
668 to influence the development of elite youth football academy players. *Journal of*
669 *Sports Sciences*, *30*(15), 1593–1604.
670 https://doi.org/10.1080/02640414.2012.710753

671 Nesti, M., & Sulley, C. (2014). *Youth Development in Football: Lessons from the*
672 *World's Best Academies*. Oxon: Routledge.

673 Ogbonna, E., & Harris, L. C. (2015). Subcultural tensions in managing organisational
674 culture: a study of an English Premier League football organisation. *Human*
675 *Resource Management Journal*, *25*(2), 217–232. https://doi.org/10.1111/1748-
676 8583.12059

677 Parnell, D., Groom, R., Widdop, P., & Ward, S. (2019). The sporting director:
678 Exploring current practice and challenges within elite football. In S. Chadwick,
679 D. Parnell, P. Widdop, & C. Anagnostopoulos (Eds.), *Routledge Handbook of*
680 *Football Business and Management*. Abingdon, Oxon: Routledge.

681 Parry, K. W. (2004). Constant Comparison. In M. S. Lewis-Beck, A. Bryman, & T. F.
682 Liao (Eds.), *The SAGE Encyclopaedia of Social Science Research Methods*.
683 Thousand Oaks, California: Sage Publications, Inc.
684 https://doi.org/10.4135/9781412950589.n161

685 Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). London:
686 Sage.

687 Poli, R., Ravenel, L., & Besson, R. (2018). *Ten years of demographic analysis of the*
688 *football players' labour market in Europe*. Neuchâtel. Retrieved from
689 http://www.football-observatory.com/IMG/sites/mr/mr39/en/

690 Poli, R., Ravenel, L., & Besson, R. (2015). *Youth training in European football: a*
691 *comparative analysis*. *CIES Football Observatory Weekly Post*. Neuchâtel.
692 Retrieved from http://www.football-observatory.com/IMG/sites/mr/mr09/en/

693 Pruna, R., Miñarro Tribaldos, L., & Bahdur, K. (2018). Player talent identification
694 and development in football. *Apunts. Medicina de l'Esport*, *53*(198), 43–46.
695 https://doi.org/10.1016/j.apunts.2018.02.002

696 Rapley, T. (2011). Some pragmatics of qualitative data analysis. In D. Silverman
697 (Ed.), *Qualitative Research* (3rd ed., pp. 273–290). London: Sage.

698 Reeves, M. J., Roberts, S. J., McRobert, A. P., & Littlewood, M. A. (2018). Factors
699 affecting the identification of talented junior-elite footballers: a case study.
700 *Soccer & Society*, *19*(8), 1106–1121.
701 https://doi.org/10.1080/14660970.2018.1432383

702 Relvas, H., Littlewood, M., Nesti, M., Gilbourne, D., & Richardson, D. (2010).
703 Organizational Structures and Working Practices in Elite European Professional
704 Football Clubs: Understanding the Relationship between Youth and Professional
705 Domains. *European Sport Management Quarterly*, *10*(2), 165–187.
706 https://doi.org/10.1080/16184740903559891

707 Richardson, D., Relvas, H., & Littlewood, M. (2013). Sociological and cultural
708 influences on player development. In A. M. Williams (Ed.), *Science and Soccer:*

Developing Elite Performers (3rd ed., pp. 139–153). Abingdon, Oxon: Routledge.

Richardson, D., Littlewood, M., Nesti, M., & Benstead, L. (2012). An examination of the migratory transition of elite young European soccer players to the English Premier League. *Journal of Sports Sciences*, *30*(15), 1605–1618. https://doi.org/10.1080/02640414.2012.733017

Rubin, H. J., & Rubin, I. S. (1995). *Qualitative interviewing: The art of hearing data*. London: Sage.

Schein, E. H. (1990). Organizational culture. *American Psychologist*, *45*(2), 109–119. https://doi.org/10.1037/0003-066X.45.2.109

Strauss, A., & Corbin, J. M. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). London: Sage.

Wattie, N., Schorer, J., & Baker, J. (2015). The Relative Age Effect in Sport: A Developmental Systems Model. *Sports Medicine*, *45*(1), 83–94. https://doi.org/10.1007/s40279-014-0248-9