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1 **A Scoping Review of the Potential Sociological Predictors of Talent**
2 **in Junior-elite Football: 2000-2016**

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23 **A Scoping Review of the Potential Sociological Predictors of Talent**
24 **in Junior-elite Football: 2000-2016**

25

26 **Abstract**

27 The purpose of this scoping review was to examine the potential
28 sociological predictors for identifying talent in junior-elite football. Four
29 academic databases were searched using a systematic search strategy and
30 nine eligibility criteria were applied to ensure only relevant studies were
31 included in the review. A total of 1,107 potential studies were returned for
32 the review, however 1,083 did not meet the eligibility criteria and a further
33 12 articles were excluded after further screening. Two follow up searches
34 yielded one additional article for inclusion. In total, 13 articles were
35 included in the final scoping review. These studies aligned to four
36 potential sociological predictors of talent in football: 1) hours in practice;
37 2) coach-child interaction; 3) parental support; and 4) education. Each
38 potential predictor is examined in detail with key findings summarised
39 before impact for practice and future research direction is proposed.

40 **Key words:** systematic scoping review; talent identification; talent development;

41 **Introduction**

42 The purpose of this scoping review was to examine the sociological dimensions of
43 Williams and Reilly's four category model of potential predictors of talent in youth
44 football ('the model'; see Figure 1).¹ As the model was one of the first reported attempts
45 to capture the range of factors associated with the identification and development of
46 future elite and professional footballers, this review appears to be well justified. For
47 interested readers, the aims and scope of the model² are described in detail elsewhere
48 in this Special Issue.³ The influence of this four-category model within the academic
49 community is profound, a simple Google Scholar search identified 902 citations. The
50 model is frequently adopted by researchers to support and justify the development of
51 studies across the spectrum of football-related inquiry. Two components of the model,
52 physical predictors and physiological predictors, have been subject to a comprehensive
53 line of academic inquiry, not just because of their potential predictive ability, but due
54 to their influence in performance enhancement.⁴

55 One potential explanation for this lies within certain ontological and
56 epistemological assumptions guiding the positivist paradigm that underpins physical
57 and physiological research.⁵ In the field of talent identification, which often relies on
58 sport coaches applying the scientific theory into practice, such a mechanistic view of
59 human behaviour as something which can be measured and controlled is potentially
60 problematic. Perhaps it is due to a greater understanding of the complex social
61 interactions which occur in the coaching process,⁶ and a more inclusive,
62 multidisciplinary approach to talent identification⁷ that fundamental sociological and
63 environmental factors have become a more prominent area of investigation.

64 With the exception of 'hours in practice', which lends itself more readily to a
65 positivist line of inquiry, the remaining sub-components of the sociological dimensions

66 have been largely ignored. Given the reported difficulties gaining access to professional
67 football clubs, especially for sociologists,⁸ this may help to explain the paucity of
68 empirical research dedicated to this particular dimension of the model. However, since
69 the inception of the Elite Player Performance Plan,⁹ there is a requirement for
70 professional football clubs to demonstrate and adhere to particular organisational and
71 environmental requirements including: time spent in coaching (i.e. coach-child
72 interaction), formally tracking player progression, engaging parents in the talent
73 development process (i.e. parental support), and in some instances offering hybrid or
74 full time education models for their players.¹⁰

75 Figure 1: Model of Potential Predictors of Talent in Soccer.

76 **!INSERT FIGURE 1 HERE!**

77

78 Source: Adapted from Williams and Reilly ‘Talent Identification’, **NEEDS PAGE**
79 **NUMBER INSERTING**

80 Whilst the model has acted as a referent point for a number of academic studies,
81 it has also played an important role within applied professional practice. However,
82 despite its widespread usage and application, we have been unable to find any empirical
83 attempt to interrogate, amend, challenge, or question the components of the model.
84 Therefore, one of the purposes of this scoping review was to examine the sociological
85 component of the model to understand what we now know within that domain whilst
86 offering a pathway to further develop research and practice.

87

88 **Methodology**

89 A scoping review is defined as a type of research synthesis that aims to “map the
90 literature on a particular topic or research area and provides an opportunity to identify
91 key concepts; gaps in the research; and types and sources of evidence to inform practice,
92 policymaking, and research”.¹¹ This scoping review aims to explore the potential
93 impact of sociological factors on the identification and development of youth
94 footballers.¹² The research team devised the broad research question to be addressed,
95 based on the sociological domain of the model, whilst additionally, the study protocol
96 included the identification of search terms, and a selection of academic databases to be
97 searched.¹³

98 As suggested by Pham *et al.*¹⁴ the review followed the guidelines presented in
99 Arksey and O’Malley’s framework for scoping reviews,¹⁵ whilst adhering to
100 recommendations proposed by Levac, Colquhoun and O’Brien.¹⁶ The process began
101 with the formation of a research team that had experience in research synthesis¹⁷ and
102 the review process consisted of the following five phases: 1) identifying the research
103 question; 2) identifying relevant studies; 3) study selection; 4) charting the data; and 5)
104 collating, summarising, and reporting the results.¹⁸ The optional consultation exercise
105 was not conducted due to time constraints and resources available.

106

107 **Research question**

108 This scoping review was guided by the following research question: what research
109 exists that explores the sociological domain of the Williams and Reilly model of
110 potential predictors of talent in youth football?¹⁹

111

112 *Data sources and search strategy*

113 A comprehensive search was performed using four academic journal databases (i.e.
114 PubMed; Academic Search Complete; Emerald; and SportDiscus). The academic
115 databases provided access to both scientific and social science journals; furthermore,
116 specialist academic sport journals (i.e. Soccer & Society; International Journal of Sport
117 Science & Coaching; Journal of Sports Sciences; and Journal of Sport & Exercise
118 Sciences) were also included for hand-searching to allow for the most comprehensive
119 and broad examination of the extant literature.

120 Databases were searched for articles published between 1st January 2000 and
121 31st August 2015. The start year of 2000 was based on the publication year of the
122 Williams and Reilly potential predictors of talent model being published.²⁰ The search
123 was extended to include ‘grey literature’, such as national governing body of sport
124 reports and, where appropriate, PhD theses to reduce the risk of publication bias.²¹ The
125 following search strings were used to conduct searches across all databases noted
126 above:

127

128 (1) Talent* OR “Talent Identification” OR “Talent development” OR “Talent
129 selection” OR TID

130 (2) "Young people" OR youth OR adolescent* OR "young adult" OR teen* OR
131 child* OR player*

132 (3) Football OR Soccer OR “association football”

133

134 The initial search strategy did not narrow the focus of the papers to a particular
135 theme (i.e. psychological, physiological, physical, or sociological). The decision to
136 focus on specific elements of the model was made following an initial search of the

137 databases included. The number of hits returned were not so voluminous as to be
138 overbearing and unmanageable. It was also deemed appropriate to consider all of the
139 literature returned through searches and continue the screening process from there.

140

141 *Eligibility Criteria*

142 Eligibility criteria were applied to the initial title and abstract screening process to
143 assess relevance to the research question. The eligibility criteria applied were:

144

145 (1) Must be published, peer-reviewed journals; PhD theses; or peer-reviewed
146 reports;

147 (2) Must be published between 1st January 2000 and 31st August 2015;

148 (3) Studies must relate to talent identification and/or development in male
149 association football;

150 (4) Studies must be empirical in nature;

151 (5) Cannot be a review of literature, a scoping review, systematic review; or
152 validation of a protocol, instrument or questionnaire;

153 (6) Cannot be written in a language other than English;

154 (7) Studies must be specifically focussed on potential sociological predictors of
155 talent in football, as identified by Williams and Reilly;²²

156 (8) Cannot include studies where other sports are also included within the analysis;
157 and

158 (9) Cannot be concerned with Relative Age Effects (RAEs).

159

160 Studies that matched the eligibility criteria were downloaded and indexed using
161 the web-based bibliographic manager, Mendeley.²³ This provided a more effective
162 management of studies included in this review. For example, the software automatically
163 scans for potential duplicates. Articles were then subjected to both title and abstract
164 relevance screening within the software.

165

166 *Selection of Studies*

167 Titles and abstracts were initially screened against the eligibility criteria to save on
168 resources, and procuring articles that didn't meet the minimum criteria for review. A
169 form was developed for detailing each article's key features. All members of the
170 research team agreed the form was appropriate. The form was pretested by two
171 reviewers (MJR & CD) independent of each other using 20 studies to examine inter-
172 reviewer agreement.²⁴ The overall kappa of the pre-test was 0.889. Previous scoping
173 review studies have suggested a kappa score of 0.8 is considered to represent a high
174 level of agreement.²⁵ There were no significant disagreements between reviewers and
175 neither reviewer suggested any revisions to the form. The title and abstract of every
176 article were then independently reviewed by two members of the research team (MJR
177 & CD). The author(s) and journal name of each article were fully available to reviewers.
178 The reviewers met regularly throughout the screening process to resolve any conflicts
179 and discuss study selections.²⁶

180

181 *Data Characterisation*

182 All articles considered relevant following title and abstract screening were obtained for
183 full-text review. To establish relevance and extract study characteristics, a specific

184 framework was developed which included the following: study year, methodological
185 approach, participants and sample size, theoretical underpinning, and results/findings.
186 Two members of the research team (MJR & CD) undertook an initial independent
187 review. Any articles excluded at this stage did not meet the eligibility criteria. Once the
188 independent review had taken place, all members of the research team performed a final
189 review of the articles to resolve any conflicts and ensure internal consistency.

190

191 *Data Summary and Synthesis*

192 Data were extracted into a single Microsoft Excel 2016 spreadsheet (Microsoft
193 Corporation, Redmond, WA) for validation and coding. Given the focus of the review,
194 methodological quality was not assessed, though it is briefly discussed. The primary
195 function of this review was to use Williams and Reilly's model of potential predictors
196 of talent in youth football as a guide to examine what research exists that explores the
197 sociological domain of the model.²⁷

198

199 **Results**

200 The original search, conducted in June 2015, yielded 1107 potentially relevant studies.
201 After the removal of duplicate articles and relevance screening studies that met the
202 eligibility criteria, the remaining articles were acquired for review. All articles were
203 downloaded through the institutions library holdings. After data characterisation 14
204 articles were included in the final analysis. An updated search in November 2015
205 identified 7 potentially relevant studies. However, none made it through the screening
206 process, thus no additional articles were included at this time. A further updated search
207 was undertaken during June 2016, at which time one additional article was identified.²⁸

208 This article passed all relevant screening processes and was included in the review.
209 Figure 1 illustrates the review process and where and how studies were excluded from
210 the final review.

211

212 **Figure 2:** Flow chart of the review process

213 **!INSERT FIGURE 2 HERE!**

214

215 *General characteristics of included sociological studies*

216 The most common participants in the 13 studies included for review were players (n =
217 9), followed by coaches (n = 2), club officials (n = 2), parents (n = 2), and one study
218 took a holistic approach, involving coaches, club officials, parents, and a sport scientist.
219 There was an equal split between studies that adopted qualitative (n = 6) and
220 quantitative (n = 7) approaches. Studies reviewed varied in focus and research design,
221 however, all were empirical in nature and examined sociological factors suggested by
222 the model. The focus of included studies was dominated by hours in practice (n = 6);
223 followed by coach-child interaction (n = 4), parental support (n = 2), and education (n
224 = 1).

225

226 **!INSERT TABLE 1 HERE!**

227 **Discussion**

228 As a relatively new approach, scoping reviews are quickly gaining momentum as a
229 practical, versatile, yet rigorous process for examining literature. Within areas, such as
230 the sport sciences and sport coaching, where the evidence base for particular subjects
231 is progressing yet, perhaps, not ready for a gold standard systematic review, scoping
232 reviews provide a highly suitable bridge to inform research direction and applied
233 practice.

234 In this paper, we have provided an overview of the potential sociological
235 predictors of talent identification and development in junior-elite football.⁴⁴ Our search
236 sought to examine published and grey literature in order to be comprehensive whilst
237 balancing resources and practicality.⁴⁵ It was not within the remit of this scoping review
238 to assess the methodological quality of papers given the variety of factors being
239 examined,⁴⁶ though an overview was provided in the results section and brief reference
240 is made to the similarities and differences of methodological approaches in the
241 discussion.

242 There are clearly a number of sociological factors that can impact upon players'
243 (especially young players') development within sport. However, this scoping review
244 highlights a dearth of literature that considers the potential sociological predictors of
245 talent related to football. It is worth noting, however, that the potential sociological
246 predictors proposed are by no means exhaustive and it is possible that some studies
247 were omitted from this scoping review.

248

249 ***Hours in Practice (HiP)***

250 The notion of ‘hours in practice’ is repeatedly highlighted as a crucial determinant in
251 the development expertise in football players. This is closely linked to a number of
252 theories and postulations including: deliberate practice;⁴⁷ early specialisation and early
253 diversification;⁴⁸ and deliberate play.⁴⁹ All of the papers included under this section
254 sought to examine the developmental pathway and the activities/sports that various
255 samples of footballers were engaged in prior to their (non)progression to professional
256 status.

257 From a methodological perspective, all the papers were similar in design;
258 adopting retrospective recall of participation history and engagement in associated
259 forms of activity. Only Ford *et al.*⁵⁰ and Haugarsen *et al.*⁵¹ included additional
260 methodological protocols to the ones mentioned previously. For example, Ford *et al.*⁵²
261 revisited data⁵³ four years after the original data were collected to re-examine the
262 professional status of players and examine the participatory time of professional and
263 non-professional players. Furthermore, Haugarsen *et al.* included a one-week
264 participation diary which was then used to compare the yearly computed results from
265 the recall questionnaire.⁵⁴ It might be suggested that these studies adopted more
266 methodologically robust approaches to understanding the phenomenon of HiP than
267 applying retrospective recall questionnaires.

268 The participants within the HiP studies varied from in country-specific⁵⁵ to
269 multi-national populations.⁵⁶ Sample sizes varied from a high of 745 participants⁵⁷ to a
270 low of 33 participants.⁵⁸ The relatively small sample size of Ford *et al.*⁵⁹ however was
271 attributed to the participants being recruited as a follow-up to a previous study.⁶⁰
272 Furthermore, for the purposes of the study, only players aged between 16-18 years of
273 age were re-recruited, further reducing the potential sample size. In comparison, the

274 largest sample size⁶¹ included all academy players from age 14-21 playing at
275 Norwegian Premier League clubs (n = 745).

276 Across all of the HiP papers, the most common theme to emerge was that time
277 engaged in football-related play was the most important contributing factor to the
278 development of players. Indeed, professional players were reported to engage in more
279 play-related activity between 6-8 years of age. No significant differences were found at
280 any other age. On average, professional players reported 20% more football-specific
281 practice between 6-12 years old.⁶² Similar findings were reported by Ford *et al.* who
282 indicated that professional players spent on average twice as much time in football-
283 related activity than former-elite players (i.e. those released from the academy
284 system).⁶³ It is important to highlight, however, that some of the between-paper
285 comparisons are difficult to qualify as there is a variety of terminology used to describe
286 the participants (i.e. elite, former-elite, professional, top-level, etc.), and the activity
287 they engage in (i.e. football practice, specific practice, football-specific practice,
288 organised practice, football-related play). Such terminology variety makes it difficult
289 to compare, contrast, and consider the evidence collectively as it is often difficult to
290 determine the differences being examined.

291 Whilst a range of age groups were investigated, all were aged 14 years or older
292 at the time of participation. None of the studies reported participants engaging in other
293 sports to a level that was consistent with an early diversification approach,⁶⁴ though
294 Hornig, Aust and Gullich indicated that many of their respondents engaged in other
295 game-based activities alongside football.⁶⁵ Furthermore, Hornig *et al.*⁶⁶ and Zibung and
296 Conzelmann⁶⁷ reported players specialising in football at a later age. Such findings
297 indicate that there may be confounding cultural issues within football, that transcend
298 national boundaries, and contribute to a culturally acceptable notion that players should

299 specialise in football above other sports from a young age. Interestingly, Ford *et al.*
300 suggested that their findings supported neither early specialisation nor early
301 diversification approaches and, instead, suggested adopting a skill acquisition approach
302 during the sampling phase.⁶⁸

303 Specific reference must be made to Ford and colleagues whose study was the
304 only one to consider participants from multiple nations.⁶⁹ In total, the study considered
305 seven countries from around the world and, although only considering one age group
306 in the sample (i.e. under 16), generated a number of pertinent findings. For example,
307 the world-wide average for beginning engagement in football-related activity was 4.9
308 years of age; players engaged in supervised training from 6.9 years old; and, on average,
309 academy training began at 12 years of age. They also found that the time engaged in
310 football-related activity differed between countries, though development pathway for
311 players was comparable. However, something that is worthy of further consideration is
312 the time at which youth players engage in formalised academy settings. Whilst the
313 average was 11.95 years of age (± 2.56 years), youngsters in Portugal became engaged
314 in these environments earlier than in any of the other seven countered investigated at
315 8.30 years of age (± 1.67 years).

316 It is possible to state that the evidence surrounding HiP is relatively
317 homogenous. There are some claims that are consistently agreed upon, such as
318 substantial amounts of time spent in football-related play at young ages; though there
319 are also variances, including the number of sports engaged in alongside football, and
320 the volume of engagement in those sports. Overall, it is not clear whether early
321 specialisation or early diversification would be most beneficial for the development of
322 elite/professional footballers.

323

324 *Coach-child Interaction*

325 The five papers included under this theme fell into two distinct categories: talent
326 development environment⁷⁰ and youth-to-senior transition.⁷¹ Environment, although a
327 psycho-social construct, does not factor in the model.

328 Two studies⁷² explored the potential impact of environment on player
329 development and were similar in methodological design. Indeed, all studies adopted the
330 retrospective 59-point Talent Development Environment (TDE) Questionnaire
331 (TDEQ)⁷³ with elite youth players. However, Ivarsson and colleagues⁷⁴ also explored
332 whether the TDE also impacted upon players perceived well-being, and included a 12-
333 point General Health Questionnaire (GHQ),⁷⁵ as well as the 76-item Recovery-stress
334 Questionnaire for Athletes (RESTQ-Sport),⁷⁶ in their data capture. The third paper that
335 aligned to TDE⁷⁷ investigated coaches' perceptions of optimal development
336 environments within English football academies. The study examined the thoughts of
337 10 expert coaches, with data collected through interviews that focussed on examining
338 the expert coaches' experiential knowledge of managing and leading the talent
339 development environment. These coaches were somewhat homogenous, though there
340 was some variance in years actively coaching (m 14.5, $\pm s$ = 6.2 years) and age (m 47.5,
341 $\pm s$ = 10.5). All of the coaches held positions with responsibility for overseeing player
342 development during their investment stage (i.e. 16-18).⁷⁸

343 Findings reported by Mills *et al.* suggested that players perceived the factors
344 that relate to their long-term development to be key strengths.⁷⁹ These related mostly
345 to coaching practice (i.e. technical instruction). However, the small sample of
346 participants (n = 50) and low club involvement (n = 3) inhibits the generalisability of

347 the findings. However, it is worth noting that this study was one of the first to develop
348 the TDE theme within elite youth football. Similarly, Ivarsson *et al.* suggested that
349 players who perceived their TDE to be supportive and have a focus on long-term
350 development were less likely to suffer with stress and experienced greater well-being.⁸⁰

351 Mills and colleagues approached their study with the aim of developing a
352 conceptual framework that explored the interaction of factors underpinning an optimal
353 TDE.⁸¹ They included setting clear expectations and goals, ensuring open and honest
354 communication, and promoting self-responsibility were key factors to consider. They
355 reported the need to have a well-defined and espoused culture and organisational core
356 to support the TDE. Mills and colleagues' study also documented that the coaches
357 involved were concerned with "developing well-rounded individuals",⁸² in-line with
358 claims in other studies included in this review.⁸³

359 The three papers that specifically examined the transition from youth-to-
360 senior⁸⁴ were more diverse in their methodological approaches. Relvas *et al.* attempted
361 to understand and describe models of applied working practice between youth-to-senior
362 transition.⁸⁵ Their study documented a series of semi-structured interviews across 26
363 European clubs, providing a unique Pan-European data set focussed on applied practice.
364 In contrast, Morris *et al.* were concerned with understanding transition outcomes,⁸⁶
365 against Stambulova's youth-to-senior transition model.⁸⁷ Their study adopted a case
366 study approach, focussing efforts on two specific clubs and collecting multiple sources
367 of data including interviews, documents, emails, and coach reports. Finally, Morris *et*
368 *al.* examined the youth-to-senior transition *in-situ* whilst the process occurred.⁸⁸ Their
369 study focussed on a sample of five youth players going through the transition period to
370 first team level. Data were collected through interviews pre and post-transition period
371 before being abductively thematically content analysed. Their data were analysed

372 against Stambulova's youth-to-senior transition model⁸⁹ and Wylleman and Lavallee's
373 developmental perspectives model of transitions faced by athletes.⁹⁰

374 Relvas *et al.* investigated the day-to-day working practice at a club level,
375 leading to better understanding of the gaps in our understanding of organisational and
376 operational issues that affect successful player transitions.⁹¹ Their findings indicated
377 that there is some organisational homogenisation, such as the underpinning philosophy
378 of clubs (i.e. to develop players for the first team); the personal development of players
379 alongside football development; and for clubs to be able to make a monetary gain
380 through the development of players, either through not having to purchase players or
381 by selling a player they had developed for a profit. However, there were also a number
382 of operational differences reported, including roles and responsibilities of staff, the
383 youth-to-senior transition; and as unstructured club approach to the development of
384 players. This further manifested through a significant indication that, regardless of club
385 structure, formal communication between youth and senior environments within clubs
386 hindered the progression of players to the first team environment.⁹²

387 Morris *et al.*⁹³ developed the ideas and findings purported by Relvas *et al.*⁹⁴ by
388 providing two in-depth case studies and applying Stambulova's youth-to-senior
389 transition model to data.⁹⁵ Data were then compared between the two clubs involved in
390 the study to further explore each organisation's transition procedures and processes.
391 The two clubs investigated had significantly different approaches to youth development.
392 Indeed, their individual data highlighted that one club clearly aligned to the elements
393 of Stambulova's model,⁹⁶ and one club aligned to some elements, but not to the same
394 extent as the former. Data were compared and contrasted against each other and also
395 against a league average. It was suggested that the organisation who aligned more
396 closely with Stambulova's model were three times more efficient in achieving

397 successful transition outcomes than the club who aligned to some elements and twice
398 as efficient than the league average.⁹⁷ The club that aligned to the model also had
399 substantially lower release rates of players than their counterpart (47% lower) and the
400 league average (29% lower). Finally, and, perhaps, most importantly for clubs
401 concerned with associated costs of developing young players, the associated monies
402 invested into clubs' youth development programmes was reduced when aligned to the
403 Stambulova model.⁹⁸ The club which most aligned had a five-year operating cost of
404 £450,000; the club that partially aligned operated on £520,000 over a five-year period;
405 and the league average over five years was £980,000. This suggests that even a modest
406 alignment to operationalise elements of the Stambulova youth-to-senior transition
407 model⁹⁹ can have serious financial implications.

408 Morris *et al.*¹⁰⁰ further expanded the previous work of Relvas *et al.*¹⁰¹ and
409 Morris *et al.*¹⁰² by exploring the pre- and post-transition period of five junior-elite
410 footballers. Data were collected two weeks prior to transition and two weeks' post
411 transition to capture players' perspectives on the process. The four themes that emerged
412 from the data were: a) motivation for the transition; b) confidence and anxiety; c)
413 stressors, and; d) social support. The authors suggest findings present generalizable
414 considerations that would resonate with a number of players and clubs. For example,
415 players were highly intrinsically motivated to transition to senior football. Such
416 findings are also corroborated in other studies¹⁰³ and supported by the theoretical
417 frameworks that were used to underpin analyses.¹⁰⁴ The study also highlights a number
418 of factors that have clear practical application. Stress and anxiety during and following
419 the transition period can be significant with players being affected both internally (e.g.
420 desire to succeed) and externally (e.g. familial pressure). It was also noted that some of
421 the same actors (i.e. family, friends, and colleagues) who caused stress within players'

422 lives were also responsible for providing support when necessary. The study
423 highlighted that the challenges experienced by players were numerous and complex and
424 that within-career transitions are a highly under-examined area worthy of further
425 investigation.

426 The findings from Relvas *et al.*¹⁰⁵ and from Morris *et al.*¹⁰⁶ suggest that there
427 are significant operational processes and considerations that clubs need to make in order
428 to enhance their youth-to-senior transition success. Stambulova's model provides a
429 framework against which clubs might be able to assess themselves, or be assessed
430 against, whereas Relvas *et al.* highlight more organisational and structural
431 considerations for clubs to contemplate.¹⁰⁷ Similarly, Morris *et al.* indicate that there
432 are a number of challenges and experiences faced by players undergoing career
433 transitions and that clubs need to be more consciously aware of, supportive of, and
434 reactive to the needs of players during these periods, particularly the youth-to-senior
435 transition.¹⁰⁸ Indeed, findings from Mills *et al.* indicated that there is a weak player
436 understanding of the links and realities of youth-to-senior transition.¹⁰⁹ This suggests
437 that, despite Relvas and colleagues' call for better organisational operation and links
438 between senior and youth domains,¹¹⁰ there has been little progression made in this
439 domain since that time; despite all clubs involved in that study indicating their desire
440 was to develop players for their respective senior squad.

441

442 ***Parental Support***

443 There is longstanding interest of the implications of parental support within sport from
444 performance and participation perspectives.¹¹¹ However, examination of the impact of
445 parental involvement in junior-elite football are in their relative infancy. Indeed, only

446 two studies¹¹² fulfilled the eligibility criteria for this within the model. The earliest
447 study was a phenomenological investigation of the experiences of parents of “elite
448 specialising stage youth footballers”.¹¹³ This study explored a unique concept in the
449 talent development literature: the social and cultural context in which parents operate.
450 It has been recognised elsewhere that parents play a crucial role in their child’s
451 development in sport and particularly in football.¹¹⁴ However, there has been little done
452 to investigate this particular sample within junior-elite football. The second study
453 considered sought to explore parents and children’s experiences, interaction, and
454 relationships within the context of junior-elite football academies.¹¹⁵ Indeed, it has been
455 suggested that previous studies have tended to focus on the behaviours exhibited by
456 parents during children’s sport, but there is a need to look beyond the behaviours
457 exhibited by parents and to understand the social and cultural contexts in which these
458 behaviours occur.¹¹⁶

459 Both studies adopted qualitative data collection methods, though Clarke and
460 Harwood¹¹⁷ were guided by Giorgi’s descriptive phenomenological approach,¹¹⁸
461 whereas Clarke *et al.* embraced a dyadic approach,¹¹⁹ allowing greater understanding
462 of interactions and relationships.¹²⁰ Both studies only included parents within their
463 sampling procedures, though the ages of the players’ parents represented were different.
464 For example, Clarke and Harwood sampled parents (n = 10; 5 mothers, 5 fathers) of
465 players aged 8-11 years,¹²¹ whereas Clarke *et al.* sampled parents (n = 8; 4 mothers, 4
466 fathers) of 12-17-year-old players.¹²² Smaller sample sizes have been suggested
467 appropriate for descriptive phenomenological inquiries.¹²³

468 It was proposed that there are three factors that parents of junior-elite footballers
469 in the UK experience.¹²⁴ Firstly, parents recognised the socialisation process they
470 underwent while entering and remaining in the junior-elite youth football culture;

471 secondly, parents recognised themselves as having an enhanced parental identity; and,
472 finally, parents expressed the feeling of increased parental responsibility. These three
473 broad themes were considered expressive of the multiple sub-themes which comprise
474 each one, though the authors note that there was variance between individual
475 participants and that their findings should not be considered generalizable but more
476 reflective of the participants' "nature of existence".¹²⁵

477 In their existential phenomenological study, Clarke *et al.* presented findings of
478 four parent-player dyads.¹²⁶ Their findings suggested that these dyads were framed
479 around relationships with other family members, an embodied sense of closeness, a
480 temporal significance of transitions in football, and gender relations. Similar to Clarke
481 and Harwood, it was suggested that findings might serve as a useful heuristic
482 framework for guiding further research in this area and context (i.e. junior-elite
483 academy football).¹²⁷

484 The increased sense of parental responsibility¹²⁸ and embodied sense of
485 closeness¹²⁹ closely align between both studies. The notion of increased parental
486 responsibility arose from feelings of enhanced parental identity due to their son's
487 identification as a talented young footballer. This was suggested to be a reflection upon
488 their identity as a parent and, their parenting ability. These two interlinked experiences
489 manifest as shared senses of success and failure, particularly around transition periods
490 (i.e. youth-to-senior transition, or transition away from junior-elite football). Whilst
491 previous work on youth-to-senior transition has highlighted difficulties for players at
492 these periods,¹³⁰ it is suggested that such transitions also affect the identity of parents.¹³¹

493 Whilst increased parental identity was highlighted, it was also noted that parents
494 felt they needed to carefully consider and navigate their position within the academy

495 environment. Their peer interactions required them to be seen as realistic about the
496 likelihood of their child's success in football,¹³² as there is a high attrition rate between
497 those who progress from academy-level.¹³³ A final issue of identity was raised in
498 relation to gender and the perceived value of mothers in a male-dominated environment,
499 raising issues of gender.¹³⁴

500 When considering the notion of socialisation for parents in the academy
501 environment, it was suggested that the notion of conforming to the established norms
502 and expectations of the academy and its culture were critical. These expectations were
503 heightened through parents' interaction with coaches and other parents. Parents
504 regularly interacted with other parents during training sessions and games, with these
505 relationships serving several functions, including: new parents to the environment
506 seeking advice; drawing upon support, such as transport to training; and being
507 empathetic of the stresses associated with the environment. Parents demonstrated a
508 pragmatism toward relationships developed, acknowledging that should their son no
509 longer play at the academy, it was unlikely any friendships developed would endure.
510 Parents who approached coaching staff to ask questions or request information were
511 viewed as interfering by other parents. Naturally occurring opportunities for coaches
512 and parents to engage were rare, as coaches highlighted that their focus was the
513 development of players and so tended to focus efforts toward players rather than
514 communicating with their parents. Indeed, once a player was signed and registered with
515 a club, parents had to transition to taking a back seat in their son's football development,
516 though some indicated that coaches were the experts in the academy environment and
517 relinquished any power previously exerted.¹³⁵ However, the lack of communication
518 prolonged the development of relationships and trust between coaches and parents.

519 Both studies provide insight into a relatively under-researched area within
520 junior-elite football. There are insights provided from the perspective of parents, key
521 stakeholders in this domain, that suggest further work is required. For example, the
522 sample of clubs and parents used is relatively small and, as such, findings cannot be
523 considered comprehensive nor generalizable to parents across junior-elite football.

524

525 *Education*

526 Education was considered through the experiences and descriptions of young male
527 Danish footballers' who were managing contradictory demands of potential future
528 career and current educational requirements.¹³⁶ The study included 25 elite youth
529 footballers between 15-19 years old. Analyses were considered using Lewin's
530 psychological field theory, which considers "life space";¹³⁷ that is, the space where an
531 individual and their environment exist psychologically, allowing individuals to be seen
532 as a whole.¹³⁸ Secondly, data were considered using Schein's theory of organisational
533 culture,¹³⁹ which operates three levels: observable artefacts; espoused values; and
534 underlying assumptions.

535 Results first presented are the artefacts, espoused values, and assumptions in the
536 education system. Data presented suggest that the Danish education system is well-
537 established for supporting young people who may have competing priorities. There is
538 a degree of flexibility within the system that allows the final phase of secondary
539 education to be completed over a more protracted period – three years rather than the
540 traditional two. This, it is claimed, allowed participants the opportunity to continue their
541 football development with a lesser degree of pressure from also completing secondary
542 education qualifications. The Danish school and sport systems also seem to be fairly

543 complimentary in their approach, with some schools supported by Team Denmark sport
544 coordinators. It was highlighted that educational values were often reinforced by
545 players' parents. Indeed, parents were highlighted as championing education,
546 illustrating the perceived importance of education within Danish society.

547 Time pressure was cited as the most serious threat to successfully combining
548 education with football development. Participants highlighted the need for
549 demonstrating a high degree of self-discipline and requiring psychological support and
550 resources to adapt to the demands of both. Within the study, school was often seen as a
551 necessary evil, secondary to football development activities, though parents often
552 pressured participants to consider school more reverently. However, participants were
553 acutely aware that completion of secondary education may be beneficial, though many
554 indicated that grades were expected to be considerably lower because of involvement
555 within football. Those participants who opted to extend their final period in secondary
556 education experienced a lesser degree of pressure through the time support offered. As
557 an extreme example, however, there were also instances where young players dropped-
558 out of school to focus on their football development: this presented a different scenario,
559 whereby the player found part time paid work that afforded him the opportunity to focus
560 more readily on football whilst also affording greater financial resource to support
561 himself.

562 The espoused values were found to illicit significant personal concerns. Similar
563 to the time-related factors discussed above, players who were not within the vicinity of
564 their club were often left to decide whether to move into accommodation closer to the
565 training facilities, or continue with time-consuming travel. The data highlight moving
566 away from for players as a mixed economy. Some players successfully moved and
567 transitioned to life away from home, where others underwent significant issues,

568 including mental health problems. The authors suggest that the movement of players,
569 particularly at testing ages (mid-late teens), can be problematic as social groups become
570 disrupted, personal living space became compromised, and aspects of his life came
571 under scrutiny that he was unused to. The authors summarise by suggesting the ideal
572 student, as prescribed by various stakeholders is a privileged position, that is not held
573 by the majority. This has implications for educational, social, and psychological factors
574 within the lives of who are not so fortunate.

575 The study also highlighted the unwritten rules of football – those espoused
576 values that are expected and assumed, but would never be laid bare for all to see. For
577 example, there were references to coaches and clubs explicitly instructing players that
578 they must make a decision between school and football, and that in order to be a
579 professional footballer they must devote themselves 100%. This, it was claimed, was
580 the only way in which they would be able to be considered and accepted as a real
581 talent.¹⁴⁰ Players' lives, the authors contend, are in an unstable state and the
582 abandonment of education in favour of football becomes a realistic, albeit radical,
583 reality. The culture of football prevails in these attitudes, whereby young players exude
584 the underlying assumptions of professional football – achievement of success on the
585 pitch and, therefore, the generation of personal income.

586 It was suggested that the value of a potential career in professional football was
587 more appealing than a good set of educational qualifications. Similarly, the
588 dichotomous approach of government to try and successfully affect both elite sport
589 participation and education manifests a situation where one or the other tends to be
590 selected. The study highlights the longstanding problems faced by junior elite
591 footballers in Denmark. It is plausible to extrapolate these findings to other European
592 countries due to the similarities in education and sport systems. Therefore, this study

593 highlights a significant issue for those involved in the education and development of
594 junior elite footballers.

595

596 **Conclusion**

597 This scoping review of the potential sociological predictors of talent in football has
598 considered a range of studies that have examined different sociological factors within
599 football. Results suggest that it would be premature to offer any concrete suggestions
600 in relation to the sociological determinants of talent in football. There are notable gaps
601 in the literature and, therefore, prime areas for future inquiry, particularly related to
602 examination of cultural background and socio-economic background.

603 One of the earliest, and most striking features of the studies considered in this
604 review was the variety and breadth of terminology used to describe potentially similar
605 groups or factors. Whilst this has been acknowledged across the TID literature¹⁴¹ this
606 review highlights its prevalence in football-related inquiries. Consequently, we strongly
607 advocate for a more unified and consistent approach to the language offered to discuss
608 the concepts under scrutiny.

609 Whilst there appears to have been a small shift toward better understanding the
610 sociological factors that affect junior-elite footballers, this review has highlighted that
611 there is still a lack of examination of the contribution sociological factors can have upon
612 the potential prediction of talent in junior-elite football. However, some sociological
613 factors have received greater attention, such as HiP. There has been a focus on better
614 understanding the volume of practice undertaken by junior-elite footballers throughout
615 their development, though these studies have tended to rely on similar methodological

616 approaches. We suggest the need for better understanding of the impact of HiP through
617 use of control groups within a longitudinal framework.

618 There are also certain sociological predictors that have not been examined, or
619 at least were not found for inclusion in this review, such as socio-economic background.
620 Whilst this may be a factor within other studies, we argue that in order to fully
621 understand the complexities of each of the proposed predictors, more rigorous
622 investigations of specific, individual factors are necessary. For example, there is a
623 significant body of literature that has explored the impact of socio-economic status
624 upon participation in sport and physical activity,¹⁴² yet we were unable to find a singular
625 examination of the effects of socio-economic status upon the development of junior-
626 elite footballers.

627 There are also proposed potential predictors of talent where the evidence base
628 is limited and further investigation is warranted. In the case of education, better
629 understanding of the impact being a junior elite footballer within an, often legally
630 required, education system is required. For example, in the UK football academies have
631 the option to offer a full-time education model and, in doing so, affect the school day
632 timetable. This can, potentially, have further sociological implications for relationships
633 with friends, peers, parents, teachers, and coaches, amongst others.

634 Better understanding the potential sociological predictors of talent in junior-
635 elite football seems to be pertinent for academic inquiry, but also within applied
636 practice. Indeed, we would suggest that every academy should ensure that they do not
637 neglect to account for the important role sociological factors can play in the
638 identification and development of junior-elite footballers.

639

640 **Notes**

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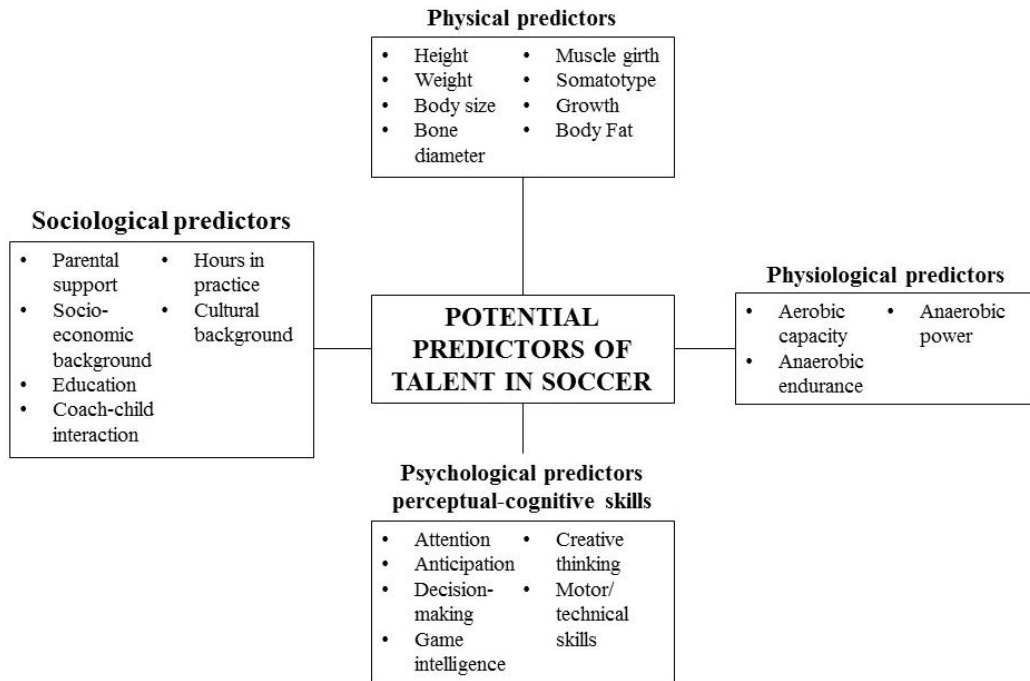
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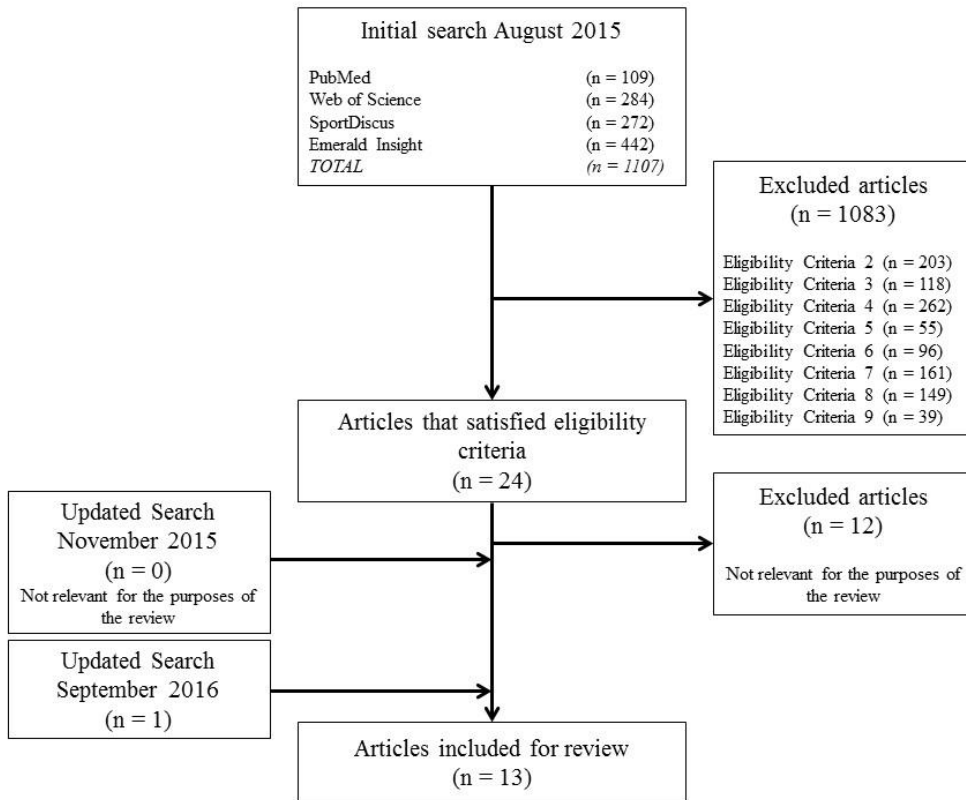
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1091 **FIGURE 2**



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Author(s)	Study Aim	Study Sample	Method	Important Results/Findings
HOURS IN PRACTICE (HiP)				
Ford et al. ²⁹	To examine developmental activities and pathways of elite football players.	328 elite soccer players aligned to the under-16 age group from Brazil, England, France, Ghana, Mexico, Portugal and Sweden.	Retrospective recall using the Participation History Questionnaire. Data compared to the early diversification, early specialisation, and early engagement pathways.	<ul style="list-style-type: none"> • Players began involvement in football at ~5 years of age; supervised training at ~7 years old; academy training at ~ 12 years of age. • Participation in academy-based training is younger in England than all other countries. • Developmental pathway for players across multiple countries was relatively homogenous. • Only players in England engaged in a greater variety of other sports during childhood than other countries (mean = 4). • Between country differences are likely to reflect differences in youth development systems.
Ford, Ward, Hodges, & Williams ³⁰	To examine the domain-specific activities in which two groups of elite youth soccer players participated between six and 12 years of age to examine early participation differences between those who	Secondary data from a previous study ³¹ were re-examined. In these data, three groups were determined: (1) The still-elite group (<i>n</i> = 11); (2) The ex-elite group (<i>n</i> = 11); and (3) a recreational level	Players from a previous study data subset were tracked and their current playing status determined.	<ul style="list-style-type: none"> • Professional players accumulated more hours per year in football play activities, but not in football practice, competition or other sports, between six and 12 years of age. • The two elite groups averaged more hours per year in soccer practice compared with recreational-level players, but not soccer play, competition or other sports. • Practice and play in football between six and 12 years of age contributes to the development of expert performance in English football.

	progressed to professional status at 16 years of age and those who did not.	control group ($n = 11$).		
Haugaasen, Toering & Jordet ³²	To identify the development of engagement in football-specific activities of elite youth association football players who have made the transition to senior professional status or not.	Data were collected from all elite youth players ($N = 745$) within the age-range of 14-21 years from all Norwegian Premier League clubs.	A retrospective participation history questionnaire was adapted. Data were collected at one time point.	<ul style="list-style-type: none"> • Although the professional players reported more overall practice hours accumulated than non-professionals from ages 6 to 19 years, none of these differences were significant. • Professional players reported to have accumulated significantly more hours in play and coach-led practice at the youngest age categories. • No significant differences were identified at older age categories or for other types of football-specific practice at any age.
Haugaasen, Toering, & Jordet ³³	This study aimed to identify the characteristics and contribution of diverse participation towards elite youth and senior professional status in football.	Sample of 491 players aged 14-21 years of age; including 66 professional players and 425 non-professional players from Norway.	Data were collected using the Participation History Questionnaire. Players reported the amount of time spent engaged in sports other than football. Activity diaries collated for one week during the season.	<ul style="list-style-type: none"> • 90% of players reported engaging in football-related activity by 6 years of age. • No significant difference between professional and non-professional players in the age at which they first engaged in football-related activity. • Professional players attained an average of 20% more hours of football-specific practice between 6-12 years of age. • Professional players accumulated more hours of football practice than non-professionals at all age categories up to 19 years of age.

Horning, Aust,
& Gullich³⁴

This study examined the developmental sporting activities of elite and amateur soccer players.

52 German Bundesliga professional footballers (including 18 senior national team members) and 50 fourth to sixth league amateur players.

Participants retrospectively recalled volumes of organised football practice/training, including its "microstructure" (proportions of physical conditioning, skill exercises and playing forms), non-organised leisure football play and engagement in other sports through their career, respectively.

- Sports similar to football were reported to be significantly more relevant for developing football skills than other sports.
- Spending time in non-football activities did not contribute to differences in performance attainment in football, but potential advantages of such activities may be related to their characteristics.
- Bundesliga professionals performed moderate amounts of organised football practice/training throughout their career.
- They accumulated 4264 (mean) hours over ~16 years before debuting in 1st Bundesliga; senior National Team debut was preceded by 4532 hours (mean) over ~17 years.
- Within the microstructure of organised practice/training, the proportion of playing forms developed from ~52% (childhood) to ~45% (adolescence) and ~40% (adulthood) and physical conditioning from ~13% to ~14% and ~23%.
- Players engaged in extensive non-organised leisure football play.
- Subsuming organised and non-organised football, ~86% (childhood), ~73% (adolescence) and ~43% (adulthood) of all activity was game play (exclusive match play).
- National Team differed from amateurs in more non-organised leisure football in childhood, more engagement in other sports in adolescence, later

Zibung & Conzelmann ³⁵	To investigate if it is more effective to promote specialisation in a specific sport at the beginning of a career or whether to encourage a broad range of sports when promoting competitive sports talents in order for them to achieve a high level of performance in adulthood.	One hundred fifty-nine former Swiss football talents.	Retrospective interviews were conducted with participants. Data were analysed using the linking of clusters after removal of a residue (LICUR) method.	<p>specialisation, and in more organised football only at age 22+ years.</p> <ul style="list-style-type: none"> • Specialised club players engage in above average in-club practice and have more than average engagement levels in football-related play away from their club. • Below average participation in other sports. • Results do not support early specialisation or early diversification. • Comprehensive training and practice inside and outside the club form the basis for subsequent football expertise.
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COACH-CHILD INTERACTION

Ivarsson, Stenling, Fallby, Johnson, Borg, & Johansson ³⁶	To examine the predictive ability of perceived talent development environment (TDE) on the well-being of youth elite football players.	195 Swedish youth elite football players between 13 and 16 years of age enrolled at Swedish football academies.	Questionnaires regarding players' their TDE, perceived stress, and well-being at the start of the 2012 season. On two more occasions, six and 12 months later,	<ul style="list-style-type: none"> • Three classes of players with different perceptions of their TDE (one high quality, one moderate quality, and one poor quality class) were identified. • The class of players perceiving the lowest TDE quality, experienced higher initial level of stress and lower initial level of well-being at the start of the season compared to the other two classes. • There were no significant differences for stress nor well-being between classes (the initial difference
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Mills, Butt, Maynard & Harwood ³⁷	To examine elite youth football academy players' perceptions of the quality of their development environment, at a crucial stage in their progression to the professional level.	50 elite players aged 16-18 (m 17.1 +/- s = 0.6 years) recruited from the academies of Premier League and Championship clubs in England.	the players completed the stress and well-being questionnaires. The Talent Development Environment Questionnaire (TDEQ) was used to survey the elite players.	<p>between the three groups, in well-being, remained stable over time).</p> <ul style="list-style-type: none"> • Players perceive elite development environments to be of a good quality. • Academies were considered strong in areas of coaching, organisation, and sport-related support. • Areas of deficiency were: athlete understanding, youth-senior transition, and key stakeholder relationships. • Findings highlight the need for academies to pay close attention to the psychosocial environment they create for developing players.
Mills, Butt, Maynard & Harwood ³⁸	This study examined the factors perceived by successful coaches to underpin optimal development environments within elite English football academies.	10 expert academy football coaches.	A semi-structured interview guide, related to the environments coaches create for players at a key stage in their development.	<ul style="list-style-type: none"> • There are a wide range of interacting factors that underpin an optimal development environment. • Key components included: organisational core, adaptability, player welfare, key stakeholder relationships, involvement, and achievement oriented.
Morris, Tod & Oliver ³⁹	To critique whether the demands, resources, and barriers associated with the youth-to-	Following initial screening, two professional football clubs were purposively	Data collected included meeting minutes, websites, interviews ($n = 17$) with players,	<ul style="list-style-type: none"> • A proactive transition programme had better outcomes (e.g. player financial value, retention rates) and meant clubs spent less on player assistance compared to the club with no transition program.

	senior sport transition in Stambulova's model help explain transition outcomes. ⁴⁰	selected for detailed case study analysis.	coaches, support staff, and parents, and e-mail communications.	<ul style="list-style-type: none"> • When parents had knowledge of the transition process they felt more comfortable and able to support their son make the move to senior sport. • Coaches highlighted their ability to support players during the transition process was limited. • Providing more sport science support staff may provide better transition support and efficiency.
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PARENTAL SUPPORT

Clarke & Harwood ⁴¹	To explore the experiences of parents of elite specialising stage youth footballers.	Five mothers and five fathers of youth players registered to English football academies.	A descriptive phenomenological approach guided the study design Data from interviews with five mothers and five fathers of youth players registered to English football academies were analysed using descriptive phenomenological analysis	<ul style="list-style-type: none"> • Three essences characterised the phenomenon of being a parent of a junior-elite youth footballer: parent socialisation into elite youth football culture; enhanced parental identity; and increased parental responsibility. • Parents' socialisation into the academy culture was facilitated by their interactions with coaches and parent peers. • Enhanced status and heightened responsibility to aid their son's development was felt by parents whose son was identified as being talented • Parents, whilst supportive, were also instinctively inclined to protect their child, which manifest as uncertainty in relation to the commitment required to play at an academy level.
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Clarke, Harwood & Cushion ⁴²	To explore parent's and children's experience of their interaction and relationship, in the context of elite youth football	Eight parent-player dyads, recruited from English professional football club youth academies.	Phenomenological interviews with all participants were performed. A two-stage analysis process was performed to explore individual parent and player experiences and examine how accounts related dyadically.	<ul style="list-style-type: none"> • Parent-player relationships are built around relations with other family members, an embodied sense of closeness, the time-bound nature of football transitions, and gender relations. • Involvement in academy-level football brought about closeness between players and parents. • Gender issues were present within the male-dominated academy environment.
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EDUCATION

Christensen & Sorensen ⁴³	To explore how young Danish male football talents experience and describe these different forces in their life space.	25 footballers between 15-19 years old.	Data were collected using a narrative and qualitative approach, which included four focus group interviews with 25 footballers aged 15-19, followed by individual qualitative interviews with eight of the footballers.	<ul style="list-style-type: none"> • The espoused value of a good set of academic qualifications does not entirely measure up to the allure of being a professional footballer. • The societal importance of completing compulsory education is manifest and associated with significant personal concerns, lower examinations results, stress, drop-out and mental breakdown.
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