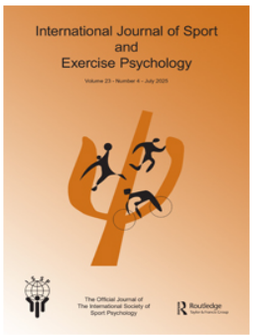

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REVIEW ARTICLE

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The assessment and development of psychosocial skills and characteristics on the male youth football (soccer) academy development pathway: a narrative review

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ABSTRACT

Research increasingly emphasises the importance of psychosocial skills and characteristics (PSCs) in developing academy football (soccer) players, allowing them to thrive as people and not just athletes. Empowering young people with appropriate life skills is believed to enhance chances of dealing with transitions within and outside of the academy setting. However, confusion still exists as to which PSCs are important and how to assess and develop them. Accordingly, this narrative literature review aims to (1) identify which PSCs are important, (2) evaluate current approaches to assessment and development, (3) discuss factors that affect development of PSCs within academies, and (4) propose areas for future research. Key findings were that a number of PSCs were identified to be important to deal with transitions, get an early start and develop players holistically. The review also highlights limited research investigating assessment and development in academy environments. Current assessment methods include objective tools such as questionnaires (e.g., psychological characteristics of developing excellence questionnaire) and subjective approaches such as player observations and performance profiling. Although different approaches have been advocated, the area would benefit from a more individualised, strategic and systematic approach. Future research should investigate the importance of PSCs at different ages and academy levels and the effectiveness of different approaches to integrating PSCs into curricula, including upskilling and engaging coaches into the importance of this process. It is hoped that this review will provide a stimulus for future research into the importance and effectiveness of assessing and developing PSCs in academy soccer players.

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Talent identification; athlete development; psychology; transitions; employability

A growing body of research has emphasised the importance of psychosocial skills and characteristics (PSCs) in realising potential in youth academy football (soccer) players (Green et al., 2020; Hill et al., 2023; Mitchell et al., 2022, 2024; Williams et al., 2020; Wixey et al., 2023). Psychosocial characteristics are defined as traits that are either

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innate or developed within players (e.g., confidence or concentration) through the deployment of psychological skill training techniques, which are learned methods (e.g., imagery or goal setting) that allow psychosocial characteristics to flourish (Dohme et al., 2016). For the purpose of this review, PSCs are used to embody the vast array of different skills and characteristics that are thought to be important for athlete development (Gledhill et al., 2017) such as the psychological characteristics of developing excellence (PCDEs) (MacNamara et al., 2010a, 2010b), 5Cs (Harwood & Anderson, 2015) and 8-pillars (Mitchell et al., 2022, 2024).

With the increasing volume of research into PSCs for athlete development there lies ambiguity in their conceptualisation due to the variety of domains, ages, and development levels studied (Dohme et al., 2016). This means that "strong inconsistencies in the psychological terminology used within the talent development literature" exist often leading to confusion between academics and practitioners (Dohme et al., 2016, p. 3). Consequently, there are often issues in getting buy-in from academy stakeholders and therefore difficulties in effectively embedding PSC development within academy and coach education programmes (Barraclough et al., 2024; Nesti & Sulley, 2015; Wixey et al., 2023). This is often further hindered by a traditional overemphasis on more easily measurable physical, anthropometrical, technical and tactical factors in contemporary youth development soccer academy settings (Bergkamp et al., 2019).

Male youth academy soccer development programmes are commonly embedded into professional soccer clubs with the intention of producing players for the first team or selling them on to other clubs (Honer & Feichtinger, 2016). In England and Wales, for example, the top tier of professional soccer is the Premier League (EPL) consisting of 20 clubs, with a further three professional tiers below that containing a further 72 clubs, forming the English Football League (EFL). These 92 clubs have the option to run a youth academy set-up which the majority take up (English Premier League [EPL], 2011). In 2012, the EPL introduced the Elite Player Performance Plan (EPPP) to modernise academies with a mission of increasing the quantity and quality of home-grown players (EPL, 2011). The EPPP system consists of three phases: (1) foundation phase (under-9 to under-12), (2) youth development phase (U13 to U16) and (3) the professional development phase (U17 to U23 depending on the individual academy set-up). Academies are also categorised as 1–4 with Category 1 having more staff (part- and full-time) and greater contact time with players.

An important strategy of the EPPP was to implement a holistic educational approach that supported the physical, technical, tactical, social, and psychological development of players (EPL, 2011), known as the four-corner model (Simmons, 2004), alongside lifestyle and welfare support. As things stand, however, psychological profiling is only mandatory at Category 1 EPPP academies (Jones, 2018), with lower categories either having no support or relying on external organisations such as universities or charities to deliver it (Barraclough et al., 2024; Dean et al., 2022). This suggests that significant disparities may exist between categories in the way that players' PSCs are assessed and developed.

Although there have been attempts to assess and develop PSCs in academy settings (e.g., MacNamara et al., 2010a, 2010b) many have struggled to transfer theoretical concepts from classroom workshops to the pitch and are not always soccer specific (Mitchell et al., 2022, 2024). Some notable exceptions in soccer include work by Diment (2014), Harwood and Anderson (2015), and Mitchell et al. (2022, 2024) where PSC training had

been periodised into academy curricula and delivered by coaching staff. A drawback with these approaches was their programme-centred nature with the same top-down prescriptive content delivered by coaches uniformly to all players. The issue here is the assumption that all players need the same information conveyed in the same manner with no thought for differentiation, presuming that this is in fact the correct ones for every participant (Wixey et al., 2023). Currently, however, there is no review that has specifically summarised how PSCs are assessed and developed on the youth soccer academy development pathway.

Accordingly, the aims of this narrative literature review were to (1) explain why PSCs are important for academy soccer players, (2) identify which PSCs have been identified as important, (3) evaluate current approaches being used to assess and develop PSCs in academy footballers (4) discuss factors that can affect the development of player PSCs within soccer academy environments, and (5) propose areas for future research into making this process more effective.

Method

A narrative review was chosen due to the limited number of studies currently in publication on this topic (Steidl-Müller et al., 2019) and to allow flexibility for the authors to provide a subjective interpretivist evaluation (Sukhera, 2022). According to Furley and Goldschmied (2021) narrative reviews should be seen as no less credible than other approaches such as systematic reviews, and indeed serve different purposes thereby being complementary rather than inferior (Greenhalgh et al., 2018). It was intended to address areas identified by Furley and Goldschmied (2021) as evaluating theory, commenting on the current state and historical knowledge on a topic, and to identify any corresponding problems. In this review's context this therefore relates to the chosen topic area, scope, sport, level and stage based on the reviewer's experience of – and interest in – the assessment and development of PSCs in academy footballers. Furthermore, a narrative review was selected as such reviews can also be useful in establishing areas for future research by identifying gaps and evaluating current research (Sukhera, 2022) which is a key objective for this study.

The search strategy was developed in accordance with recommendations from McAuliffe et al. (2021). Four databases were searched, including SportDiscus, PsycArticles, PsychINFO and Scopus. The key search terms used were "male" "academy" "football" "soccer" "psychosocial" and various combinations of these terms. Inclusion criteria were as follows: (1) electronically-accessible English language publication, (2) full-text academic journal, (3) publications focusing on soccer rather than other sports, (4) publications that investigated the assessment and/or development of PSCs in male youth academy soccer.

Why are psychological skills and characteristics important for academy soccer players?

The development pathway in sport has been described by MacNamara et al. (2010b) as being dynamic, individualised, and non-linear (i.e., different for everyone, ever-changing and with many ups and downs). Future elite career success in adult professional soccer players (i.e., having a career for a top division European soccer team) has been associated

with psychosocial qualities that players established, or already had, whilst they were adolescents (Van Yperen, 2009). Within academy soccer, PSCs are vital for players to meet the challenges and emotions experienced on the journey (Gledhill et al., 2017 MacNamara et al., 2010a, 2010b). These include commitment to their goals, engaging in problem-focused coping behaviours, and seeking out social support (Barraclough et al., 2022; Mitchell et al., 2022, 2024; Wixey et al., 2023). As only a small percentage (~5%, Roe & Parker, 2016) of academy soccer players will become professional (EPL, 2022), it *should* be a moral responsibility for academies to prepare players for transitioning out of soccer by equipping them with skills they can deploy in other aspects of life, such as careers post-soccer (Stambulova et al., 2021).

It is believed that developing PSCs can help these young people operate more effectively in whichever walk of life they find themselves. According to Wylleman et al. (2013), an athletic career exists on a number of levels, namely athletic (i.e., from initiation to discontinuation), psychological (i.e., childhood to adulthood), psychosocial (i.e., how you interact with those around you such as parents and coaches), academic/vocational (i.e., primary education to post-athletic career), and financial (i.e., dependent on family to having an employer). Development of the whole person, and not just the footballer, is also important to avoid players developing an exclusive athletic identity known as foreclosure, which is thought to be particularly prevalent in older academy players and those in higher categories (Barraclough et al., 2022; Rongen et al., 2020).

As players get closer to the full-time professional level it may be that they invest more time and effort into their athletic endeavours at the expense of other elements of their personalities (Rongen et al., 2020), further reinforcing the need to develop them holistically. Encouraging young soccer players to explore the possibility of dual careers (Stambulova et al., 2021) and being consistently honest with them over their chances of progression (Barraclough et al., 2024) would be helpful steps to avoid some of the pitfalls described above and to deal with the various transitions on the development pathway.

Dealing with transitions

Transitions are described by Stambulova et al. (2021, p. 527) as: "turning phases in career development". Many challenges in academy life come through transitions that can be classified as either normative and expected (e.g., move to next phase of EPPP) or non-normative and unexpected (e.g., injury or de-selection) events that a player needs to successfully navigate (Wylleman et al., 2013). Transitions can also be non-athletic in nature, such as those that exist within their micro- (e.g., educational studies, home) and macro-environments (e.g., youth and national culture). Their response to these challenges may help to facilitate their development by enabling them to successfully transition to senior soccer (Swainston et al., 2020). Alternatively, it could also derail them leading to potential negative long-term consequences including premature dropout, mental health issues and avoidance coping (Stambulova et al., 2021; Wylleman et al., 2013). Enabling players to develop effective PSCs would seem like an essential step in helping them to effectively navigate their sporting careers *and* from a moral perspective, to help them to cope with life after soccer.

PSCs will become increasingly important if players are de-selected, helping them to cope with the process and life beyond soccer (Rongen et al., 2018). For example, developing a range of PSCs, both internal psychological (e.g., resilience and commitment)

and external social skills (e.g., leadership, teamwork and communication) should help them to cope with the stresses of being released and any other problems that life might throw their way (Stambulova et al., 2021). This is compelling evidence of the importance of assessing and developing PSCs in young people, and in this instance using academy soccer as a vehicle to do so.

Getting an early start

The importance of developing PSCs in players from a young age has been emphasised by Till and Baker (2020) in order to prepare them for later life outside of the soccer bubble. Indeed, future career success in adult professional soccer players has been associated with psychosocial qualities that these players demonstrated whilst they were adolescents, such as, commitment to their goals, engaging in problem-focused coping behaviours, and seeking out social support (Van Yperen, 2009). Interestingly, it may be that these skills already begin to develop at a relatively young age, with Papastaikoudis et al. (2023) discovering that PSCs such as motivation, self-efficacy and meta-cognition emerge at pre-academy ages (i.e., younger than eight years old in soccer). It is believed that general life experiences (such as having older siblings as role models) may facilitate a "drop, rebound and growth" cycle leading to psychosocial growth (Papastaikoudis et al., 2024, p. 9). The drop part involves initially experiencing negative emotions such as frustration and anxiety, followed by rebound which entails bouncing back to pre-challenge levels of progression through self-reflection and subsequent problem-solving actions. Growth occurs as positive change brought about as a result of the previous two steps e.g., knowing how to avoid certain pitfalls in future, developing life skills in the individual beyond just being a soccer player.

Holistic development

Ryom et al. (2020) highlighted in their case study of KRC Gent's academy in Belgium the importance of PSCs in holistic development. The authors described "positive youth development environments" (p.8) as developing the whole person across psychological, psychosocial and academic or vocational levels within that player's unique context. Also, player autonomy and seeking peer support (rather than autocratic coaching) were encouraged with positive effects noted on later development.

Similarly, Larsen et al. (2020) case study with Ajax Amsterdam's academy (synonymous with youth development for many years) found that a long-term, developmental environment was more effective than a short-term "win at all costs" approach. Additionally, like Ryom et al. (2020) the support from coaches, parents and schools was vital in developing players' PSCs. Furthermore, Papastaikoudis et al. (2023) also found that less structured environments helped young athletes to learn more effectively, implying that curricula could account for more player-led and unstructured play sessions in order to advance PSCs.

Which psychological skills and characteristics are important for academy soccer players?

Table 1 identifies PSCs believed to be important for academy soccer players with suggested reasons why. Earlier approaches in the domain often focused on single constructs such as grit (Duckworth et al., 2007), growth mindset (Dweck, 2017), resilience

Table 1. Psychosocial skills and characteristics (PSCs) identified to be important for development of youth academy soccer players with suggested reasons why important.

Which PSCs are important?	Why are they important?	Evidence
Psychosocial characteristics		
Autonomy	- Linked to higher levels of behavioural engagement, improving intrinsic motivation.	Barraclough et al. (2024), Gledhill et al. (2017), Larsen et al. (2020), Mitchell et al. (2024), Rongen et al. (2020), Ryan and Deci (2000), Ryom et al. (2020), Toering et al. (2009), Toering and Jordet (2015)
Commitment	- "Represents quantity and quality of motivation that cognitively and emotionally drives the young player" (Harwood & Anderson, 2015, p.31).	Harwood (2008), MacNamara et al. (2010a, 2010b), Mitchell et al. (2022, 2024), Nicholls (1989), Papastaikoudis et al. (2023), Ryan and Deci (2000), Van Yperen (2009), Wixey et al. (2023)
Confidence	- A mental state affected by a player's beliefs in their own ability to perform skills to a required level. - Allows full engagement without fear of failure. More likely to exhibit approach than avoidance goals and behaviours.	Harwood (2008), Mitchell et al. (2022, 2024), Towlson et al. (2021), Wixey et al. (2023)
Concentration	- Affects quality of performance through player's ability to maintain attention on appropriate cues despite distractions and fatigue.	Diment (2014), Harwood (2008), Mitchell et al. (2022, 2024)
Resilience	- Enhances ability to cope with pressure with a protective effect for individuals to maintain their functioning.	Barraclough et al. (2024), Fletcher and Sarkar (2016), Gervis and Goldman (2020), Mills et al. (2012), Mitchell et al. (2022, 2024), Robinson et al. (2024), Wixey et al. (2023)
Presence	- Standing out from the group possibly related to leadership to support players in taking responsibility for their actions through reflection and interpersonal communication. - Identifies those individuals who need further support and those that do not.	Mitchell et al. (2022, 2024)
Self-awareness	- Allows players to be aware of strengths and weaknesses and to take action accordingly.	Dohme et al. (2019), Gervis and Goldman (2020), Honer & Feichtinger (2016), Mills et al. (2012), Mitchell et al. (2024), Papastaikoudis et al. (2023), Wixey et al. (2023)
Good learner	- Receptive to information to drive progression, possibly linked to self-reflection.	Barraclough et al. (2024), Mills et al. (2012)

Enjoy challenge	- Encouraging players to actively approach challenges to facilitate personal development instead of displaying avoidance behaviours.	Barraclough et al. (2024)
Leadership	- Positively influencing the group to achieve mutual goals.	Barraclough et al. (2024)
Psychosocial Skills		
Seeking social support	- Associated with better sport performance i.e., seeking social support when confronted with problems or drawbacks. - Seems to be positively correlated with career success.	Barraclough et al. (2022, 2024), Hill et al. (2019), Dohme et al. (2019), Gledhill et al. (2017), Kelly et al. (2024), MacNamara et al. (2010a, 2010b), Papastaikoudis et al. (2023), Van Yperen (2009)
Teamwork	- Demonstrating effective PSCs to help self and others achieve mutual goals	Barraclough et al. (2024), Kegelaers et al. (2020)
Emotional control	- Linked to concentration to allow players to regulate attention, thoughts, emotions and ultimately behaviour	Diment (2014), Harwood (2008), Mitchell et al. (2022, 2024), Wixey et al. (2023)
Communication	- Affects sending and receiving of information between players and significant others to improve support mechanisms	Diment (2014), Harwood (2008), Mitchell et al. (2022, 2024)

(Fletcher & Sarkar, 2016), and self-regulation (e.g., Toering et al., 2009). More recently these have been seen as too simplistic, and merely part of a much larger picture (Moodie et al., 2023) with other more comprehensive approaches suggested

In their systematic review of PSCs associated with talent development in soccer, Gledhill et al. (2017) identified 22 internal psychological factors (e.g., self-awareness, adaptive perfectionism, and self-regulation) that were related to, and interacted with 21 external social factors (e.g., autonomy supportive coaching, social support, and appropriate challenge) that influenced players' purposeful developmental activities. A combination of these factors could be observed in five player-level behaviours (i.e., adaptive lifestyle choices and volitional behaviours, amount of soccer engagement, quality of soccer specific practice, and appropriate use of coping strategies) that would then affect players' chances of progression along the pathway.

In another systematic review Dohme et al. (2019) investigated PSCs thought to enhance development in young athletes across various sports including soccer. They initially identified 92 PSCs which were then condensed into eight skills (e.g., social support seeking, realistic self-evaluation and maintaining a sense of balance) and 11 characteristics (e.g., hard-work ethic, interpersonal competencies, and resilience). It is no wonder that with many inconsistencies existing, practitioners may become bewildered as to what they should using, perhaps due to the variability in contexts studied (Dohme et al., 2016; Wixey et al., 2023).

PSCs most prevalent in the literature for their evident importance to male academy soccer players include autonomy, resilience and seeking social support (Table 1). Autonomy is believed to be linked to higher levels of behavioural engagement, improving intrinsic motivation (Barraclough et al., 2024; Gledhill et al., 2017; Larsen et al., 2020; Mitchell et al., 2024; Rongen et al., 2020; Ryan & Deci, 2000; Ryom et al., 2020; Toering et al., 2009). Resilience is thought to enhance a player's ability to cope effectively with pressure, providing protection to maintain functioning when under duress (Barraclough et al., 2024; Fletcher & Sarkar, 2016; Mills et al., 2012; Mitchell et al., 2022, 2024; Robinson et al., 2024; Wixey et al., 2023). Seeking social support has been associated with better athletic performance especially when players are confronted with challenge. This factor seems to be correlate with future career success (Barraclough et al., 2024; Dohme et al., 2019; Gledhill et al., 2017; Hill et al., 2019; Kelly et al., 2022; MacNamara et al., 2010a, 2010b; Papastaikoudis et al., 2023; Van Yperen, 2009).

Although there is some acknowledgement that the required PSCs will change with age and stage of development, MacNamara and Collins (2015) see these as being quite generic across domains with a recommendation that they should be taught at an early stage uniformly, as the foundation to later success. Similarly, Papastaikoudis et al. (2023) claim that coping skills may already have started to develop prior to players entering the academy system from the age of eight, which are possibly catalysts for longevity in the sport, alongside establishment of metacognitive skills (e.g., self-evaluation).

Assessing psychological skills and characteristics in academy soccer players

The issue of assessing PSCs in academy soccer players is exacerbated by their abstract nature in comparison to the technical, tactical, and physical components of performance, which are relatively easy to measure objectively (Bergkamp et al., 2019). Table 2 provides a

Table 2. Summary of approaches used to assess and develop psychosocial skills and characteristics (PSCs) in academy soccer players.

Study & design	Participants	PSC assessment methods	PSC development methods	Key findings	Strengths	Limitations
Barraclough et al. (2022): Quantitative	365 male soccer players (13–18 years) across Category 1–3 and grassroots	Questionnaire: PCDEQ2	Encouraging reflection in players, autonomy-supportive coaching	- PT, SDCM, ARF higher mean scores - AC, CI lower at higher Categories - IAP higher mean scores at older ages	- Large sample size (generalisable)	- Non-soccer specific lengthy questionnaire (88 items) - Lack of ecological validity - Descriptive vague recommendations
Barraclough et al. (2024): Qualitative semi-structured interviews	Nine academy managers (three each from Categories 1–3)	Predominantly coaches' eye, questionnaires. Varies according to academy	Suggested upskilling of coaches, receiving additional support from external agencies, more player autonomy	- PSCs are key drivers of progression - Embedding PSCs into academy curricula crucial to facilitating development - Appropriate design, implementation, and evaluation of programmes required to support player PSC development during and after soccer careers - Use of subjective and objective assessment methods to identify and develop player PSCs should be encouraged	- Hard-to-reach sample - Identifies current good practice and opportunities for improvement elsewhere	- Small sample size - Possible respondent bias
Diment (2014): Drill-based ecological approach	Head coach of U17 and U19 teams and male players from 9 academies in Denmark. No data available on numbers of participants	None. Focused on development only	Session design (use of challenge) to promote 7 mental skills: (1) concentration, (2) self-talk, (3) communication, (4) imagery, (5) goal setting and (6) constructive evaluation, and (7) arousal control	- Generally well received due to use of "soccer language"	- Coach-led - Holistic - Workshop and pitch based - Higher ecological validity	- Generic programme-centred (top-down) - Pre-determined with little rationalisation - Mixed buy-in from academy coaches - Little information about how effectiveness was assessed - Transfer to EPPP settings
Goldman et al. (2022): Inductive/ qualitative	12 male participants aged 13–17 years (mean age: 15.5 ± 1.3 years)	Players perceived to be more skilful than same-aged peers	Playing up a year. Players more likely to integrate socially in older team when included in sport and social activities. Constructive feedback from coaches facilitated mutual trust	- Playing-up involved balance between challenge and progress - Regarding challenge, players struggled to cope with intensity and fit in socially with older peers	- Football-centric - High ecological validity - Practical applications identified	- Small Canadian sample – may lack generalisability - Potential response bias from interviews

(*Continued*)

Table 2. Continued.

Study & design	Participants	PSC assessment methods	PSC development methods	Key findings	Strengths	Limitations
			and respect. Players with opportunities to demonstrate skill and tactical knowledge perceived less challenge.	- Regarding progress, players felt rewarded when recognised for talent, experienced success, and had opportunities to develop expertise - Players also commented that teammates and coaches played key role in facilitating psychosocial development		
Harwood (2008): 5Cs Education programme, practical sessions and follow-up interviews for coaches	6 academy coaches aged 23–43 (U9s, $n = 2$), U10s, U11s, U12s and U13s (all $n = 1$) 95 players (no further data available)	Coach, player and parent questionnaire	Workshops and coach-led sessions	- Increased efficacy in coach awareness of PSCs - Improvements shown in each "C"	- Coach-led - Holistic - Pitch based - Higher ecological validity	- Generic programme-centred - Reductionist – overly narrow focus - Lack of empirical evidence for inclusion of each "C"
Honer & Feichtinger (2016): Cross-sectional and prospective design	2677 U12 players in German talent development programme	Measured association between motor performance score and self-report questionnaires to measure psychological dispositions and skills: - motivation - volition - self-referential cognition - emotion	Suggestions only – coaches and sport psychologists should help talented players develop but no specifics provided	- A wide range of psychological dispositions and skills is associated with current performance and future success - Only self-referential cognitions significant and relevant association with motor score - 10 of 17 characteristics linked to significant proportion of players' future success	- Possible predictive validity - Very large sample - Longitudinal (across four years) - Partially holistic – tested soccer-specific motor performance	- Small effect size - Correlational study – no causation - No account for social factors (e.g., family support) - Over-reliance on questionnaires - 142 items tested across five questionnaires (sport generic and not soccer-specific apart from SES) - Possible confounding variable of pubertal growth spurt in adolescent sample - German sample – potential cultural differences
Kegelaers et al. (2020): Inductive/ qualitative	9 talent development and elite-level coaches (age: 42.9 ± 8.3 years; 6 male, 3 female)	None prescribed, only development activities	Recommendations: 9 types of planned disruptions (location, competition simulation, punishments and rewards,	- Coaches use a combination of 9 types of planned disruptions - These strategies were used to familiarise athletes to pressure,	- Concrete recommendations for development	- Not soccer-specific - Programme-centred (not individualised)

			physical strain, stronger competition, distractions, unfairness, restrictions, and outside the box)	create awareness, develop or refine personal resources, and promote team processes	- Rationale behind using PSC training	- Potential lack of generalisability - Only explores coaches' experiences and not athletes - Limited information into periodisation of disruptions
Kelly et al. (2022): Deductive/ quantitative	18 U18 Category 3 players	Questionnaire: PCDEQ pre-season 2015 & 2016	Recommendations: Total match-play hours and SSGs facilitate development of psychological skills; machine learning approach to talent development processes; value potential over current performance	- Coping with performance and developmental ability to organise and engage in quality practice correlated with receiving pro contract (no coefficient values given for the latter)	- Holistic - Longitudinal	- Correlational – no causation - Small Category 3 sample size -generalisability - Top-down - Researcher-led - Not soccer specific - Lack of ecological validity
Kelly et al. (2024): Deductive/ quantitative	58 Category 3 (11–16 years)	Questionnaire: PCDEQ	Recommendations: facilitating player-centred development through empathising with social background, protecting talented individuals who struggle financially by additional support	- Significant difference in PCDEQ factor coping with performance and developmental pressures with higher potentials mean score ($p < 0.01$). The remaining PCDEQ factors no significant differences	- Includes sociological elements	- Top-down - Researcher-led - Lack of ecological validity - PCDEQ2 not soccer specific
King et al. (2025): Deductive/ quantitative	53 youth players (age: 13.4 ± 0.9 years) from two professional Scottish Premier League soccer academies	Questionnaire: Hull Soccer Behavioural Scoring Tool	Use of SSGs to facilitate PSC development especially 4 v 4 format	- Psychological scores were higher for more mature players in smaller team sizes (4v4) - Less mature players showed consistent psychological scores across all formats	- Soccer specific - Ecological validity – game-based assessments - Practical suggestions provided including challenging early developers	- Cross-sectional - Subjective scoring from coaches (not stated how many or background) - Small Scottish sample – lack of generalisability - Restricted to a small age range
Larsen et al. (2020): Case study. Holistic ecological approach. Mixed methods: interviews, observation and	16 U19 players (17–18 years)	ATDE model	Focus on long-term education and development rather than winning Integration between sport, school, family and other components of environment	- Importance of coaches and management in developing and aligning different groups with an organisational culture to support development	- Holistic - Player-centred - Focus on organisational psychology	- Dutch U19 academy sample – lack of generalisability

(*Continued*)

Table 2. Continued.

Study & design	Participants	PSC assessment methods	PSC development methods	Key findings	Strengths	Limitations
analysis of documents						
Ludlam et al. (2015): Inductive: qualitative	Sport psychology practitioners ($n = 7$), coaches ($n = 8$)	Mixed methods by coaches Subjective: athlete identification (e.g., questioning), observations (e.g., training and competition), coach and others (e.g., asking coach/team mates). Objective: performance statistics (e.g., competition data) and formal strengths assessment measures (e.g., personality preference)	Bespoke plan for how super-strength looks in competition and what it might look like overplayed/ underplayed (i.e., used too little/ often)	- Super strength approach	- Non-deficit approach - Athlete-centred - Bottom-up/ collaborative - Holistic/ interdisciplinary – adapted to all 4 corners (i.e., technical, tactical, physical, psychosocial)	- Not soccer specific - Might not be appropriate for lower-level athletes
MacNamara et al. (2010a, 2010b): Inductive: Interviews PCDEs	Part a: (elite athletes $n = 7$; elite athlete parents $n = 7$) Part b: 24 elite performers (musicians, individual & team sport athletes)	PCDE, PCDEQ2	Development of comprehensive skillsets – PCDEs	- PCDEs – competitiveness, commitment, vision of what it takes to succeed, imagery, importance of working on weaknesses, coping under pressure, game awareness, self-belief	- Advocates periodised approach through challenge	- Length of questionnaires (59 and 88 items respectively) – reductionist - Lack of ecological validity - Not soccer specific/holistic - Top-down - Confusion between PS and PC - Methods of development vague
Mills et al. (2012): Inductive/ qualitative Interviews	10 full-time academy coaches aged 31–62 (mean age: 47.5 ± 10.5 years) with between 6–22 years' experience (m 14.5, + s ¼ 6.2 years) & held either Pro or A license	Coaches' eye	Incorporating reflective practice within development programmes for players and parents	- Factors perceived to either positively or negatively influence player development: awareness (e.g., self-awareness, awareness of others), resilience (e.g., coping with setbacks, optimistic attitude), goal-directed attributes (e.g., passion, professional attitude), intelligence (e.g., sport intelligence, emotional competence), sport-specific attributes (e.g., coachability, competitiveness), and environmental factors (e.g., significant others, culture of game).	- Purposive sample of experts	- Methods of development vague and descriptive

Mitchell 8 pillars (2022, 2024): Action research/ case study	25 Category 3 soccer academy players (age: 14.7 ± 0.3 years)	Coach observation Questionnaire: PCDEQ2 (pre- and post-intervention)	Workshop and pitch based through coaches	- 8-pillars: (1) commitment, (2) concentration, (3) communication, (4) confidence; (5) control, (6) self-awareness, (7) presence, (8) resilience - Significant ($p < .05$) improvement between pre- and postseason for IAP, SUSS, AC on PCDEQ2 - Significant ($p < .05$) improvements were shown for communication, control, commitment, concentration, and resilience	- Coach-led - Holistic - Soccer specific - Higher ecological validity	- Generic programme-centred (top-down), pre-determined content
Papastaikoudis et al. (2023): Inductive/ qualitative	Seven young male soccer players (10 and 14 years). Clubs nominated players identified as having most potential to achieve at the highest level.	Semi-structured interview	Individualised, timely and developmentally appropriate challenge and common/ uncommon, planned/unplanned and group-focused/individual-focused challenges	- Pre-academy players acquired PSCs from experiences prior to entry (e.g., reflective practice or seeking social support) - Players encountered recurrent challenges - Players progressed through stages with each challenge (drop, rebound and growth) - Magnitude and rate at which players experienced stages highly idiosyncratic - Differences underpinned by individual factors, contextual characteristics of challenge and support (e.g., reflection opportunities)	- Individualised assessment pre-entry - Individualised and appropriate challenge - Explores types and mechanisms of how challenge enhances development	- Small sample size - Issues with retrospective memory and impression management - Young age of sample may prevent full expression of ideas - No control group
Robinson et al. (2024): survey, expert coach feedback, intra/inter-rater reliability tests	20 male soccer players (U16 to U18); 4 soccer academy coaches, category unknown	Hull Soccer Behavioural Scoring Tool	None. Focused on assessment only	- Coaches rated resilience, competitiveness and decision making as most important psychosocial attributes - "X-factor" (ability to be creative) was rated least important	- High inter-rater and intra-rater reliability - High content, face and ecological validity - Easy to use tool that involves coaching staff	- Small sample size - More research needed on transferability of findings from 4 v 4–11 v 11 game and across age groups - Potential cognitive bias from coaches when observing
	58 male Category 1 U12–U16 academy soccer	4 questionnaires: RESTQ-sport (52 items); BMPN (18 items);	Encourage autonomy-supportive environment, monitor potential	- Players reported stable quality of life in school and academy lives	- Use of control group - Longitudinal	- Relatively small sample from single academy and

(*Continued*)

Table 2. Continued.

Study & design	Participants	PSC assessment methods	PSC development methods	Key findings	Strengths	Limitations
Rongen et al. (2020): Deductive/ quantitative	players (age: 12.98 ± 1.61) matched with 57 soccer active pupils from OFSTED school rated "good" (age: 13.9 ± 1.29 years)	KIDSCREEN 27 (27 items); AIMS (7 items)	foreclosure in players, provide appropriate load-recovery balance	- Academy players reported higher athletic identity and foreclosure which remains a concern	- Multi-inventory approach	school, findings potentially ungeneralisable - Use of lengthy questionnaires (104 items in total)
Ryom et al. (2020): Case study. Holistic ecological approach. Inductive/ qualitative	Academy wide (KRC Genk)	Not stated	Training groups with supportive relationships, proximal role models, support of sporting goals by wider environment, autonomy supportive coaching	- 3 unique features: (1) cultural awareness, (2) openness, and (3) sharing of knowledge. - Club's ability to accommodate broad diversity of players, openness to new ideas and learning on all levels	- Holistic - Player-centred - Focus on organisational psychology	- Belgian academy sample – lack of generalisability
Saward et al. (2019): Deductive: Quantitative	111 male academy players aged 11–16 from two Category 2 EPPP academies	Questionnaire: PCDEQ deployed 1–5 times (approximately every four months across a 20-month period)	Academies to assist players in developing coping strategies, realistic evaluations of their own performances and support them to work on areas of weakness	- Coping with performance and developmental pressures scores increased with age: Category 1–2 scored higher than Category 3–4 and non-academy - Evaluating performances and working on weaknesses increased with age for Category 1–2 compared to non-academy - Imagery use during practice and competition decreased with age	- Longitudinal design	- Non-soccer specific lengthy questionnaire (59 items) - Lack of ecological validity - Vague and limited descriptive suggestions for development
Sieghartsleitner et al. (2019): Deductive: quantitative	117 youth football players, their parents, and coaches in U14 age category	Questionnaires to test achievement motive, achievement goal orientations, and self-determination, familial support	None stated	- Coaches should use frequent multi-dimensional methods of assessment - Advocates combining both subjective and objective measures	- Holistic approach - Predictive validity	- Relatively small sample size and possibly culturally specific (Swiss sample) meaning potentially low generalisability - Limited psychological assessment only assessing three motivational factors
Toering et al. (2009): Deductive: quantitative	444 players aged 11–17 years (mean age: 14.4 ± 1.4 years), elite ($n = 159$) and non-elite ($n = 285$)	Questionnaire (not clearly stated)	Coaches should encourage players to reflect instead of telling players	- High scores on reflection and effort associated with higher level of performance - Elite players more aware of strengths and weaknesses and use that knowledge to improve	- Large sample - Encourages autonomy-supportive coaching	- Narrow focus on one element (self-regulation) - Sample bias – Dutch academy players

Towlson et al. (2021): Deductive/ quantitative	72 academy footballers from 3 academies (U13: $n = 31$; U14: $n = 32$; U15: $n = 26$; U16: $n = 3$)	Questionnaire: Hull Soccer Behavioural Scoring Tool	Use of bio-banding to enhance confidence, competitiveness, X-Factor, positive attitude	- Maturity mis-matched bio-banding is effective in enhancing coaches' ability to identify key psychological characteristics when competing against taller, stronger and faster players - Largest differences between pre- and post-PHV players were in positive attitude, confidence, competitiveness	- Holistic - High ecological validity (on-pitch assessment)	- Academy categories not stated - Limited to four vague psychological factors - Subjective assessment - Possibly low inter-rater reliability - Not player-centred - Use of small-sided games (transferability)
Van Yperen (2009): Prospective study	65 players aged 14+ (age: 16.58 ± 1.40 years) representing 4 teams (14–15 year, 15–16 year, 16–17 year, and > 17 year)	Subjective assessment by age-group coaches Player questionnaire (name not stated)	None stated	- 84.6% of players correctly classified as successful/ unsuccessful - 3 psychological factors important: (1) goal commitment, (2) problem-focused coping, (3) seeking social support - Successful participants had more siblings, often of non-white/Dutch ethnic origin, and more had divorced parents	- Possible predictive validity	- Dutch sample – lack of generalisability
Wixey et al. (2023): Case study over 14 months. Focus groups: U15s ($n = 7$) U16s ($n = 4$), U18s ($n = 4$)	126 U12 to U23 players from Category 2 football academy. Head of sport science, head of coaching, academy manager, and 16 coaches (37.4 ± 11.8 years)	Survey for players to rate selves on 8 attributes, impact coach had on developing each attribute and coaching strategies that contributed most on scale of −5 to +5 and videoed coaching sessions analysed to feedback to coaches	Supporting coaches to indirectly develop 8 psychological attributes: (1) commitment to develop, (2) confidence, (3) coping with demands of high-level sport, (4) drive to achieve goals, (5) emotional control, (6) resilience, (7) self-aware and reflective, and (8) strong work ethic	- Coaches valued sport psychology and intervention programme - Indirect approach may be used in academies, - Players recognised coaches' efforts to develop attributes - Coaches wanted greater support from practitioner to support coaching practice - Emotional control was most difficult for coaches and players to develop	- Rich detail - Longitudinal	- Survey response rate low - Lack of opportunity for observations - Potential participant drop-out over 14 month period (players and coaches) - Lack of follow-up to check adherence

AC = active coping, ACT = acceptance and commitment therapy, AIMS = athletic identity measurement scale, ARF = adverse response to failure, ATDE = athletic talent development environment, BMPN = balanced measure of psychological needs, CI = clinical issues, IAP = imagery and active preparation, MDT = multi-disciplinary team, MPPF = monitoring of performance psychology, PCDEs = psychological characteristics of developing excellence, PCDEQ = psychological characteristics of developing excellence questionnaire version 1, PCDEQ2 = psychological characteristics of developing excellence questionnaire version 2, PPPF = profile of performance psychology in football, PT = perfectionistic tendencies, RAE = relative age effect, RESTQ-sport = recovery-stress questionnaire for athletes, SDCM = self-directed control and management, SSGs = small-sided games, SUSS = seeking and using social support

summary of approaches used to assess and develop PSCs in academy soccer players. An overreliance on psychometric testing (e.g., questionnaires), that may ultimately lack in reliability and ecological validity (Nesti & Sulley, 2015), may not help in trying to reduce what Abbot and Collins (2004) called the dichotomy between researchers and practitioners. Coaches may not see the merit in using tools that are perhaps alien to them and it may not help sport psychologists' interests if these are the main instruments that they rely on, instead of collaborating with other key members of staff and the players themselves. Indeed, Nesti and Sulley (2015) claim that sport psychologists could do with improving their understanding of what coaches already know within the domain and harnessing that knowledge to the benefit of the players. This can be extended to all aspects of PSC development including measurement.

Questionnaires are still prevalent in some studies (e.g., Barraclough et al., 2022; Kelly et al., 2022, 2024; King et al., 2025; Mitchell et al., 2022, 2024; Robinson et al., 2024), but recently there has been a call towards upskilling coaches into developing their observation skills of players' progress (Mitchell et al., 2022, 2024). Indeed, Sieghartsleitner et al. (2019) advocate use of both objective measures such as questionnaires, alongside the more traditional and subjective "coaches' eye" approach. Recent developments have advocated the use of performance profiles, a much more holistic and player-centred approach, which also entail close collaboration with coaches, thereby potentially narrowing the dichotomy mentioned above (Mitchell et al., 2022, 2024). Regardless of preferred methods of assessment, Papastaikoudis et al. (2023) suggest that key academy stakeholders systematically assess new academy entrants' skills and pre-entry experiences to allow for bespoke programmes to support players from the very start and all along the academy pathway.

Questionnaires

A number of studies (Barraclough et al., 2022; MacNamara et al., 2010a, 2010b; Saward et al., 2019) have sought cause and effect through "experimental or quasi-experimental research designs" (Wixey et al., 2023, p. 187), which undoubtedly hold value but may lack transferability to real life scenarios. Some of these approaches may also be too generic in nature and not soccer centric. For example, the psychological characteristics of developing excellence questionnaire (PCDEQ) created by Macnamara and Collins (2011) and the PCDEQ version 2 (PCDEQ2) created by Hill et al. (2019) have both been designed using samples only partially derived from soccer. The PCDEQ was developed with participants from seven sports including athletics, soccer, hockey, swimming, judo, rugby, and badminton, of which only three are team sports and only 16% of the sample (i.e., 59 out of 363) specifically being from soccer. The PCDEQ2, however, may be more representative to academy soccer players with more than half (i.e., 38 out of 63) of the sample being from soccer and the rest being from rugby union (age ranges between 14 and 20 years).

The original PCDEQ was used to monitor changes in PCDE scores in Category 2 academy soccer players over a 20-month period and which category level (i.e., 1–4) they subsequently reached at youth team level, used as an indicator of successful career progression (Saward et al., 2019). Results indicated that coping with performance and developmental pressures, evaluating performances and working on weaknesses increased with age at higher category levels, whereas imagery use during practice and

competition decreased. The same questionnaire was deployed by Kelly et al. (2022) with coping with performance and developmental pressures, and ability to organise and engage in quality practice both contributing factors to receiving a professional contract. In another study by Kelly et al. (2024) significant differences were discovered in the PCDEQ factor of coping with performance and developmental pressures in players deemed to be of a lower social classification and of higher potential by age group coaches (cognitive bias notwithstanding). The suggestion here was that players from lower socio-economic backgrounds had developed better coping abilities possibly due to engaging in more play-like activities (such as street soccer) alongside the more formal coaching received in academies. It may also be that coaches were influenced by these players' lower status into thinking them to possess more advantageous PSCs. Kelly et al. (2024) encouraged more understanding and empathy with players' background, particularly in supporting high-potential individuals who may be lower in socio-economic status.

To our knowledge only two studies have deployed the PCDEQ2 in soccer academies (Barraclough et al., 2022; Mitchell et al., 2024). Barraclough et al. (2022) reported greatest differences in perfectionistic tendencies and adverse response to failure with older players (i.e., youth team players, under-17 and under-18) reporting the highest scores. The greatest differences in PCDEs across different categories (i.e., Category 1, 2 and 3) and grassroots soccer were observed in perfectionistic tendencies, self-directed control and management, and adverse response to failure, with Category 1 players scoring highest. Older, higher category players also demonstrated the highest scores in imagery use. Furthermore, Category 1 players also had the highest scores on active coping strategies and lowest on clinical indicators. The PCDEQ2 was used as a pre- and post-intervention assessment by Mitchell et al. (2024) at a Category 3 academy. Significant differences were observed in scores on imagery use, seeking and using social support, and active coping. Collectively, these findings demonstrate that the PCDEQ2 can be useful as a baseline measure of PSCs in pre-season and other suitable points throughout and at the end of each season to allow tracking of the success of PSC development programmes.

A notable limitation of the PCDEQ2 is its length (88 items), which may result in a lack of buy-in from athletes and academy staff who may be averse to extensive testing (Hardy & Parfitt, 1994). Also, although it may serve as a useful tool to compare baseline to post-intervention scores, it gives little insight into how its seven factors can be developed directly through psychosocial skills training. There is also a suggestion that sport psychologists are using questionnaires less frequently in general with a drop from 83% in 2003 to 67% in 2017 (Vealey et al., 2019). Nonetheless, questionnaires have the advantages of ease of use and formalised structure, but lack of ecological validity and often complex language may make them less appealing in academy settings, particularly for younger academy players. Certainly, if they are used, this should be done as one of multiple assessment methods achieve greater triangulation between measures (Collins et al., 2018).

Observable behaviours

Although an early attempt by Mills et al. (2012, p. 1602) to use coach observation of player behaviours should be applauded for its pioneering nature, it offers limited suggestions for applied practice other than the use of reflection by coaches and players to "develop resilient, goal-directed, and intelligent performers". More recently, Robinson et al. (2024) devised the Hull soccer behavioural scoring tool, to assess academy players during

match-play to support coaches and scouts' observations with characteristics rated by coaches as most important being resilience, competitiveness and decision making. Other behavioural categories not rated as important included coachability and positive attitude, in contrast to previous research by Larkin and O'Connor (2017) who rated these aspects most important. Despite contrasting results with previous research, this tool is simplistic enough to be deployed by coaches without specialist training and can be used to assist with holistic assessment of players and help to support PSC development.

Similarly, Mitchell et al. (2022, 2024) proposed a list of "observable behaviours" where coaches are trained to spot actions from players that might relate to certain PSCs. For instance, in Mitchell et al.'s (2024) 8-pillars programme, if a youth development phase-player exhibited slow and negative reactions after incorrect referee decisions they could be said to be lacking emotional control. Coaches can then utilise this information to co-create sessions with sport psychology staff to test and train this characteristic further. An advantage of this specific approach is the collaboration between coaching and sport psychology staff reducing the impact of silo working (Rothwell et al., 2020).

Observation as a method provides a lot more ecological validity than questionnaires and may reduce self-report bias, but is also subject to observer bias(Ashdown et al., 2024) whereby different individuals will interpret the same data differently depending on their experience and knowledge (Barney, 2015). Assessing players with a "multiple eyes, multiple times" approach with input from all appropriate staff, as suggested in talent identification programmes in cricket (Barney, 2015), could help provide greater triangulation and a reduction in cognitive biases such as groupthink and confirmation bias (Collins et al., 2018). This would provide what Barney (2015, p. 26) describes as "a reliable and valid psychological profile". The caveat here is the lack of resources at lower category academies may impact this, with less staff and contact time with the players being a potential barrier to repeated observations by different members of staff. A counterargument may be that more time spent in recruitment may mean less time spent in making up for poor decisions later on, thereby being an economical and effective use of resources.

Performance profiling

The proliferation of deductive approaches such as questionnaires (Wixey et al., 2023) suggests that there is a need to use more bottom-up inductive methods to initially identify which PSCs are important for every individual (Mitchell et al., 2022). Questionnaires could be complemented by other methods such as performance profiles (Butler & Hardy, 1992) to provide pre- and post-intervention scores and assess players holistically across all four corners of performance. This method of profiling follows guidelines from Musculus and Lobinger (2018) to include self-ratings from players supported by second opinions from coaching staff. This could also have an organisational benefit whereby multiple staff (e.g., coaches and sport psychologists) collaborate to further avoid silo working (Rothwell et al., 2020). Other benefits of this method include it's holistic and bespoke nature with players increasing their autonomy, and perhaps intrinsic motivation and adherence through their involvement in the assessment process (Ryan & Deci, 2000). A limitation would be the potential for response bias from the players (Rosenman et al., 2011) and other forms of cognitive bias from coaches (e.g., affinity bias Barney, 2015).

Development of psychosocial skills and characteristics in academy soccer players

PSC assessment and development are vital parts of a player's make-up for progression along the pathway, but this area is also frequently underrepresented in academy curricula, often with little preplanning or conscious consideration (Barraclough et al., 2024). When it is delivered, this can be in a top-down approach whereby desirable characteristics have been pre-determined and then assessed deductively by assessment methods such as questionnaires (Kelly et al., 2022, 2024; Saward et al., 2019). Also, many programmes struggle to operationalise theory into practice by not effectively transferring classroom-based content to the pitch (Mitchell et al., 2022, 2024).

One such method posited by MacNamara et al. (2010a, 2010b) is the PCDEs framework. This approach advocates for a set of skills thought to be essential for developing psycho-behavioural factors (e.g., commitment, motivation and goal setting) in athletes to be systematically taught, tested and evaluated. However, there does seem to be lack of distinction between which PCDEs fall into the skills and characteristics brackets and how these skills are delivered beyond classroom sessions (Dohme et al., 2016), possibly causing confusion as to best practice. Also, guidance on *how* to teach these factors is often limited to vague description despite Collins and MacNamara (2017) emphasising the importance of periodising challenge into the development pathway. The PCDEs approach has also been criticised for being too centred on PSCs despite advocating a multi-disciplinary approach (Gulbin et al., 2013), which in turn perhaps places too much emphasis on the sport psychologist and not enough on collaboration with coaching staff.

Although this approach does have some advantages, such as the ease of mass testing and delivery, it tends to emphasise a programme-centred approach where *all* players are provided with the same interventions en masse and then differences between baseline and post-intervention scores measured (Wixey et al., 2023). It also discounts the input of coaches who spend the vast majority of their contact time with players and who would surely be an essential source of information, maybe even identifying important aspects not available through restrictive quantitative measures such as questionnaires (Musculus & Lobinger, 2018). Another salient point is the lack of specialist support available to lower-level categories with smaller budgets (Barraclough et al., 2024) which surely puts even more of an onus on upskilling coaches and other academy staff in supporting player's PSC needs (Nesti & Sulley, 2015).

Developing psychosocial skills and characteristics "on the grass"

Some notable work on periodising PSCs into academy curricula delivered through coaches in practical sessions includes that by Diment (2014), Harwood and Anderson (2015), and Mitchell et al. (2022, 2024). Diment (2014) developed a "drill-based approach" to educate coaches into integrating seven psychological skills (concentration, self-talk, communication, imagery, goal setting and constructive evaluation, and arousal control) into sessions using soccer-specific practices. This had the advantage of upskilling coaches and providing them with autonomy over the sessions, delivered in "soccer language" rather than the jargon often associated with psychology (Diment, 2014, p. 24). However, this approach still encourages a top-down, programme-centred approach where all players receive the same training regardless of individual needs.

This may be useful in time-poor settings such as lower category academies but offers little in the way of differentiation for individual needs. As no data was provided by Diment on how players were assessed, it is presumed that this did not occur. Also, although the author claims that the programme was well-received, little information is provided as to how this was evaluated.

Similarly, Harwood and Anderson's "5Cs" (2015) approach also focused on pitch-based delivery through coaches. The "5Cs" are commitment (i.e., quality and quantity of motivation), communication (i.e., how information is sent, received and interpreted), concentration (i.e., ability to sustain attention), control (i.e., regulates concentration and manages the quality of performance) and confidence (i.e., belief a player has in their abilities). This method involved embedding psychosocial factors into academy curricula through session design, with certain games related to each "C" in a programme-centred approach where all players were involved in the same practices. As with Diment's approach, the delivery was again top-down and universal for all the players without individual pre- or post-assessment.

The "8-pillars" approach was an evolution of the 5Cs from Mitchell et al. (2022, 2024) who incorporated the 5Cs with three additional "pillars": resilience, presence, and self-awarenessagain to be delivered by academy coaching staff. The emphasis was still on manipulating session design but with more cooperation between coaching and sport psychology staff in co-creation of the PSC syllabus. In a later study, Mitchell et al. (2024) suggested a future avenue of inquiry might be to tailor PSC programmes to individual players' needs using assessments such as performance profiling (Butler & Hardy, 1992) to measure baseline scores against post-intervention scores. Another advantage that this approach has over the 5Cs is its more bespoke nature whereby coaches are also trained to spot observable behaviours (see section 3.2) and adapt sessions accordingly. This may also allow coaches to manipulate players' experiences of contrasting emotions through exposure to a variety of periodised successes and struggles, thought to be facilitative of PSC development at optimum levels (Moodie et al., 2023).

Knowing your players and differentiating between individuals accordingly is vital as ()) challenge is highly idiosyncratic (Papastaikoudis et al., 2024; Williams & MacNamara, 2020). It can be categorised into three areas: common/uncommon (e.g., playing up an age group (Goldman et al., 2022) or playing out of position respectively), planned/unplanned (e.g., school exams and injury respectively) and group-focused/individual-focused challenges (e.g., high workload and bereavement respectively). The planned parts of this would presumably need to be done deliberately at the preparation stage, which may raise issues for time-restricted lower category academies.

A laudable, but non-soccer-specific approach is the inclusion of planned disruptions which involves embedding a number of specific challenges into training sessions (Kegelaers et al., 2020). These nine suggested disruptions include playing under mental and physical fatigue, unfairness, and forfeit and rewards and although not specially aimed at soccer, could easily and conceivably be transferred effectively to soccer academy curricula.

Factors affecting development of psychosocial skills and characteristics in academy soccer players

Although one of the original premises of the EPPP was to create a holistic development model (EPL, 2011), Bergkamp et al. (2019) claim that the emphasis in initial selection

(i.e., talent identification) and subsequent development of players into the system is heavily biased towards physical/anthropometrical (e.g., size and maturity), and technical/tactical corners over PSCs. Selecting physically more advanced players contrasts with the considerable evidence that now exists on PSCs being equally, if not more important, than physical/technical elements for long-term player development, yet these are still largely neglected in academies (Koopman et al., 2020). Indeed, Barraclough et al. (2024) found that all nine academy managers interviewed in their study concurred that psychosocial factors were the most important, yet least explored areas of development.

Overemphasis on physical factors

There is strong evidence that early talent identification and success does not predict future elite performance as growth and maturational issues may distort perceptions of players that are early physical developers, perhaps selected in favour of late developers (Gullich & Emrich, 2014). This may be problematic in a sport such as soccer where differences in maturation mean that some adolescents who are chronologically the same age, may be three to four years apart in terms of biological age (Cumming et al., 2017). Similarly, the relative age effect (RAE) can also cause problems, with those born early in the selection year being recruited and retained over those with later birthdays purely based on current performance rather than future potential (Kelly et al., 2020).

This clearly has implications for retain and release procedures at academies, suggesting that players should not be signed or released based *purely* on physical abilities that might give them an early advantage in performing technical and tactical actions better than smaller, less developed players (Gullich & Emrich, 2014). Later developing players who have struggled physically may well develop stronger PSCs than early developers who have not been challenged as much due to using their physical advantage to dominate (Hill et al., 2023). If smaller physical players are allowed to remain in the system, the challenge afforded by having to develop PSCs through struggle may be beneficial in the longer term (Collins & MacNamara, 2017). There is also compelling evidence that the RAE may be reversed in those players allowed to stay on the pathway (Fumarco et al., 2017). This implies that as many players as possible that are initially recruited into the system should stay in for as long as possible, especially given the poor predictive validity of early talent identification (O'Sullivan, 2018). It would also suggest that much more emphasis should be placed on assessing and developing PSCs throughout a player's academy journey.

The use of bio-banding where players are matched biologically rather than chronologically has become increasingly popular as a tool to allow later maturing players the chance to compete more equally, but also to provide the challenge that is often missing for early maturing players (Towlson et al., 2021). A further suggestion has been to use bio-banded small-sided games where players have more frequent touches on the ball and interactions with others in order to enhance PSCs further (King et al., 2025).

However, with psychological profiling only mandatory at Category 1 academies (English Football League [EFL], 2018), it is more down to individual interpretation and willingness from academies lower down the ladder as to how, and indeed if, PSCs are addressed (Nesti & Sulley, 2015). However, at lower categories with less staff and contact time, assessment and development of PSCs may be on a more ad hoc basis, possibly by staff covering more than one role (Jones, 2018). This may mean a lack of expertise

in one of these "dual roles", alongside the added stress for staff of working across multiple disciplines. High staff turnover and a need to conform to the status quo in order to stay in employment (i.e., professional self-interest) may also be factors that prevent the inception and continuation of new ideas (Gibson & Groom, 2019).

Lack of academy buy-in

Unfortunately, traditional hyper-masculine values often still exist in soccer (Ong et al., 2018), with a reticence to engage with psychology as it represents an apparent sign of weakness (Champ et al., 2020; Crawley, 2021). In a review of good practice in sport psychology, McCormick et al. (2018) claimed that academies often only conduct sport psychology sessions as a box-ticking exercise to satisfy EPPP audits. These are often confined to brief and inadequate classroom sessions, with buy-in from coaching staff being a major contributor to how successful they are. When exploring coaches' views on which PSCs were deemed most important in academy soccer, Wixey et al. (2023) did not find any evidence that the four psychological factors (i.e., stress management, focusing, imaging and lifestyle management) originally set out in the EPPP were either important or being developed.

Getting coaches to buy into, and be involved in, the delivery of PSC development is seen as essential as they have most contact with the players, thereby being the ideal vehicle for such training (Mitchell et al., 2022; Wixey et al., 2023). This may not always be straightforward at a micropolitical level, where individual coaches may be driven by self-interest and will manipulate the environment to their own needs, meaning that they may reject any requests to take on additional tasks (Gibson & Groom, 2019). There does, however, seem to be contrasts between academies with Mitchell et al. (2022, 2024) reporting positive outcomes when working with coaches in a single academy. When consulting with nine Danish academies, Diment (2014) had a mixed reception with an uptake from coaches varying from every member of staff at one academy to only two coaches at another. Within the EPPP system Champ et al. (2020) and Crawley (2021) reported mainly negative attitudes from coaches. Also, psychological support may be less prevalent at lower category academies where coaches are less knowledgeable, and an environment of fear and intimidation exists (Nesti & Sulley, 2015). Despite these potential issues, coach education *should* include more explicit content around PSCs, whether this is through national governing body courses or in-house academy professional development sessions (Barraclough et al., 2024).

Problems with sport psychology delivery

The lack of clarity in defining what PSCs are and how they should be assessed and developed adds to the other current issues (Dohme et al., 2016). The use of unnecessarily complex language, and not what Diment (2014) describes as soccer language, is unhelpful in trying to gain credibility. In turn, too much emphasis on particularly inductive psychometric testing from sport psychologists may be off-putting to academy staff unfamiliar with this approach (Wixey et al., 2023). Universities are accused of failing to prepare their graduates adequately without having the necessary soft skills or awareness of micropolitics within academies to be able to function effectively (Nesti & Sulley, 2015).

Additionally, access to studying elite environments has traditionally been very limited, thereby restricting much of the previous research in sport psychology to non-elite

samples, consequently reducing its population validity (Cruickshank & Collins, 2012). In turn, this means that creates a vicious circle where it is extremely difficult to apply these concepts in academy environments if they have not been effectively validated and accepted.

Certainly, all sides (academics and practitioners) could do better, but improving coach education in PSC assessment and development, both at national governing body level and through in-house academy professional development sessions, would surely be helpful (Barraclough et al., 2024). As a potential solution, Wixey et al. (2023) provide recommendations to support coach education: online workshops; production of a central hub of resources for coaches to refer to; changes in organisational functioning e.g., use of player reviews to check on PSC progress; sport psychologists acting like a golf caddy, supporting and working indirectly through coaches.

Limitations and future research directions

As with all articles, narrative reviews are not without limitation. Although this review aids the exploration of some of the current issues in assessing and developing PSCs, it potentially lacks the rigour of a systematic review. In this instance, this was mitigated by presenting a transparent process of searching for pertinent current literature, whilst the existence of bias is explicit through selection or omission of research, shaped by subjective author interpretations based on their previous knowledge and experience.

Future research could include studies into barriers against coach buy-in, and how PSCs can effectively be incorporated into coach education both by national governing bodies and through in-house continuing professional development by academies. Academia can focus on how best to integrate graduates into soccer settings with less emphasis on psychometric testing and more on development of soft skills and a grounding in micropolitical literacy (Gibson & Groom, 2019). Also, further investigation is warranted into effective assessment tools that use more of an inductive and interdisciplinary approach (e.g., performance profiles and coach observation) incorporating the views of academy staff. In reality, coaches will already be integrating PSC elements within their session implicitly but the aimshould be to make this more explicit in order to assess and develop PSCs more systematically (Roberts et al., 2019).

Attempting to optimise the appropriate levels of challenge and being able to differentiate between player needs is an important prospective area of study, alongside levels and types of support from significant others. Subsequently, methods of periodisation of PSC development could be explored such as “bullseyeing” players or small groups of players who could have targeted interventions on a rota basis throughout each block of curricular work (Kegelaers et al., 2020). Certainly, soccer academies would benefit from a clearer, more evidence-based approach to integrate PSCs into their curricula holistically with a player-centred focus (Wixey et al., 2023).

Developing PSCs within younger age groups where these characteristics may have not yet emerged and may therefore be critical to future success would also benefit from further investigation (Till & Baker, 2020). It may also be prudent to intervene at a younger age to desensitise players towards the benefits of PSC development before adolescent impression management becomes a potential barrier (Laureys et al., 2021; Ong et al., 2018). Research conducted by Papastaikoudis et al. (2023) does suggest that

PSCs may start to develop pre-academy entry, so further inquiry into age- and stage-appropriate interventions would be prudent (Barraclough et al., 2024). Clearly, the assessment and development of PSCs is a burgeoning yet still largely misunderstood facet of academy soccer (Mitchell et al., 2022; Nesti & Sulley, 2015).

The EPPP 10-year report (EPL, 2022) identifies the introduction of full-time player care staff across Categories 1–3 as being important with two million pounds being provided for over 150 specialist education and care staff. This is surely a positive step with EPPP soccer academies having come under fire in recent years for having little regard for their emotional and mental wellbeing once they have ceased to be of use (Calvin, 2018; Collins et al., 2018; Gulbin et al., 2013; Till & Baker, 2020).

Conclusion

Despite being widely acknowledged as essential in academy soccer and beyond, the assessment and development of PSCs still lacks in quality and quantity of applied research. This review has highlighted a number of PSCs reported to be important for academy soccer players to (a) deal with transitions, (b) get an early start and (c) develop themselves holistically. Despite this, the review highlights limited research investigating the assessment and development of PSCs in academy soccer environments. Current assessment methods include objective approaches such as questionnaires and subjective approaches such as player observations and performance profiling. Although different approaches to developing PSCs have been advocated, the area would benefit from a more individualised, strategic and systematic approach with upskilling of coaches vital. Future research is needed to investigate the importance of PSCs at different ages and academy levels and the effectiveness of different approaches to developing and integrating PSCs into academy curricula including upskilling and engaging coaches into the importance of this process.

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No potential conflict of interest was reported by the author(s).

Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

References

Abbott, A., & Collins, D. (2004). Eliminating the dichotomy between theory and practice in talent identification and development: Considering the role of psychology. *Journal of Sports Sciences*, *22*(5), 395–408. https://doi.org/10.1080/02640410410001675324

Ashdown, B., Sarkar, M., Saward, C., & Johnston, J. (2024). Exploring the behavioral indicators of resilience in professional academy youth soccer. *Journal of Applied Sport Psychology*, *18*(2), 1–25. https://doi.org/10.1080/10413200.2024.2361701

Barney, E. G. (2015). *Preliminary stages in the validation of a talent identification model in cricket* [PhD thesis]. Bangor University. https://research.bangor.ac.uk/en/studentTheses/preliminary-stages-in-the-validation-of-a-talent-identification-m

Barraclough, J., Grecic, D., & Harper, D. (2022). Examining the psychological characteristics of developing excellence profiles of male English youth soccer players: Differences across ages and performance levels. *International Journal of Sport and Exercise Psychology*, *22*(1), 250–272. https://doi.org/10.1080/1612197X.2022.2152854

Barraclough, J., Grecic, D., & Harper, D. (2024). English Premier League and English Football League academy managers' experiences of how psychosocial skills and characteristics are identified and developed in youth academy soccer players. *Journal of Sports Sciences*, *42*(13), 1259–1271. https://doi.org/10.1080/02640414.2024.2388978

Bergkamp, T. L. G., Niessen, A. S. M., den Hartigh, R. J. R., Frencken, W. G. P., & Meijer, R. R. (2019). Methodological issues in soccer talent identification research. *Sports Medicine*, *49*(9), 1317–1335. https://doi.org/10.1007/s40279-019-01113-w

Butler, R. J., & Hardy, L. (1992). The performance profile: Theory and application. *The Sport Psychologist*, *6*(3), 253–264. https://doi.org/10.1123/tsp.6.3.253

Calvin, M. (2018). *No hunger in paradise*. Arrow.

Champ, F. M., Nesti, M. S., Ronkainen, N. J., Tod, D. A., & Littlewood, M. A. (2020). An exploration of the experiences of elite youth footballers: The impact of organizational culture. *Journal of Applied Sport Psychology*, *32*(2), 146–167. https://doi.org/10.1080/10413200.2018.1514429

Collins, D. J., & MacNamara, A. (2017). A smooth sea never made a skilful sailor. Optimizing and exploiting the rocky road in talent development. In J. Baker, S. Cobley, J. Schorer, & N. Wattie (Eds.), *Routledge handbook of talent identification and development in sport* (Chapter 24, pp. 336–346). Routledge.

Collins, D. J., MacNamara, A., & Cruickshank, A. (2018). Research and practice in talent identification and development—some thoughts on the state of play. *Journal of Applied Sport Psychology*, *31*(1), 340–351. https://doi.org/10.1080/10413200.2018.1475430

Crawley, N. (2021). *Examining psychosocial development in an elite English football academy: A holistic ecological approach*. Brunel University Research Archive. https://bura.brunel.ac.uk/handle/2438/22905

Cruickshank, A., & Collins, D. (2012). Culture change in elite sport performance teams: Examining and advancing effectiveness in the new era. *Journal of Applied Sport Psychology*, *24*(3), 338–355. https://doi.org/10.1080/10413200.2011.650819

Cumming, S. P., Lloyd, R. S., Oliver, J. L., Eisenmann, J. C., & Malina, R. M. (2017). Bio-banding in sport: Applications to competition, talent identification, and strength and conditioning of youth athletes. *Strength & Conditioning Journal*, *39*(2), 34–47. https://doi.org/10.1519/SSC.0000000000000281

Dean, F., Kavanagh, F., Wilding, A., & Rees, T. (2022). An examination of the experiences of practitioners delivering sport psychology services within English Premier League soccer academies. *Sports*, *10*(60), 1–16. https://doi.org/10.3390/sports10040060

Diment, G. M. (2014). Mental skills training in soccer: A drill-based approach. *Journal of Sport Psychology in Action*, *5*(1), 14–27. https://doi.org/10.1080/21520704.2013.865005

Dohme, L., Backhouse, S. H., Piggott, D., & Morgan, G. (2016). Categorising and defining popular psychological terms used within the youth athlete talent development literature: A systematic review. *International Review of Sport and Exercise Psychology*, *10*(1), 134–163. https://doi.org/10.1080/1750984X.2016.1185451

Dohme, L., Piggott, D., Backhouse, S. H., & Morgan, G. (2019). Psychological skills and characteristics facilitative of youth athletes' development: A systematic review. *The Sport Psychologist*, *33*(4), 261–275. https://doi.org/10.1123/tsp.2018-0014

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, *92*(6), 1087–1101. https://doi.org/10.1037/0022-3514.92.6.1087

Dweck, C. (2017). *Mindset: Changing the way you think to fulfil your potential*. Robinson.

English Football League. (2018). Retrieved June 12, 2024, from https://www.efl.com/siteassets/efl-documents/201819/efl-youth-development-charter-players-and-parents-guide-2018-19–e-book4.pdf

English Premier League. (2011). Elite player performance plan. Retrieved May 14, 2024, from https://www.premierleague.com/youth/eppp

English Premier League. (2022). The elite player performance plan 10 years of the EPPP. Retrieved May 14, 2024, from https://www.premierleague.com/news/2911912

Fletcher, D., & Sarkar, M. (2016). Mental fortitude training: An evidence-based approach to developing psychological resilience for sustained success. *Journal of Sport Psychology in Action*, *7*(3), 135–157. https://doi.org/10.1080/21520704.2016.1255496

Fumarco, L., Gibbs, B. G., Jarvis, J. A., & Rossi, G. (2017). The relative age effect reversal among the National Hockey League elite. *PLoS One*, *12*(8), e0182827. https://doi.org/10.1371/journal.pone.0182827

Furley, P., & Goldschmied, N. (2021). Systematic vs. narrative reviews in sport and exercise psychology: Is either approach superior to the other? *Frontiers in Psychology*, *12*, 685082. https://doi.org/10.3389/fpsyg.2021.685082

Gervis, M., & Goldman, A. (2020). The Flourishing Footballers programme: Using psycho-education to develop resilience through ACT. *Journal of Contextual Behavioral Science*, *18*, 146–151. https://doi.org/10.1016/j.jcbs.2020.09.004

Gibson, L., & Groom, R. (2019). The micro-politics of organisational change in professional youth football: Towards an understanding of "actions, strategies and professional interests". *International Journal of Sports Science & Coaching*, *14*(1), 3–14. https://doi.org/10.1177/1747954118766311

Gledhill, A., Harwood, C., & Forsdyke, D. (2017). Psychosocial factors associated with talent development in football: A systematic review. *Psychology of Sport and Exercise*, *31*, 93–112. https://doi.org/10.1016/j.psychsport.2017.04.002

Goldman, D. E., Turnnidge, J., Kelly, A. L., de Vos, J., & Cote, J. (2022). Athlete perceptions of playing-up in youth soccer. *Journal of Applied Sport Psychology*, *34*(4), 862–885. https://doi.org/10.1080/10413200.2021.1875518

Green, K., Devaney, D., Carré, G., Hepton, A., Wood, R., Thurston, C., & Law, D. (2020). Everything matters: The importance of shared understanding to holistically support the psycho-social needs of academy footballers. *Sport & Exercise Psychology Review*, *16*(*1*), 61–71. https://doi.org/10.53841/bpssepr.2020.16.1.61

Greenhalgh, T., Thorne, S., & Malterud, K. (2018). Time to challenge the spurious hierarchy of systematic over narrative reviews? *European Journal of Clinical Investigation*, *48*(6), e12931. https://doi.org/10.1111/eci.12931

Gulbin, J. P., Croser, M. J., Morley, E. J., & Weissensteiner, J. R. (2013). An integrated framework for the optimisation of sport and athlete development: A practitioner approach. *Journal of Sports Sciences*, *31*(12), 1319–1331. https://doi.org/10.1080/02640414.2013.781661

Gullich, A., & Emrich, E. (2014). Considering long-term sustainability in the development of world class success. *European Journal of Sport Science*, *14*(S1), S383–S397. https://doi.org/10.1080/17461391.2012.706320

Hardy, L., & Parfitt, G. (1994). The development of a model for the provision of psychological support to a national squad. *The Sport Psychologist*, *8*(2), 126–142. https://doi.org/10.1123/tsp.8.2.126

Harwood, C. (2008). Developmental consulting in a professional football academy: The 5cs coaching efficacy program. *The Sport Psychologist*, *22*, 109–133. https://doi.org/10.1123/tsp.22.1.109

Harwood, C., & Anderson, R. (2015). *Coaching psychological skills in youth football*. Bennion Kearney.

Hill, M., John, T., McGee, D., & Cumming, S. P. (2023). Beyond the coaches' eye: Understanding the 'how' and 'why' of maturity selection biases in male academy soccer. *International Journal of Sports Science & Coaching*, *18*(6), 1913–1928. https://doi.org/10.1177/17479541231186673

Hill, A., MacNamara, A., & Collins, D. J. (2019). Development and initial validation of the Psychological Characteristics of Developing Excellence Questionnaire version 2 (PCDEQ2). *European Journal of Sport Science*, *19*(4), 517–528. https://doi.org/10.1080/17461391.2018.1535627

Höner, O., & Feichtinger, P. (2016). Psychological talent predictors in early adolescence and their empirical relationship with current and future performance in soccer. *Psychology of Sport and Exercise*, *25*, 17–26. https://doi.org/10.1016/j.psychsport.2016.03.004

Jones, S. (2018). How well are the Elite Players Performance Plan (EPPP) supporting young players with psychological welfare? *Journal of Psychology & Clinical Psychiatry*, *9*(3), 307–314. https://doi.org/10.15406/jpcpy.2018.09.00541

Kegelaers, J., Wylleman, P., & Oudejans, R. R. D. (2020). A coach perspective on the use of planned disruptions in high-performance sports. *Sport, Exercise, and Performance Psychology*, *9*(1), 29–44. https://doi.org/10.1037/spy0000167

Kelly, A. L., Jackson, D. T., Taylor, J. J., Jeffreys, M. A., & Turnnidge, J. (2020). "Birthday-banding" as a strategy to moderate the relative age effect: A case study into the England squash talent pathway. *Frontiers in Sports and Active Living*, *2*(article 573890), 1–9. https://doi.org/10.3389/fspor.2020.573890

Kelly, A. L., Williams, C. A., Cook, R., Sáiz, S. L. J., & Wilson, M. R. (2022). A multidisciplinary investigation into the talent development processes at an English football academy: A machine learning approach. *Sports*, *10*(159), 159–116. https://doi.org/10.3390/sports10100159

Kelly, A. L., Williams, C. A., Jackson, D. T., Turnnidge, J., Reeves, M. J., Dugdale, J. H., & Wilson, M. R. (2024). Exploring the role of socioeconomic status and psychological characteristics on talent development in an English soccer academy. *Science and Medicine in Football*, *8*(3), 251–259. https://doi.org/10.1080/24733938.2023.2213191

King, M., Barrett, S., Mclellan, R., Cox, J., Brown, M., Mackenzie, S., & Towlson, C. (2025). Does team size affect Scottish male academy soccer player technical, locomotor and psychosocial outcomes during age and maturity biobanded small-sided games. *Journal of Sports Sciences*, 1–11. https://doi.org/10.1080/02640414.2025.2456408

Koopman, T., Faber, I., Baker, J., & Schorer, J. (2020). Assessing technical skills in talented youth athletes: A systematic review. *Sports Medicine*, *50*(9), 1593–1611. https://doi.org/10.1007/s40279-020-01299-4

Larkin, P., & O'Connor, D. (2017). Talent identification and recruitment in youth soccer: Recruiter's perceptions of the key attributes for player recruitment. *PLoS One*, *12*(4), e0175716. https://doi.org/10.1371/journal.pone.0175716

Larsen, C. H., Storm, L. K., Sæther, S. A., Pyrdol, N., & Henriksen, K. (2020). A world class academy in professional football: The case of Ajax Amsterdam. *Scandinavian Journal of Sport and Exercise Psychology*, *2*, 33–43. https://doi.org/10.7146/sjsep.v2i0.119746

Laureys, F., Collins, D., Deconinck, F. J. A., & Lenoir, M. (2021). Exploring the use of the Psychological Characteristics of Developing Excellence (PCDEs) in younger age groups: First steps in the validation process of the PCDE Questionnaire for Children (PCDEQ-C). *PLoS One*, *16*(11), e0259396. https://doi.org/10.1371/journal.pone.0259396

Ludlam, K., Butt, J., Bawden, M., Lindsay, P., & Maynard, I. (2015). A strengths-based consultancy approach in elite sport: Exploring super-strengths. *Journal of Applied Sport Psychology*, *28*(2), 216–233. https://doi.org/10.1080/10413200.2015.1105881

MacNamara, A., Button, A., & Collins, D. J. (2010a). The role of psychological characteristics in facilitating the pathway to elite performance Part 1: Identifying mental skills and behaviors. *The Sport Psychologist*, *24*(1), 52–73. https://doi.org/10.1123/tsp.24.1.52

MacNamara, A., Button, A., & Collins, D. J. (2010b). The role of psychological characteristics in facilitating the pathway to elite performance Part 2: Examining environmental and stage-related differences in skills and behaviors. *The Sport Psychologist*, *24*(1), 74–96. https://doi.org/10.1123/tsp.24.1.74

Macnamara, A., & Collins, D. (2011). Development and initial validation of the Psychological Characteristics of Developing Excellence Questionnaire. *Journal of Sports Sciences*, *29*(12), 1273–1286. https://doi.org/10.1080/02640414.2011.589468

MacNamara, A., & Collins, D. J. (2015). Profiling, exploiting, and countering psychological characteristics in talent identification and development. *The Sport Psychologist*, *29*(1), 73–81. https://doi.org/10.1123/tsp.2014-0021

McAuliffe, J., Lavallee, D., & Campbell, M. J. (2021). A narrative review of the role of psychological skills and characteristics in navigating the pathway to professional rugby union. *International Journal of Sport and Exercise Psychology*, *20*(6), 1668–1690. https://doi.org/10.1080/1612197X.2021.2010231

McCormick, A., Coyle, M., & Gibbs-Nicholls, S. (2018). Sharing good practice in sport and exercise psychology. *Sport & Exercise Psychology Review*, *14*(1), 47–64. https://doi.org/10.53841/bpssepr.2018.14.1.47

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

Mitchell, T., Cowburn, I., Alder, D. B., Till, K., Littlewood, M. A., Cook, T., & Piggott, D. (2024). Integrating psychosocial skill and characteristic development into an English academy soccer coaching program: A preliminary investigation. *International Sport Coaching Journal*, (Ahead of Print), *12*(2), 156–168. https://doi.org/10.1123/iscj.2023-0031

Mitchell, T., Cowburn, I., Piggott, D., Littlewood, M., Cook, T., & Till, K. (2022). Fostering psychosocial characteristics within an English soccer academy. *The Sport Psychologist*, *36*(2), 139–149. https://doi.org/10.1123/tsp.2021-0105

Moodie, G., Taylor, J., & Collins, D. (2023). Developing psycho-behavioural skills: The talent development coach perspective. *Psych*, *5*(2), 427–446. https://doi.org/10.3390/psych5020029

Musculus, L., & Lobinger, B. H. (2018). Psychological characteristics in talented soccer players – recommendations on how to improve coaches' assessment. *Frontiers in Psychology*, *9*(41), 1–6. https://doi.org/10.3389/fpsyg.2018.00041

Nesti, M., & Sulley, C. (2015). *Youth development in football*. Routledge.

Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Harvard University Press.

Ong, C. W., McGregor, P., & Daley, C. (2018). The boy behind the bravado: Player advanced safety and support in a professional football academy setting. *Sport & Exercise Psychology Review*, *14*(1), 1–2. https://doi.org/10.53841/bpssepr.2018.14.1.1

O'Sullivan, M. (2018). Challenging the race to the bottom (as many as possible, as long as possible, as good as possible). Retrieved May 14, 2024, from https://footblogball.wordpress.com/2018/01/07/challenging-the-race-to-the-bottom-as-many-as-possible-as-long-as-possible-as-good-as-possible/

Papastaikoudis, F., Collins, R., & Collins, D. (2023). Blank canvas or under construction? Examining the pre-academy experiences of young developing professional team sports athletes. *Frontiers in Sports and Active Living*, *5*(990617), 1–12. https://doi.org/10.3389/fspor.2023.990617

Papastaikoudis, F., Collins, R., & Collins, D. (2024). Bouncing back: A longitudinal examination of challenge within football academy environments. *Frontiers in Sports and Active Living*, *6*, 1402570. https://doi.org/10.3389/fspor.2024.1402570

Roberts, A. H., Greenwood, D. A., Stanley, M., Humberstone, C., Iredale, F., & Raynor, A. (2019). Coach knowledge in talent identification: A systematic review and meta-synthesis. *Journal of Science and Medicine in Sport*, *22*(10), 1163–1172. https://doi.org/10.1016/j.jsams.2019.05.008

Robinson, J., Cumming, S., Salter, J., Toner, J., & Towlson, C. (2024). A new method to identify key match-play behaviours of young soccer players: Development of the Hull Soccer Behavioural Scoring Tool. *PLoS One*, *19*(3), e0295953. https://doi.org/10.1371/journal.pone.0295953

Roe, C., & Parker, A. (2016). Sport, chaplaincy and holistic support: The elite player performance plan (EPPP) in English professional football. *Practical Theology*, *9*(3), 169–182. https://doi.org/10.1080/1756073X.2016.1221638

Rongen, F., McKenna, J., Cobley, S., & Till, K. (2018). Are youth sport talent identification and development systems necessary and healthy? *Sports Medicine – Open*, *4*(1), 2199–1170. https://doi.org/10.1186/s40798-018-0135-2

Rongen, F., Till, K., Mckenna, J., Tee, J. C., & Cobley, S. (2020). Psychosocial outcomes associated with soccer academy involvement: Longitudinal comparisons against aged matched school pupils. *Journal of Sports Sciences*, *38*(11-12), 1387–1398. https://doi.org/10.1080/02640414.2020.1778354

Rosenman, R., Tennekoon, V., & Hill, L. G. (2011). Measuring bias in self-reported data. *International Journal of Behavioural and Healthcare Research*, *2*(4), 320–332. https://doi.org/10.1504/IJBHR.2011.043414

Rothwell, M., Davids, K., Stone, J., O'Sullivan, M., Vaughan, J., Newcombe, D., & Shuttleworth, R. (2020). A department of methodology can coordinate transdisciplinary sport science support. *Journal of Expertise*, *3*(1), 55–65.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68

Ryom, K., Ravn, M., Düring, R., & Henriksen, K. (2020). Talent development in football—a holistic perspective: The case of KRC Genk. *International Sport Coaching Journal*, *7*(3), 360–369. https://doi.org/10.1123/iscj.2019-0045

Saward, C., Morris, J. G., Nevill, M. E., & Sunderland, C. (2019). The effect of playing status, maturity status, and playing position on the development of match skills in elite youth football players aged 11–18 years: A mixed-longitudinal study. *European Journal of Sport Science*, *19*(3), 315–326. https://doi.org/10.1080/17461391.2018.1508502

Sieghartsleitner, R., Zuber, C., Zibung, M., & Conzelmann, A. (2019). Science or coaches' eye? – both! Beneficial collaboration of multidimensional measurements and coach assessments for efficient talent selection in elite youth football. *Journal of Sports Science and Medicine*, *18*, 32–43.

Simmons, C. (2004). Fast tracking and player development. *Insight*, *3*(7), 24–25.

Stambulova, N. B., Ryba, T. V., & Henriksen, K. (2021). Career development and transitions of athletes: The International Society of Sport Psychology position stand revisited. *International Journal of Sport and Exercise Psychology*, *19*(4), 524–550. https://doi.org/10.1080/1612197X.2020.1737836

Steidl-Müller, L., Hildebrandt, C., Raschner, C., & Müller, E. (2019). Challenges of talent development in alpine ski racing: A narrative review. *Journal of Sports Sciences*, *37*(6), 601–612. https://doi.org/10.1080/02640414.2018.1513355

Sukhera, J. (2022). Narrative reviews: Flexible, rigorous, and practical. *Journal of Graduate Medical Education*, *14*(4), 414–417. https://doi.org/10.4300/JGME-D-22-00480.1

Swainston, S. C., Wilson, M. R., & Jones, M. I. (2020). Player experience during the junior to senior transition in professional football: A longitudinal case study. *Frontiers in Psychology*, *11*, 1672. https://doi.org/10.3389/fpsyg.2020.01672

Till, K., & Baker, J. (2020). Challenges and [possible] solutions to optimizing talent identification and development in sport. *Frontiers in Psychology*, *11*, 1664–1078. https://doi.org/10.3389/fpsyg.2020.00664

Toering, T. T., Elferink-Gemser, M. T., Jordet, G., & Visscher, C. (2009). Self-regulation and performance level of elite and non-elite youth soccer players. *Journal of Sports Sciences*, *27*(14), 1509–1517. https://doi.org/10.1080/02640410903369919

Toering, T., & Jordet, G. (2015). Self-control in professional soccer players. *Journal of Applied Sport Psychology*, *27*, 335–350.

Towlson, C., MacMaster, C., Gonçalves, B., Sampaio, J., Toner, J., MacFarlane, N., Barrett, S., Hamilton, A., Jack, R., Hunter, F., Myers, T., & Abt, G. (2021). The effect of bio-banding on physical and psychological indicators of talent identification in academy soccer players. *Science and Medicine in Football*, *5*(4), 280–292. https://doi.org/10.1080/24733938.2020.1862419

Van Yperen, N. (2009). Why some make it and others do not: Identifying psychological factors that predict career success in professional adult soccer. *The Sport Psychologist*, *23*(3), 317–329. https://doi.org/10.1123/tsp.23.3.317

Vealey, R. S., Cooley, R., Nilsson, E., Block, C., & Galli, N. (2019). Assessment and the use of questionnaires in sport psychology consulting: An analysis of practices and attitudes from 2003 to 2017. *Journal of Clinical Sport Psychology*, *13*(4), 505–523. https://doi.org/10.1123/jcsp.2019-0012

Williams, A. M., Ford, P. R., & Drust, B. (2020). Talent identification and development in soccer since the millennium. *Journal of Sports Sciences*, *38*(11-12), 1199–1210. https://doi.org/10.1080/02640414.2020.1766647

Williams, G., & MacNamara, Á. (2020). "I didn't make it, but…": deselected athletes' experiences of the talent development pathway. *Frontiers in Sports and Active Living*, *2*(24), 1–13. https://doi.org/10.3389/fspor.2020.00024

Wixey, D., Kingston, D., Shearer, D., & Cropley, B. (2023). Coaching strategies to develop desired psychological attributes within academy soccer players. *Journal of Applied Sport Psychology*, *36*(4), 580–605. https://doi.org/10.1080/10413200.2023.2286954

Wylleman, P., Reints, A., & De Knop, P. (2013). A developmental and holistic perspective on athletic career development. In P. Sotiaradou & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 159–182). Routledge.