

**An investigation into assessment and development of psychosocial skills
and characteristics on the talent development pathway in male English
academy soccer**

by

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ABSTRACT

Psychosocial skills and characteristics (PSCs) are vital for players to reach their potential in soccer and also develop life skills beyond sport, preparing them for transitions within and outside of soccer. The overall purpose of this thesis was to investigate assessment and development of PSCs in male English academy soccer. Chapter 1 set the scene, with an outline of my background and how I came to be interested in this particular topic. It also set out aims and objectives including an infographic illustrating the structure of the thesis. In Chapter two a narrative literature review aimed to 1) identify which PSCs are important, 2) evaluate current approaches to assessment and development of PSCs, 3) discuss factors affecting development of PSCs within academies, and 4) propose future research. Key findings were that (a) a number of PSCs were important to deal with transitions, (b) it is important to develop PSCs from a young age, (c) players should be developed holistically and, (d) there is limited research investigating assessment and development of PSCs in academies. In Chapter 3, a 'psychological characteristics of developing excellence (PCDE)' questionnaire was deployed across categories of participation (academy Categories 1 to 4 and grassroots) and age groups (U13 to youth team) in youth soccer to examine the differences in psychological characteristics across age groups and performance levels. Findings suggest that across age groups, greatest differences in PCDEs were reported in perfectionistic tendencies and adverse response to failure, with youth team players reporting the highest scores. Across categories of participation greatest differences in PCDEs were observed in perfectionistic tendencies, self-directed control and management, and adverse response to failure, with Category 1 players reporting the highest scores. Youth team and Category 1 players also demonstrated the highest scores in use of imagery and active preparation. Category 1 players also demonstrated the highest and lowest score on use of active coping strategies and presentation of clinical indicators, respectively. Using semi-structured interviews, Chapter 4 obtained academy managers experiences of how

PSCs are developed in English Premier League (EPL) and English Football League academy soccer players. There was universal agreement from participants of the importance of PSCs, not only to develop soccer players, but to develop well-rounded human beings capable of functioning outside of soccer. PSCs identified by academy managers as being important included the players being able to realistically self-evaluate, resilience, good work ethic, interpersonal competencies, autonomy, and seeking out social support when necessary. Suggestions were made around trying to more effectively implement PSC programmes included upskilling coaches, collaborating with external agencies (such as universities and charities), and further assistance from national governing bodies such as the EPL, the Professional Footballers Association and the Football Association. Chapter 5 evaluated the effectiveness of a 21-week PSC intervention programme delivered in a Category 3 soccer academy working alongside coaches at U13 level. The main findings were that the PSC programme had both positive and negative effects on player PSCs, highlighting that PSCs may be enhanced through a carefully designed programme. Finally, Chapter 6 provides recommendations for implementing a PSC programme in academy soccer, using the PACER (plan, approach, coach, environment and review) model developed from the findings of this thesis. The findings of this thesis can help sport psychology staff and other academy staff effectively integrate PSC assessment and development into academy curricula. The recommendations on assessing and developing PSCs from this thesis could also be incorporated into other performance settings such as education, dance, music and the corporate world.

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“The most rewarding things you do in life are often the ones that look like they cannot be done” - Arnold Palmer

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ABBREVIATIONS

AC	Active coping
AFI	Area for improvement
AM	Academy manager
ARF	Adverse response to failure
CI	Contemporary issues
CPD	Continuing Professional Development
EFL	English Football League
EPL	English Premier League
EPPP	Elite Player Performance Plan
FA	Football Association
FP	Foundation Phase
HBM	Health belief model
IAP	Imagery and active preparation
IQR	Interquartile range
JST	Junior to senior transition
PCDEs	Psychological Characteristics of Developing Excellence
PCDEQ	Psychological Characteristics of Developing Excellence Questionnaire
PCDEQ2	Psychological Characteristics of Developing Excellence Questionnaire version 2
PDP	Professional Development Phase
PFA	Professional Footballers' Association
PSCs	Psychosocial skills and characteristics
PT	Perfectionistic tendencies
SDCM	Self-directed control and management
SLT	Social learning theory
SUSS	Seeking and using social support
TD	Talent development
TID	Talent identification
TTM	Transtheoretical model

UEFA Union of European Football Associations

YDP Youth Development Phase

OUTPUTS ARISING FROM THE THESIS

Peer-reviewed publications

Barracough, 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*, 1(22), 250-272.

Barracough, 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.

Barracough, J., Mitchell, T., Grecic, D., & Harper, D. (in review). Effectiveness of a psychosocial skills and characteristics development programme embedded into an English male professional soccer academy.

Conference presentations

Barracough, J., Grecic, D., & Harper, D. (2023). Football academy managers' perceptions of how PSCs are identified and developed in players. British Association of Sport and Exercise Science Annual Conference 2023. November 2023. Coventry Building Society Arena, Coventry, UK (Appendix 1).

Barracough, J., Mitchell, T., Grecic, D., & Harper, D. (2024). Effectiveness of a psychosocial skills and characteristics development programme embedded into an English male professional soccer academy. British Association of Sport and Exercise Science Annual

Conference. November 2024. Coventry Building Society Arena, Coventry, UK. (Appendix 2).

Knowledge exchange activities

Podcast episode: Football Fitness Federation: a series focused on the physical preparation and performance in football, with myself as a ‘special guest’ exploring psychosocial elements of performance. Episode 256 September 2023

<https://soundcloud.com/footballfitnessfederation/256-psychosocial-support-for-players-with-james-barracloUGH> (Appendix 3).

Podcast episode: the Sport Psych Show: sport psychologist Dan Abrahams aims to demystify sport psychology for players, coaches and parents by speaking with some of the most influential people in sports performance today. Episode 296 August 2024

<https://podcasts.apple.com/gb/podcast/296-james-barracloUGH-how-to-identify-and-develop/id1434313037?i=1000666631970> (Appendix 4).

Podcast episode: the Coaching Union: for coaches, players, leaders and educators passionate about developing athletes and building thriving sports communities. March 2025 (Appendix 5)

<https://open.spotify.com/episode/0kTbsID25cDRKhJ686H8zB?si=IlzwJEfLRWKosuSOsKnVog&nd=1&dlsi=4545f79cb0894ccf>

Podcast episode: the Mind Room: focused on sport psychology and mental health, offering insights into performance and well-being. January 2025 (Appendix 6)

https://themandroom.substack.com/p/c0f6631e-daab-450d-b59d-3b8862b529c8?postPreview=paid&updated=2025-01-15T14%3A05%3A44.735Z&audience=everyone&free_preview=false&freemail=true

Tuesday 15th October 2024: online webinar delivered to Notts County FC pre-academy staff as CPD session entitled “Psych/social: the missing corner?” (Appendix 10)

Monday 4th November 2024: follow-up practical session with Notts County FC pre-academy staff as CPD session (Appendix 11)

Wednesday 11th December 2024: free online webinar delivered with Dr Tom Mitchell (Leeds Beckett University) to coaches as CPD session entitled “Integrating psych/social development into coaching sessions: the what, why & how” (Appendix 12)

<https://www.youtube.com/watch?v=cjofnsMC-Jw>

Chapter 1

CHAPTER 1: Introduction

1.1. Background

Effectively identifying and developing the next generation of talented athletes has been a topic of significant interest across various sports for the past few decades, not least in the multi-million-pound industry of soccer (Baker et al., 2017). Several studies have highlighted that there are many inefficiencies in the talent identification (TID) and talent development (TD) processes within soccer (Bennett et al., 2019; Bergkamp et al., 2019; Larkin & Reeves, 2018; McCarthy et al., 2022; Sieghartsleitner et al., 2019), often resembling a ‘throw enough mud against the wall and some will stick’ approach (Miller et al., 2015) with only around 5% making a career out of playing soccer professionally (Nesti & Sulley, 2015). The associated challenges within TID and TD would therefore centre around making the process more efficient with less type I (i.e., players de-selected prematurely) and type II (i.e., players staying in the system when they should be de-selected) errors being made (Wattie & Baker, 2017). Reducing the negative psychological impact of de-selection on players (Brown & Potrac, 2009) should also be a priority for academies so that the approximate 95% of young men who are released from academies are not treated merely as collateral damage but are also provided with the necessary psychosocial skills and characteristics (PSCs) to thrive in a career outside of soccer.

The current academy system in English Premier League (EPL) and English Football League (EFL) clubs is guided by the Elite Player Performance Plan (EPPP) which was introduced in 2012 to develop more and better home-grown players to play professionally in these leagues (Premier League, 2011). In the EPPP system each academy is awarded a category status with 1 being the highest and 4 the lowest. The higher category academies have more contact time with players, as well as more full-time staff (i.e., coaching and other specialities) and higher budgets. Three phases exist within academies including the foundation phase (FP)

that incorporates under-9 to under-11 age groups, the youth development phase (YDP) that incorporates under-12 to under-16, and the professional development phase (PDP) that incorporates under-17 to under-23. The EPPP has advocated following the English Football Association's four-corner model of development (i.e., technical/tactical, physical, psychological, and social) (Simmons, 2004), although this approach has been criticised for lacking enough detail in application to individual players (Moran et al., 2024). Traditionally, technical, (e.g., passing), tactical (e.g., decision-making), anthropometrical (e.g., height) and physical attributes (e.g., speed) have been prevalent metrics in the assessment and development of aspiring soccer academy players (Bergkamp et al., 2019; Koopman et al., 2020). The easily attainable and relatively objective nature of this kind of data has led to a reliance on these metrics in contrast with an ever-increasing body of research that suggests that psychosocial elements of performance may be more important in players reaching their long-term potential (Green et al., 2020; Hardy et al., 2017; Moodie et al., 2023; Till & Baker, 2020). In 2022 the Premier League conducted a review of the success of the EPPP, a decade after its inception (Premier League, 2022). In the review soccer academies were encouraged to provide a multi-disciplinary and holistic approach to player development (Premier League, 2022). No information was provided, however, as to *how* PSCs are currently assessed and developed in academy soccer clubs.

In a systematic review of talent development in soccer Gledhill et al. (2017) defined psychosocial factors as individual psychological characteristics moderated by social influences. In another systematic review, Dohme et al. (2016) highlighted the inconsistencies in the definition and application of psychological terms within the talent development literature. It was suggested that could be split into psychological skills (i.e., learned methods that player deploy e.g., goal setting and imagery) and psychosocial characteristics (i.e., traits that a player can develop using psychological skills or that they would possess already e.g.,

motivation and self-confidence) (Dohme et al., 2016). The terms characteristics and traits are often used synonymously and are seen as enduring and stable aspects of personality (Dohme et al., 2016). There is further confusion when we consider that many of these characteristics have trait-like bases that can be enhanced through, and driven by, use of state-deployed psychological skills (e.g., imagery) (MacNamara, 2011). In other words, traits are relatively stable personality characteristics leading to a tendency to commit certain actions, whereas states are temporary and fluctuate but can be optimised by deployment of psychological skills (Collins & MacNamara, 2018). For example, if we take resilience, it can be seen as a personality trait that someone may possess to a certain degree, that can alter according to the context they are in, which can change over time and be improved by psychological skills training such as the mental fortitude programme devised by Fletcher and Sarkar (2016). It is little wonder that confusion exists within the literature and leads to subsequent difficulties in applied work. Accordingly, for the purpose of this thesis the term PSCs will be used as an umbrella term when discussing approaches that deal with attempting to assess and/or develop these factors. Examples include the drill-based approach (Diment (2014), the 5Cs approach (Harwood & Anderson, 2015), PCDEs (MacNamara et al., 2010a, 2010b;) or the ‘8-pillars’ approach (Mitchell et al., 2022, 2024).

What is more important than the semantics of terminology is that any framework focuses on an evidence-based enhancement process. Such an approach is described by Collins et al. (2018, p. 2) as a “performance-outcome-process (POP) continuum” with the performance part involving a decision on whether this should be developed for now or for the future. The outcome element concerns the general approach used to achieve the performance goal with contemporary models often focusing on taxonomies of characteristics (e.g., the 11-model – Jordet, 2016) or more singular factors such as grit (Duckworth et al., 2007). For the process end of the continuum, Collins et al. (2018) suggest that a broader spectrum such as

psychological characteristics of developing excellence (PCDEs) be applied that provides the athlete with a box of tools to use when the situation requires. The same framework can roughly be applied to this thesis, with the performance element of academy football being for the future, the outcome being the creation of a blend of different tools and conditions, and the process being the manner in which these are delivered to the academy footballers.

Not only are PSCs seen as vital for those who go on to have a successful athletic career (Larsen et al., 2020; Ryom et al., 2020; Stambulova et al., 2021) but enhancing this toolbox of skills is also thought to help prepare athletes for the successful transition out of the sport, whether that comes at academy or senior level (Collins et al., 2018). This may be especially vital due to the very small minority of academy players that do go on to play professionally (Premier League 2022). Accordingly, the assessment and development of PSCs should be a key priority in any youth soccer developmental settings. However, this seemingly vital process is often neglected, in part perhaps due to the difficulties in initial assessment of PSCs (Dohme et al., 2016), in comparison to the more easily measurable physical and technical factors (Bergkamp et al., 2019). There is also further confusion around which PSCs to assess and how to assess them. According to Nesti and Sulley (2015), there is an overreliance on psychometric measures (such as questionnaires) which could be used alongside other methods (e.g., observation and performance profiling) to provide a more complete picture.

One commonly used questionnaire in youth development environments is the psychological characteristics of developing questionnaire (PCDEQ) developed by MacNamara and Collins (2011). This instrument is used to assess six overarching PCDE factors: 1) support for long-term success, 2) imagery use, 3) coping with pressure, 4) organising and engaging in quality practice, 5) evaluating performances and working on weaknesses and 6) support from others. A second version was later developed (PCDEQ2) by Hill et al. (2019) comprising seven PCDE factors: 1) adverse response to failure (maladaptive responses to failure including items

related to anxiety, depression, focus and perfectionism), 2) imagery and active preparation (ability to use visualisation for skill refinement and management of arousal), 3) self-directed control and management (intrinsic willingness to engage without constant supervision), 4) perfectionistic tendencies (perfectionism and associated maladaptive facets such as anxiety, fear of failure and obsessive passion), 5) seeking and using social support (seeking help from appropriate stakeholders such as parents and coaches), 6) active coping (proactive self-regulated deployment of coping strategies) and 7) clinical indicators (mental health and associated factors such as anxiety, depression, eating disorders, and changes in behaviour). There has, however, been limited use of either of these inventories in academy soccer Kelly, 2022, 2023; Mitchell et al., 2024), highlighting the necessity for future research investigating PCDE profiles of academy soccer players and how best to develop these.

Achieving elite status in sport is an ever-changing, individualised, and non-linear journey with those achieving a successful career thought to have developed, or already possessed, psychosocial qualities that have enabled them to successfully navigate the pathway (MacNamara et al., 2010b). Within EPPP academies, PSCs are essential for players to meet the everyday challenges presented to them (Gledhill et al., 2017; Larkin & Reeves, 2018; MacNamara et al., 2010a, 2010b), including commitment to their goals, engaging in problem-focused coping behaviours, and seeking out social support (Mitchell et al., 2022 & 2024; Wixey et al., 2023). With only a small percentage (~5%) of academy players going on to have professional careers (Nesti & Sulley, 2015; Premier League, 2022), clubs should have a duty of care to prepare the majority of players that do not progress for their transition out of academies. They should surely also provide them with employability skills they can use elsewhere in life beyond football (Stambulova et al., 2021) in a manner where there exists “equality of entitlement, and a desire to ensure that everyone has access to a curriculum which will promote their development as human beings” (Moran et al., 2024, p. 3). This has been

described by Moran et al. (2024) as a ‘new curriculum model’, borrowing heavily from pedagogy but more clearly aligning with talent development environments than previous iterations with a focus on bespoke, flexible and holistic age- and stage-appropriate challenge and support. The four planning principles that this approach follows are knowing what the purpose is (i.e., your overarching aims), knowing which educational experiences should be provided to achieve these aims (i.e., your objectives), how this will be delivered, and how you know if those aims and objectives have been met.

When developing PSCs, it has been suggested by Nesti and Sulley (2015) that there is a need to improve the understanding of how coaches operate. This includes gaining some knowledge of the time constraints coaches are under, the high staff turnover and how micropolitics operate in academy soccer (Gibson & Groom, 2019). It has additionally been argued by Mitchell et al. (2022, 2024) that it is coaches who are in fact best placed to support players in developing PSCs (with sport psychologist’s support) as they spend the majority of contact time with them, and that coaches’ observations are more ecologically valid than many questionnaires. Clearly, a joined-up approach is required along the lines of a shared mental model where “collective understanding” is embedded into academy cultures (S. Barraclough et al., 2023, p. 2). Current frameworks used for developing PSCs include Diment’s (2014) drill-based approach, the 5Cs of commitment, communication, control, concentration and confidence (Harwood & Anderson, 2015), and the 8-pillars, which includes the 5Cs with the addition of resilience, presence and self-awareness (Mitchell et al., 2022, 2024), and PCDEs (MacNamara & Collins, 2010a, 2010b). The first three of these approaches have deployed a programme-centred approach whereby all players receive the same content at the same time, although they would be high in ecological validity. A limitation of these frameworks is they do not take into account individual needs, which is an important step forward in developing holistic curricula. PCDEs do take more of an individualised approach and advocate

collaboration between key stakeholders (e.g., parents and coaches) alongside the athlete themselves in order to provide develop opportunities on the pitch (Collins & MacNamara, 2017). This approach suggests breaking down each PCDE down into easily observable behaviours that can subsequently be assessed and monitored which aligns with the aims of this thesis. Future research is needed to investigate PSC assessment and development approaches specifically in academy soccer, particularly exploring how best to operationalise this on the pitch and through coaches following guidelines for new curricula by Moran et al. (2024) and existing principles described above by Collins and MacNamara (2017). This would have implications in how this is delivered in coach education currently in soccer with PSCs not seemingly part of the curriculum for lower-level qualifications. Furthermore, a more collaboration approach between sport psychology and coaching staff to avoid silo working would also seem important to enhance PSC delivery and should be explored in future research (Rothwell et al., 2020).

1.2. My background in academy football

I was a late developer in football terms, not just physically but also in terms of falling in love with the beautiful game. It was not until my mid-teens that I was taken to a Bristol City game in the year when they had a brilliant run to the League Cup semi-finals (1989), only to be beaten in extra time by a strong Nottingham Forest side who would go on to win the competition. This lit a spark in me and although I was never an outstanding player, I was an enthusiastic amateur and played for a local grassroots team every Saturday afternoon. During a game for said Saturday team, we were winning 2-0 at half-time only to go and lose the game 5-2. One of their players was unbelievable in that game, scoring four and assisting the other goal. He played like he was in a trance – what I now know to be ‘in the zone’ (Hanin, 1997). That got me thinking about what drives players – nothing had changed physically or technically about him, and

although tactics may have been a factor, I concluded that it must have been his mindset that inspired him in the second half.

After gaining a degree in psychology, I decided to go on to a Masters in Sport Psychology – the module that I found most interesting from the bachelors’ degree. During the master’s we were recommended to also do a coaching course to support our academic learning, so I decided to do my Level 2 Coaching Certificate (now UEFA C License), and this sparked my passion for coaching. Long story short, I then worked with open-age, junior grassroots teams, after-school clubs and even ran my own soccer academy for a while. My coaching adventures also took me to the United States for nine months coaching on children’s programmes and several projects in Cyprus. After 10 years (and achieving the UEFA ‘B’ License) I felt brave enough to enter the world of academy soccer and got a position at a local Category 3 academy (then pre-EPPP centre of excellence) in the 2011-12 season. Over the following decade I accrued experience in three more academies for four, three and two years respectively.

During that time, I became fascinated with the retain and release procedures that these academies used. Players were often signed or discarded based on superficial information and subjective opinions (including mine) based on current technical and physical attributes and not necessarily on long-term potential. Focus was very much on the ones that were seen to have a chance with the rest seen as collateral damage to be cast off without a further thought. I write this not in self-righteous judgement but more from a sense of guilt in being part of the process and indulging in poor practice myself. After seeing and being involved in this for a number of years it started to eat away at me, especially hearing about boys that were released saying that they never wanted to go near a soccer ever again.

I started to read more deeply around the subject and completed the English Football Association's brilliant Advanced Youth Award in 2021 which was full of important insight into TID and TD. It was also around this time that I also began a Professional Doctorate (D Prof) in Elite Performance as one particular tale left me really frustrated with the system, or one academy manager's particular interpretation of it. Coaching the U-12 age group at the time, one particular player was excelling which I let him know in front of the rest of the group "you've been outstanding recently, keep it up". His confidence was soaring, but unfortunately, a couple of weeks later he was involved in a bad tackle and broke his ankle, leaving him out of action for the rest of the season. The academy manager at the time had some very 'unusual' methods of testing with the players. One particular assessment was to line all the players up on the side of the pitch and get them to sprint to the other side – the quickest was somehow deemed to be the 'best' player. On other occasions he would come and watch the team for 10 or 20 minutes and make snap judgements around individuals or even on one occasion the entire squad: "none of these are good enough". This was despite the protests of the age-group coaches who worked with the players across all their games and training sessions and in reality, knew them far better. The academy manager was making all the decisions based on very limited subjective data i.e., his and only his opinion.

The injured player was told at the end of the season that he would be released, or he could have a trial at the start of the next season to see if he was still good enough. This was something of a surprise as in my opinion he was one of the top three players in the group prior to his injury. However, the decision had been made, and it was down to me to tell him at parents' evening while the academy manager hid away in his office. The boy was understandably devastated and burst into tears before storming out of the room. I felt awful but did nothing to challenge the decision, I merely went along with it through fear of losing my job – what a coward. I finally got the courage to challenge the academy manager on his decision

in the following pre-season by which time the player had left the club. His response was to put me on the ‘naughty step’ and move me to another group. The whole episode left me very disillusioned with the process – surely there was a better way? The purpose of this thesis is to try to answer that question.

My previous roles as a football coach (and providing psychology support to individuals and squads) put me in a good position to comprehend the idiosyncrasies of soccer academies which potentially play a role in identifying and developing talented youth players. This can be enhanced by streamlining the processes for embedding psychosocial skills and characteristics into curricula through supporting and upskilling coaches, who have the most contact time with players. This may not only be beneficial in developing those players deemed good enough to go on to the elite level but also to those who are cast out of the system – providing the latter with useful life skills rather than them just being collateral damage along the way.

1.3. Philosophical perspective

It is important to outline one’s philosophical stance when conducting research with this thesis adopting a pragmatic approach across its content (McGannon et al., 2021). According to Giacobbi et al. (2005) pragmatism emphasises the practical recommendations that emerge from the exploration of applied research questions. It attempts to avoid becoming mired in arguments between academia and applied work, with the research question being more important than “underlying philosophical assumptions” such as epistemology and ontology i.e., theories about knowledge and the nature of reality respectively (Giacobbi et al., 2005, p. 21). Epistemologically, according to pragmatists, the world around us cannot be viewed as being unaffected by socio-cultural conditions or our own unconscious and subjective biases (Giacobbi et al., 2005). Pragmatism does not have a rigid view of ontology, rather that subjectivity and objectivity are on a continuum allowing for methods appropriate to certain

contexts being deployed rather than seeing reality as being fixed and global (Kegelaers et al., 2019). The overarching aim of this approach is to ultimately gain more ecological validity, moving out of the laboratory and onto the field – quite literally in this instance by applying theory to practice in the most natural of settings in this context (i.e., the football pitch). This means that there may sometimes be a need to deploy quantitative, qualitative or even mixed methods approaches that view the same question from different perspectives (i.e., triangulation – Collins et al., 2018) with each having inherent strengths and limitations (Giacobbi et al., 2005).

According to Giacobbi et al. (2005), it is vital that the researcher is aware that their work – both research and applied – is specific to its own context (i.e., in this instance EPPP football academies) but may still have applicability beyond (Taylor et al., 2022). The moral aspect of the thesis is around high attrition rates in academies and those who do not progress within the system gain something from it, rather than being broken by it. The practical element of the thesis asks the question ‘how can the findings be applied in this and other ‘real-world settings’?

Study 1 (Chapter 3) employed a deductive quantitative methodology (i.e., questionnaires) to gain a mass of data from a large sample size. Study 2 (Chapter 4) used an inductive qualitative approach (i.e., interviews) enabling researchers to collect rich, context-specific data to explore participants’ perspective on the research question allowing participants to use the lenses of their own experiences to expand the current knowledge base (Jones et al., 2012). Study 3 (Chapter 5) used an intervention programme approach where the first researcher was embedded within the research context, to observe and then change the environment using a cyclical approach (Gray, 2022). A blend of quantitative (i.e., questionnaires, performance profiles and player feedback) and qualitative (i.e., through coach observation and feedback from coach and lead author reflections) measures were applied.

1.4. Aim and Objectives

The overall purpose of this thesis was to investigate assessment and development of PSCs in male English academy soccer. Accordingly, the objectives of this thesis were:

1. Conduct a critical narrative review of current literature on the assessment and development of psychosocial skills and characteristics on the male youth soccer academy development pathway
2. To identify differences in PCDE profiles of male English youth soccer players across ages and performance levels
3. Explore academy managers' experiences of identifying and developing psychosocial skills and characteristics in youth academy soccer players
4. Design, deploy and evaluate the effectiveness of a PSC development training programme embedded into the curriculum of an academy soccer club.
5. Develop a set of guidelines and education materials for coaches, sport psychologists and other key stakeholders to effectively embed the assessment and development of PSCs into soccer club academies.

1.5. Thesis Structure

This thesis comprises three main sections (see Figure 1). Section 1 (Chapter 2) includes a narrative literature review of current approaches used to assess and develop PSCs. The chapter provides an overview of some of the current issues around assessing and developing PSCs, namely competing with the overemphasis on physical and technical attributes and as yet a lack of a successful approach to PSC enhancement. Section 2 is made up of Chapters 3 and 4. Chapter 3 measures PSCs using the PCDEQ2 in male academy soccer players of different ages

and levels of participation. The aim of this study was to investigate differences in PCDEs across different age groups (U13, U14, U15, U16 and youth team (YT)) and categories of participation (Categories 1, 2 and 3 at academy level, and grassroots) in male English youth soccer players. Chapter 4 explored the experiences of academy managers (AMs) in both assessing and developing PSCs. The aims of this study were twofold: (a) to explore AMs' experiences of PSC identification and development and (b) to identify challenges AMs feel affect development of PSCs. AMs agreed that PSCs are key drivers of progression and that embedding them into the pathway was vital to facilitating holistic development and for players to effectively cope with transitions. AMs identified the need to upskill coaches with additional support coming from external partners and National Governing Bodies. Academies should also carefully consider the design, implementation, and evaluation of programmes to support player PSC assessment and development. Section 3 (Chapter 5 and 6) focuses on the development of PSCs in an academy setting. Chapter 5 investigated the effectiveness of a PSC programme embedded into a Category 3 academy youth development phase group. The aim of this study was to explore the effectiveness of this PSC programme with nine U13 players, delivered through age-group coaches. The 21-week PSC programme had both positive and negative effects on player PSCs which highlights the need for future research into programme design and delivery through academy coaches. Chapter 6 provides a set of guidelines and coach education material for continuing the process of integrating PSCs into academy curricula. Finally, Chapter 7 provides a general summary of the key findings of the thesis, along with practical implications and future research directions.

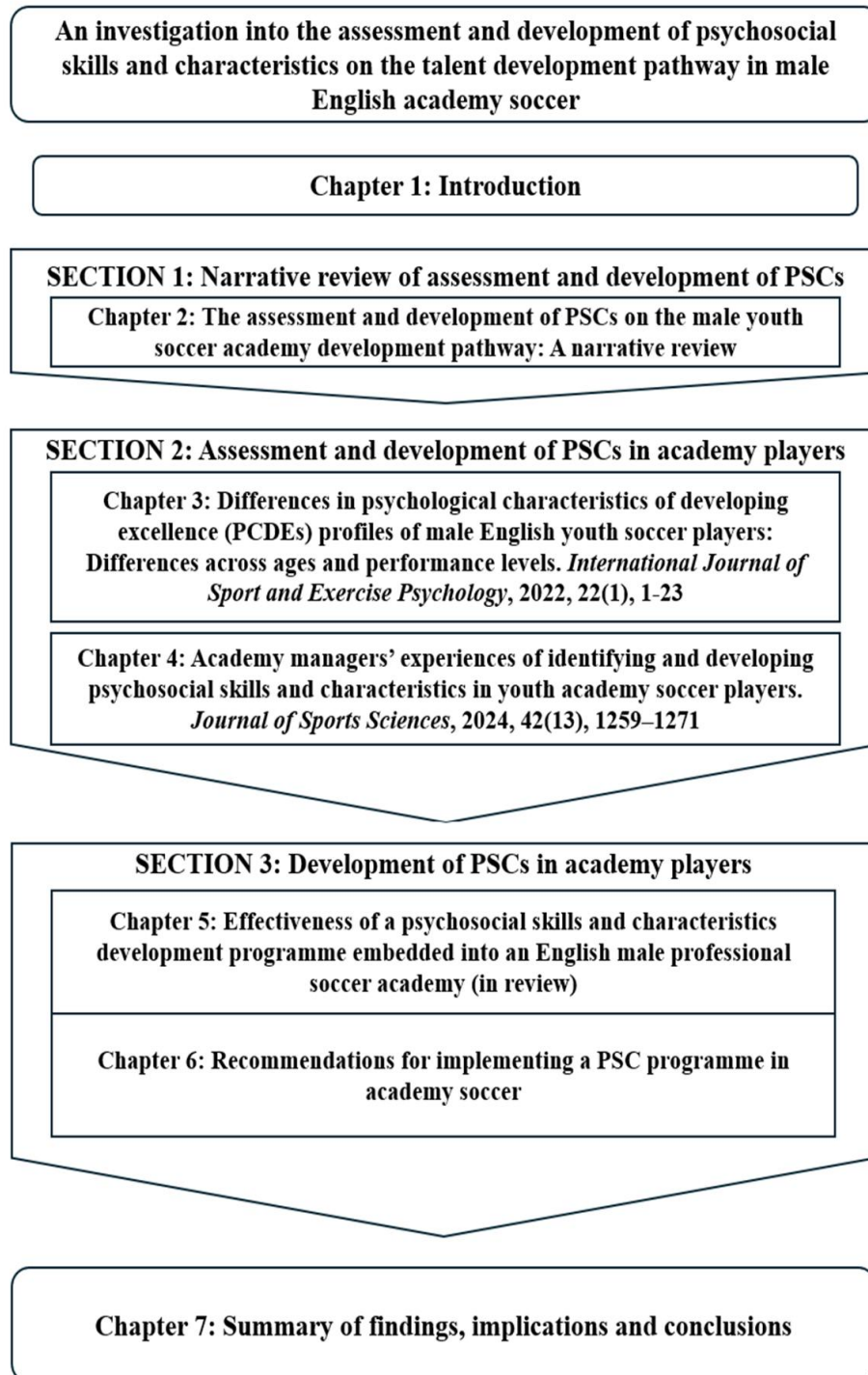


Figure 1. Thesis structure

Chapter 2

CHAPTER 2: The assessment and development of psychosocial skills and characteristics (PSCs) on the male youth soccer academy development pathway: A narrative review

2.1. Abstract

The introduction to this thesis highlighted the importance of assessing and developing PSCs in academy soccer players, alongside physical and technical aspects that are commonly overemphasised. Research increasingly emphasises the importance of PSCs in developing academy soccer players, allowing them to thrive as people and not just athletes. Despite this, there is still ambiguity in which PSCs are important and how to assess and develop them in academy soccer players, and indeed in how to even define them. Accordingly, this narrative literature review aims to 1) identify which PSCs have been identified as important, 2) evaluate current approaches used to assess and develop PSCs, 3) discuss factors that affect development of PSCs within academies, and 4) propose areas for future research into effective PSC assessment and development in academy soccer. The review highlights a number of PSCs that are deemed to be important to (a) deal with transitions, (b) get an early start and (c) develop players holistically. The review also highlights limited research investigating assessment and development of PSCs in academy environments. Current assessment methods include objective approaches such as questionnaires (i.e., PCDEQ) and subjective approaches such as player observations and performance profiling. Although different approaches have been advocated to assess PSCs, it would seem beneficial to explore a more joined-up, individualised and systematic approach. Future research should investigate PSCs at different ages and academy levels and the effectiveness of different approaches to embedding PSCs into curricula including upskilling and engaging coaches into the importance process.

2.2. Introduction

A growing body of research has emphasised the importance of psychosocial skills and characteristics (PSCs) in realising potential in youth academy soccer players (Green et al., 2020, Hardy et al., 2017, Hill et al., 2023, Mitchell et al., 2022, Mitchell et al., 2024, Taylor & Collins, 2021a, Williams et al., 2020, Wixey et al., 2023). Within this increasing volume of research there lies ambiguity in conceptualising PSCs, due to the variety of domains, ages, and development levels studied (Dohme et al., 2016). Additionally, Dohme et al. (2016) described the lack of clarity in defining terms within sport psychology as being very unhelpful, potentially leading to confusion between academics and practitioners. 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 (Nesti & Sulley, 2015, Wixey et al., 2023). This is often furthered hindered by an overemphasis on more easily measurable physical, anthropometrical, technical and tactical factors (Bergkamp et al., 2019).

In 2012, the Elite Player Performance Plan (EPPP) was introduced into English Premier League (EPL) and English Football League (EFL) clubs' academies with a mission of increasing the quantity and quality of home-grown players (English Premier League [EPL], 2011). 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. Although this model has gained plaudits for its face validity, it has also attracted criticism for being overly simplistic in terms of its application at an individual level (Moran et al., 2024). Recommendations have also been made in a 10-year review of the EPPP for a necessity to further increase support for the multi-disciplinary workforce (Premier League 2022). Currently, 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 (Dean et al., 2022).

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 delivered in the same manner with no thought for differentiation, presuming that they are in fact the correct ones to apply (Wixey et al., 2023). Indeed, Gledhill et al. (2017) identified 22 internal psychological factors and 21 external social factors that were observable in five player-level behaviours. In contrast, Dohme et al. (2019) distilled 92 PSCs into eight skills and 11 characteristics. Variability in methods between studies may mean that some of these may not always be applicable in a soccer setting and to all players (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, and which ones are important for players at different stages of their development. For characteristics, Dohme et al.'s (2017) definition will be adopted for the purpose of this thesis i.e., predisposed and relatively stable traits (e.g., confidence or concentration) that may also be state-based and enhanced through deployment of psychological skills), all with a strong influence on an athlete's development.

Accordingly, the aims of this narrative literature review were to 1) identify which PSCs have been identified to be important for academy soccer players, 2) evaluate current approaches

being used to assess and develop PSCs in academy soccer players, including benefits and limitations of these approaches, 3) discuss factors that can affect the development of player PSCs within soccer academy environments and 4) propose areas for future research into making this process more effective.

2.3. Why are psychosocial skills and characteristics (PSCs) important for academy soccer players?

The journey to elite 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 career success in adult professional soccer players (i.e., in this instance having a career for a top division European soccer team) (Van Yperen, 2009), has been associated with psychosocial qualities that players established, or already had, whilst they were adolescent youth players. Within the EPPP, psychosocial skills are vital for players to meet the challenges and emotions experienced on the talent development journey (Gledhill et al., 2017; Larkin & Reeves, 2018; MacNamara et al., 2010a, 2010b). These include commitment to their goals, engaging in problem-focused coping behaviours, and seeking out social support (Mitchell et al., 2022 & 2024; Wixey et al., 2023). As only a tiny fraction of academy soccer players will become professional (EPL, 2022) it should also be a moral responsibility for academies to prepare players for transitioning out of soccer to prepare them with the skills they can deploy in other aspects of life, such as employment in careers outside of soccer (Stambulova et al., 2021).

2.3.1. Dealing with Transitions

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 &

Lavallee, 2004; 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) and their response to these challenges may help to either facilitate or derail holistic development (Stambulova et al, 2021; Wylleman et al., 2013). As only a tiny fraction (~5%) of boys will go on to become professional, psychosocial skills should be considered particularly important for every player within the system (Nesti & Sulley, 2015). These skills will become increasingly important if players are de-selected, helping them to cope with the process and life beyond the soccer environment (Rongen et al., 2018).

2.3.2. Getting an early start

The importance of developing PSCs from a young age has been emphasised by Till and Baker (2020) in order to prepare them for later life, either within or without 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 may 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, and unstructured play against physically stronger opponents) may facilitate a “drop, rebound and growth” cycle facilitating psychosocial growth (Papastaikoudis et al., 2024, p.9). Achieving buy-in from players may be more beneficial at a younger age and stage before they have developed resistance to the benefits of psychological skills training (Massey et al., 2015).

2.3.3. Holistic Development

Ryom et al. (2020) also highlighted in their case study of KRC Gent's academy in Belgium the importance of psychosocial skills on the talent development pathway. The authors described a feature of "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 and colleagues' (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 more short-term 'win at all costs' approach. Additionally, like Ryom et al. (2020) the support from coaches, parents and schools was vital to developing players' psychosocial skills. However, it should be noted that cultural differences may exist between English academies and their European counterparts, highlighting the importance of investigations into the psychosocial characteristics of English youth academy soccer players.

2.4 Which psychosocial skills and characteristics (PSCs) are important for academy soccer players?

Earlier approaches in the domain often focused on single constructs such as grit (Duckworth et al., 2007), growth mindset (Dweck, 2017), resilience (Fletcher & Sarkar, 2016, Gervis & Goldman, 2020), and self-regulation (e.g., Toering et al., 2009, 2011, 2015) but more recently these have been seen as too simplistic, and merely part of a much larger picture (Moodie et al., 2023). 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, task/mastery orientation, and self-regulation). These were related to, and interacted with 21 external social factors (e.g., autonomy supportive coaching, social support,

and appropriate types and levels of challenge) that influenced players' purposeful developmental activities. A combination of these factors is observable in five player-level behaviours that would influence their chances of progression along the pathway (adaptive lifestyle choices and volitional behaviours, amount of soccer behavioural engagement, quality of soccer specific practice and play, appropriate use of coping strategies all combining to produce consistently high levels of soccer technical and tactical performance).

In another systematic review Dohme et al. (2019) investigated PSCs thought to enhance development in young athletes. They initially identified 92 PSCs which were then condensed into eight skills (including social support seeking, realistic self-evaluation and maintaining a sense of balance) and 11 characteristics (including 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 of study, for instance different ages and sports (Dohme et al., 2016, Wixey, 2023).

PSCs most prevalent in the literature for their evident importance to male academy soccer players include autonomy, resilience and seeking social support. Although autonomy is more of a basic need than a PSC per se, it is believed to be linked to higher levels of behavioural engagement, improving intrinsic motivation (Gledhill et al., 2017, Larsen et al., 2020, Mitchell et al., 2024, Ryan & Deci 2000, Ryom et al., 2020, Toering & Jordet, 2015). Therefore, its development through autonomy-supportive coaching (Gledhill et al., 2017) should be a priority for talent development environments. Resilience is thought to enhance a player's ability to cope effectively with pressure, providing protection to maintain functioning when under duress (Fletcher & Sarkar, 2016, Mitchell et al., 2022, 2024). 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 (Hill et

al., 2019, Dohme et al., 2019, Gledhill et al., 2017, MacNamara et al., 2010a, 2010b, 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. Psychological characteristics that seem to be important pre-academy included motivation and self-efficacy, which are possibly catalysts for commitment and involvement in the sport, alongside the establishment of metacognitive skills within players (e.g., self-evaluation) (Papastaikoudis et al., 2023). Furthermore, it has been suggested by Papastaikoudis et al. (2023) that less structured environments help young athletes to learn more effectively, implying that curricula could account for more player-led and unstructured play sessions in order to advance PSCs. Another suggestion by Papastaikoudis et al. (2023) was to ensure 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. This premise is supported by Mitchell et al. (2024) who advocate individual assessment and development plans rather than the current favoured programme-centred approach where all players receive the same content.

2.5. Assessing psychosocial skills and characteristics (PSCs) 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). 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. 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.

Table 1 provides a summary of approaches used to assess and develop PSCs in academy soccer players. Questionnaires are still prevalent in some studies, but recently there has been a call towards upskilling coaches into developing their observation skills of players' progress alongside the use of performance profiles, a much more holistic and player-centred approach that also involves coaches in the process with the rationale that they spent most contact time with the players (Mitchell et al., 2022, 2024).

Table 1. 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
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
Gervis and Goldman (2020): Case study using psycho-education to develop resilience through ACT	U16 academy players. No data available on numbers of participants	Individual learning plans and sport psychologist led sessions on self-awareness	ACT delivered by sport psychologists	- Season-long programme deemed to be successful based on player engagement and utilisation of taught skills	- Athlete-centred	- Single construct - No coach involvement - Not holistic
Green et al. (2020): Case study 'everything matters'	Arsenal FC academy	Academy island	Individual players discussed in age-group MDT meetings and by specialist staff	- Action plans set for individuals in age-group MDT meetings and by specialist staff - Promotes wellbeing - Provide safe space to talk - Provides proactive education to players, parents, and staff - Support to staff and players when things are difficult	- Interdisciplinary including specialist staff - Holistic - Player-centred - Soccer specific - Age-appropriate	- Not all academies can match Category 1 budgets

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	<ul style="list-style-type: none"> - Promote pro-social development/behaviours - Provide psychologically informed environment across the academy - Increased efficacy in coach awareness of PSCs - Improvements shown in each 'C' 	<ul style="list-style-type: none"> - Coach-led - Holistic - Pitch based - Higher ecological validity 	<ul style="list-style-type: none"> - Generic programme-centred - Reductionist – overly narrow focus - Lack of empirical evidence for inclusion of each 'C'
Honer & Feichtinger (2016): Cross-sectional and a 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: <ul style="list-style-type: none"> - motivation - volition - self-referential cognition - emotion 	Suggestions only – coaches and sport psychologists should help talented players develop but no specifics provided	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Possible predictive validity - Very large sample - Longitudinal (across four years) - Partially holistic – tested soccer-specific motor performance 	<ul style="list-style-type: none"> - 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
Jordet (2016): Ecological approach 11 model	Unknown	Two prospective questionnaires (PPPF and MPPF)	Brief descriptions of what coaches can do	<ul style="list-style-type: none"> - 11 hypothetical behaviour types: (1) innovatively advance the game, (2) regulate total load, (3) passionately play the 	<ul style="list-style-type: none"> - Soccer specific 	<ul style="list-style-type: none"> - Reliance on anecdotal autobiographical accounts - Vague and descriptive terms – how to operationalize - Limited and vague descriptive instructions for each factor

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. (2023): 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
Larsen et al. (2020): Case study. Holistic	16 U19 players (17-18 years)	ATDE model	Focus on long-term education and development rather than winning	- Importance of coaches and management in developing and aligning different	- Holistic - Player-centred	- Dutch U19 academy sample – lack of generalizability

ecological approach. Mixed methods: interviews, participant observation and analysis of documents from multiple perspectives (peers, related teams, coaches and players)

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/teammates). Objective: performance statistics (e.g., competition data) and formal strengths

Integration between sport, school, family and other components of environment

Bespoke plan for how super-strength looks in competition and what it might look like overplayed/underplayed (i.e., used too little/often)

groups with an organisational culture to support development

- Super strength approach

- Focus on organisational psychology

- 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

		assessment measures (e.g., personality preference)				
MacNamara et al. (2010a, b): Inductive: Interviews PCDEs	Part a: (elite athletes $n = 7$; elite athlete parents $n = 7$; $N = 14$) 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 (m 47.5 ± 10.5 years) with between 6- 22 years’ experience (m 14.5 , + s $\frac{1}{4}$ 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): Intervention programme / case study	25 Category 3 soccer academy players (14.7 ± 0.3 years)	Coach observation Questionnaire: PCDEQ2 (pre- and post-intervention)	Workshop and pitch based through coaches	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Coach-led - Holistic - Soccer specific - Higher ecological validity 	<ul style="list-style-type: none"> - Generic programme-centred (top-down), pre-determined content
Papastaikou dis et al. (2023): Inductive/qualitative Interviews	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	<ul style="list-style-type: none"> - Pre-academy players acquired PSCs from general experiences prior to entry (e.g., reflective practice, mental skills or seeking social support) - Players encountered recurrent challenges: common/uncommon, planned/ unplanned, individual-focused/group-focused - Players progressed through stages with each challenge (drop, rebound and growth) 	<ul style="list-style-type: none"> - Individualised assessment pre-entry - Individualised and appropriate challenge - Explores types and mechanisms of how challenge enhances development 	<ul style="list-style-type: none"> - 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): 5-stage process of literature review, cross sectional survey, expert coach feedback, inter-rater and intra-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	<ul style="list-style-type: none"> - Magnitude and rate at which players experienced stages highly idiosyncratic - Differences underpinned by individual factors (e.g. prior experiences and perceived coping skills), contextual characteristics of challenge (e.g. type and timing) and support around the challenge (e.g. reflection opportunities) - Coaches rated resilience, competitiveness and decision making as most important psychosocial attributes - 'X-factor' (ability to be creative and unexpected <i>and</i> useful) was rated least important 	<ul style="list-style-type: none"> - High inter-rater and intra-rater reliability - High content, face and ecological validity - Easy to use tool that involves coaching staff 	<ul style="list-style-type: none"> - Small sample size - More research needed on transferability of findings from 4 v 4 to 11 v 11 game and across age groups - Potential cognitive bias from coaches when observing
Ryom et al. (2020): Case study. Holistic ecological approach.	Academy wide (KRC Genk)	Not stated	Training groups with supportive relationships, proximal role models, support of sporting goals by wider environment,	<ul style="list-style-type: none"> - 3 unique features: (1) cultural awareness, (2) openness, and (3) sharing of knowledge. - Club's ability to accommodate broad diversity of players, 	<ul style="list-style-type: none"> - Holistic - Player-centred - Focus on organisational psychology 	<ul style="list-style-type: none"> - Belgian academy sample – lack of generalisability

Qualitative data collected through observation, interviews, and 'desk research'

autonomy supportive coaching

openness to new ideas and learning on all levels

Saward et al. (2019): Deductive: Questionnaire

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 (4.35 ± 0.61) scored higher than Category 3–4 (3.99 ± 0.67) and non-academy (4.02 ± 0.78) ($p < .05$). Evaluating performances and working on weaknesses increased with age for Category 1–2 (U12-U14 vs. U15-U16 = 5.16 ± 0.48 vs. 5.38 ± 0.45), compared to non-academy (U12-U14 vs. U15-U16 = 5.11 ± 0.59 vs. 5.03 ± 0.71) ($p < .05$). Imagery use during practice and competition decreased with age (U12-U14 vs. U15-U16 = 4.45 ± 0.66 vs. 4.29 ± 0.70) ($p < .05$)

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Longitudinal design

- Non-soccer specific lengthy questionnaire (59 items)
- Lack of ecological validity
- Vague and limited descriptive suggestions for development

Toering et al. (2009): Deductive: quantitative	444 players aged 11–17 years (14.4 ± 1.4 years), elite (<i>n</i> = 159) and non-elite (<i>n</i> = 285)	Questionnaire (not clearly stated)	Coaches should encourage players to reflect instead of telling players	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Large sample - Encourages autonomy-supportive coaching 	<ul style="list-style-type: none"> - Narrow focus on one element (self-regulation) - Sample bias – Dutch academy players
Van Yperen (2009): Prospective study to identify psychological factors predicting professional adult status	65 players aged 14+ (M = 16.58, SD = 1.40) 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	<ul style="list-style-type: none"> - 84.6% of players correctly classified as successful/ unsuccessful - 3 psychological factors important: (1) goal commitment, (2) problem-focused coping, and (3) seeking social support - Successful participants had more siblings, often of non-white/ Dutch ethnic origin, and more had divorced parents 	<ul style="list-style-type: none"> - Possible predictive validity 	<ul style="list-style-type: none"> - Dutch sample – lack of generalisability

Wixey (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 themselves 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	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Rich detail - Longitudinal 	<ul style="list-style-type: none"> - 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
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AC = active coping, ACT = acceptance and commitment therapy, ARF = adverse response to failure, ATDE = athletic talent development environment, 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, SDCM = self-directed control and management, SUSS = seeking and using social support

2.5.1. Questionnaires

A few studies (Kelly et al., 2022, 2023; MacNamara et al., 2010a, b; Saward et al., 2019) have sought cause and effect through “experimental or quasi-experimental research designs” (Wixey, 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 entirely soccer centric. For example, the psychological characteristics of developing excellence questionnaire (PCDEQ) created by MacNamara & Collins (2011) and the PCDEQ version 2 (i.e., PCDEQ2) created by Hill et al. (2019) have both been designed using samples that were 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 elite soccer players, with the rest being from rugby union (age ranges between 14 to 20 years).

The original PCDEQ has been used to monitor changes in PCDE scores in Category 2 academy soccer players over a 20-month period and what category level (i.e., 1-4) they subsequently reached at youth team level, which was 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. (2023) 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) (Barney, 2015). 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 psychosocial characteristics. The authors recommended more understanding and empathy with players' social background, particularly in supporting high-potential individuals who may be lower in socio-economic status.

It is believed that only one study has deployed the PCDEQ2 in soccer academies (Mitchell et al., 2024). 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. In addition, they also noted significant improvements in self-reported scores related to communication, control, commitment, concentration, and resilience, which is part of their 8-pillars programme. 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 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 structures, but their 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 in order to achieve greater validity of measures (Collins et al., 2018).

2.5.2. 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 support coaches/scouts with talent identification. The assumption here is that this tool could also be useful in the ongoing monitoring of their performance. Psychosocial characteristics that were rated by coaches as being most important were resilience, competitiveness and decision making. 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, in the youth development phase, a player exhibiting slow and negative reactions after success or making mistakes or incorrect referee decisions could be said to be lacking [emotional] control. Coaches can then utilise this information to co-create (i.e., with sport psychology staff) sessions to test and train this characteristic further.

Observation as a method provides a lot more ecological validity than questionnaires but is also subject to observer bias, in that you need to know what you are looking for. As such, there is also the possibility that 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 (the Cricketer, 2019), could help provide greater triangulation and a reduction in cognitive biases such as groupthink and confirmation bias. 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 players being a potential barrier to repeated observations by different members of staff (Nesti & Sulley, 2015).

2.5.3. Performance profiling

The proliferation of deductive approaches such as questionnaires (Wixey, 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). This contrasts a blanket approach where all players receive the same training and are merely assessed before and after. It may be helpful to get a broader picture from a variety of sources (Collins et al., 2018) so as not to overlook important data and also to reduce cognitive bias in assessment. Although questionnaires such as the PCDEQ2 should not be rejected outright, these 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 from second opinions from coaching staff. This could also have an organisational benefit whereby multiple staff (e.g., coaches, sport psychologists, sport scientists, strength and conditioning coaches) contribute and collaborate to avoid what Rothwell et al. (2020, p.56) refer to as “silo working”. Other benefits of this method include their holistic and bespoke nature with players increasing their autonomy, and perhaps their intrinsic motivation and adherence according to self-determination theory (Ryan & Deci, 2000). A limitation would be the potential for response bias such as social desirability and/or

demand characteristics (Rosenman et al., 2011) from the players and other forms of cognitive bias from coaches (e.g., affinity bias, the halo effect) (Barney, 2015).

2.5.4. Use of data obtained from assessment of player psychosocial skills and characteristics (PSCs).

Another factor to consider is how to use the data obtained from PSC assessments once it has been collected. Traditionally, coaching has employed a deficit model where coaches have sought to work on player weaknesses. More recently, a ‘super strengths’ approach has been suggested where player weaknesses only need addressing if they may pose a risk of de-selection to that player (Ludlam et al., 2015). The premise is that a player’s strengths are what got them into the academy in the first place so why not continue to be enhance them rather than purely working on weaknesses that might not necessarily need addressing? In this context, identifying players’ super strengths as well as their weaknesses may be beneficial in also boosting their self-efficacy. This is something that can be achieved using both subjective and objective measures such as the ones outlined previously (Ludlam et al., 2015). However, it should also be noted that this should be age- and ability-appropriate, with younger players and those of lower ability (i.e., lower category status), maybe having more need to work on their weaknesses.

2.6. Development of Psychosocial Skills and Characteristics (PSCs).

Often, PSC development has been delivered in a top-down approach whereby characteristics have been pre-determined and then assessed deductively by assessment approaches such as questionnaires (Kelly et al., 2022; Kelly et al., 2023; Saward et al., 2019). Also, many programmes struggle to operationalise theory into practice by 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. This approach also promotes a ‘player behaviour – coach system – coach behaviour’ model whereby the PCDE being worked on (e.g., commitment) can be clearly observed through domain-specific operationalised behaviours from the player (MacNamara, 2011). This leads into a combination of coach system and coach behaviours designed to reinforce desirable and extinguish undesirable behaviours from the athlete using behaviour change models such as those outlined by Massey et al. (2015) and Moran et al. (2024). However, there does seem to be lack of distinction between which of these PCDEs fall into the skills and characteristics brackets, unlike the PSC approach taken in the current study. Also, as discussed by MacNamara (2011), PCDEs may vary across or even within domains so would benefit from more extensive testing, in this case in a soccer context.

However, the guidance on *how* to teach these factors is often limited to vague description (e.g., Jordet’s 11-model, 2016) with more of the focus seemingly on measurement. This is despite Collins and MacNamara (2017, 2017a) often emphasising the importance of periodising challenge (e.g., playing up or down an age group, being left out or used as a substitute for certain games or playing out of position) into the development pathway. The PCDE approach does advocate for inter-disciplinary working between players, sport psychologists and coaching staff and indeed parents (Collins & MacNamara, 2017), but has also been criticised for being too centred on PSCs (Gulbin et al., 2013). A more holistic approach using the game as a tool for both assessment and development (and one that is soccer specific) would be a useful step forward as would upskilling coaches and other academy staff in supporting player’s PSC needs (Nesti & Sulley, 2015).

2.6.1. Developing psychosocial skills and characteristics (PSCs) ‘on the grass’

Some notable exceptions in soccer include work by Diment (2014), Harwood and Anderson (2015), and Mitchell et al. (2022, 2024) where PSC training has been periodised into academy curricula and delivered by coaching staff. For this to occur, the environment needs to be focused towards allowing PSCs to thrive such as utilising autonomy-supportive coaching and encouraging players to seek peer support (Ryom et al., 2020). Similarly, Larsen and colleagues’ (2020) case study with Ajax Amsterdam’s academy found that a long-term, developmental environment was more effective than a more short-term ‘win at all costs’ approach. As with Ryom et al. (2020) support from coaches, parents and schools was seen as vital to developing players’ psychosocial skills.

A ‘drill-based approach’ was used by Diment (2014) 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 and programme-centred approach where all players are receiving 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. As no data was provided 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 was one that 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 (see Figure 2 example). As with Diment’s approach, the delivery was again top-down and universal for all the players without prior individual assessment.



Figure 2. Example of a 5Cs session plan. The aim of the session is to develop the psychological characteristic of commitment (Pain et al., 2015).

An evolution of the 5Cs was developed by Mitchell et al. (2022, 2024) who designed an ‘8 pillar’ approach incorporating the 5Cs with the three additional pillars being resilience, presence, and self-awareness, again to be delivered by academy coaching staff with support from sport psychology consultants. The emphasis was still on manipulating session design but with more cooperation between coaching and sport psychology staff in the co-creation of the PSC syllabus. In their later study, Mitchell et al. (2024) suggested a future avenue of inquiry might be to tailor PSC programmes to individual players’ needs through the use of long-term assessments, such as performance profiling (Butler & Hardy, 1992) measuring 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 2.5) and adapt sessions accordingly. The PCDE approach (Collins & MacNamara, 2017) is a framework that encourages individualised assessment and development but does not yet appear to have been tested in a football-specific context e.g., an academy setting. Therefore, its application as a holistic tool that incorporates football-specific sessions is as yet unknown.

Allowing players to experience contrasting emotions through exposure to a variety of periodised successes and struggles is thought to be facilitative of PSC development at optimum levels (Moodie et al., 2023). Knowing your player and differentiating between individuals accordingly is vital as “challenge is in the eye of the beholder” (Williams & MacNamara, 2022, p.8). There is agreement from Papastaikoudis et al. (2024) that challenge is highly idiosyncratic and can be categorised into three areas: common/uncommon (e.g., playing up an age group 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.

Certainly, responding to the needs of what academies want and utilising the current knowledge of their staff in PSC assessment and development may be more productive than this being driven by the needs of academia (Nesti & Sulley, 2015). This is referred to by Collins et al. (2018) as conducting science *for* sport rather than science *of* sport.

2.7. Factors affecting development of player psychosocial skills and characteristics (PSCs).

Although one of the original premises of the EPPP was to create a holistic development model, 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).

2.7.1. Overemphasis on physical factors

Early talent identification and success do 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 (Kelly et al., 2020) purely based on current performance rather than future potential.

This 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. Indeed, selection of early physically, and non-selection of late physically maturing players, may be counterproductive (Gullich & Emrich, 2014). Players who have struggled physically may well develop stronger PSCs than those who have not been challenged as much due to using their physical advantage to dominate their smaller counterparts (Hill et al., 2023a). If smaller physical players are allowed to remain in the system, the challenge afforded by having to problem-solve and develop PSCs through struggle may be beneficial in the longer term (Collins & MacNamara, 2017a). 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 also strongly suggests that much more emphasis should be placed on assessing and developing PSCs throughout a player’s academy journey.

However, with psychological profiling only being 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). Some excellent work has been conducted in Arsenal FC’s Category 1 academy by Green et al. (2020, p. 66) who created “academy island” (Figure 3), which is a tool allowing players to express their emotional states and receive support accordingly. 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), driven by the aims of individual academy managers (Nesti & Sulley, 2015). 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). Even for the clubs that do offer some form of programme, this too may be limited with the prescribed factors being very vague and without guidance as to how they should be delivered. There may also be issues with academically minded sport psychologists using jargon and not “soccer language” (Diment, 2014, p. 24) when engaging with academy staff and players.

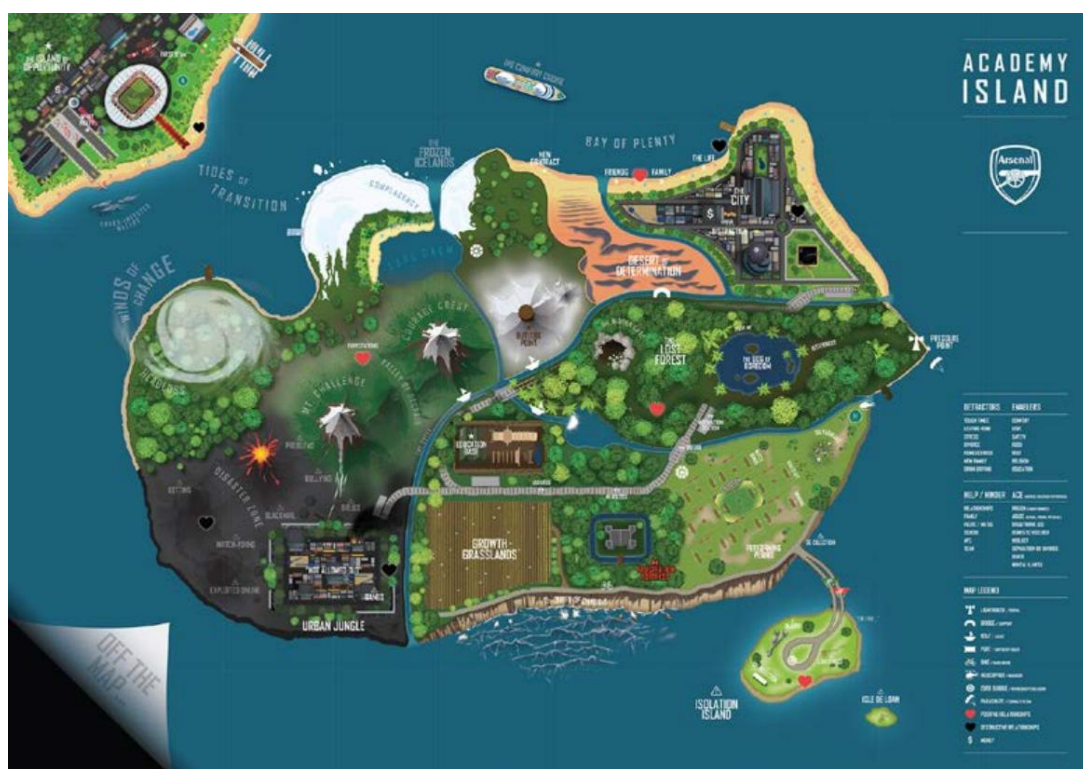


Figure 3. Academy Island (figure taken from Green et al., 2020)

2.7.2. Lack of academy buy-in

Traditional hyper-masculine values still exist in soccer (Ong et al., 2018), with a reticence to engage with psychology as it represents a 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. This may reflect a lack of rationale as to their inclusion.

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, 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 negative attitudes from coaches in their case studies in a Category 2 and Category 1 academies respectively. Champ et al. (2020) found that traditional hypermasculine attitudes prevailed with coaches (often ex-professional players) demonstrating dominant and authoritarian behaviours with little understanding of PSCs. Crawley (2021) discovered that friction between the desire to develop players holistically and the pressure to produce players often led to a suboptimal environment, such as a lack of willingness to encourage autonomy in players. 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.

2.7.3. Navigating transitions

Transitions are additional challenges to developing academy players, classified by Stambulova et al. (2021, p. 527) as: “turning phases in career development involving appraisals of, and coping with, transition demands leading to successful or less successful outcomes and relevant changes in an individual’s career trajectory”. They are further subdivided into the life domain (i.e., when they occur) and also their level of predictability. Transitions that are expected (e.g., moving from junior to senior settings) are known as normative, and those that are relatively unexpected (e.g., injury or de-selection) are known as non-normative (Alfermann & Stambulova, 2007). Being able to successfully cope with either is vital in preventing derailment from the academy pathway and to improve a player’s chances of sustaining a longer career (Stambulova et al., 2021). Failure to cope could lead to negative long-term consequences including premature dropout, mental health issues and avoidance coping. Enabling players to develop as people, beyond the pitch, would seem like an essential step in helping them to effectively navigate their sporting careers *and* from a moral perspective, help them to cope with life after sport. Interestingly, inductive research conducted by Sweeney et al. (2024) confirmed the findings that an increase in technical and physical workload and playing in new positions was viewed as a challenge initially by players moving from grassroots soccer to the Irish Football Association’s national academy. However, players generally saw this as a positive over the longer term and indeed necessary for development. A suggestion to achieve this is to periodise challenge into academy curricula in order for players to develop their PSCs alongside their technical and physical attributes (Collins et al., 2016).

2.7.4. 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). Also, limitations exist whereby research has previously been conducted on non-elite samples with little regard to its application to staff, with access to elite environments being very difficult. In turn, improvement in academic output then becomes challenging if researchers are not permitted entry, meaning that ecological validity is questionable, as is the possibility of cultural change (Cruickshank & Collins, 2012). This creates a conundrum where it is extremely difficult to test and develop PSCs if they are not accepted in academy environments. On the other hand, it can be argued that it needs to be fit for purpose first, which is somewhat of a 'catch 22' situation. Certainly, all sides could do better but an improvement in coach education both at national governing body level and through in-house academy professional development sessions would surely be helpful (Chapter 5). 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; act like a golf caddy, supporting and working indirectly through coaches rather than being the centre of attention.

2.8. Limitations

As with all articles, narrative reviews are not without their limitations. Although it is hoped that this review has been helpful in exploring some of the current issues in assessing and developing PSCs, it lacks the academic rigour of a systematic review. In this instance, there is

also the possibility of bias through selection or omission of research. 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 (CPD) by academies. With this in mind, more research is needed to evaluate which PSCs are important at different category levels and player ages (Laureys et al., 2021). 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 background in micropolitical literacy (Gibson & Groom, 2019). Also, further investigation is warranted into effective assessment tools (not just questionnaires) 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 (Roberts et al., 2019). The mission here is to make this more explicit in order to assess and develop PSCs more systematically. The current work can be further evolved through the dissemination of appropriate methods through upskilling coaches through CPD, further research based on the recommendations from this thesis and other works, and also CPD of the author (for example by becoming accredited as a sport psychologist).

2.9. Conclusion

Despite being widely acknowledged as essential in academy soccer and beyond, the assessment and development of PSCs still lack 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 (i.e., PCDEQ and PCDEQ2) 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 joined-up, individualised 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 the academy curricula including upskilling and engaging coaches into the importance of this process. Accordingly, Chapter 3 will explore the former of these concepts by examining the psychological characteristics of developing excellence profiles of male English youth soccer players across ages and performance levels.

Chapter 3

This chapter comprises the following manuscript published in the International Journal of Sport and Exercise Psychology:

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*.

Chapter 3 – Differences in psychological characteristics of developing excellence (PCDEs) profiles of male English youth soccer players: Differences across ages and performance levels

3.1. Abstract

The previous chapter highlighted current practices and challenges around assessing and developing PSCs and a need to better understand the PSCs of academy soccer players and how they may differ across different ages and performance levels. Therefore, the aim of this study was to investigate differences in PCDEs across different age groups (U13, U14, U15, U16 and youth team) and categories of participation (Categories 1, 2 and 3 at academy level, and grassroots) in male English youth soccer players ($n = 375$). Data were gathered using the PCDE questionnaire version 2 (PCDEQ2). Differences between age groups and categories of participation were analysed using the Kruskal-Wallis H test. Across age groups, highest differences were reported in perfectionistic tendencies ($d = .57, p = <0.01$) and adverse response to failure ($d = .49, p = <0.01$), with youth team players reporting the highest scores. Across categories of participation highest differences in PCDEs were observed in perfectionistic tendencies ($d = .64, p = <0.01$), self-directed control and management ($d = .63, p = <0.01$) and adverse response to failure ($d = .58, p = <0.01$), with Category 1 players reporting the highest scores. Youth team and Category 1 players also demonstrated the highest scores in use of imagery and active preparation, with Category 1 players also demonstrating the highest and lowest score on use of active coping strategies and presentation of clinical indicators, respectively. The findings of the current study have important implications for key stakeholders involved in the planning and monitoring of a player's talent development environment. Careful consideration should be given to identifying and developing players' psychological characteristics to ensure positive nurturing throughout their journey.

3.2. Introduction

In soccer, talent identification and development systems (TIDS) exist to produce elite players (Bergkamp et al., 2019). The ultimate aim of these systems is to select and then develop players who will, in the future, outperform those players who are either not selected for academy programmes or de-selected somewhere along the pathway (Larkin & Reeves, 2018). In 2012 the Elite Player Performance Plan (EPPP) was introduced by the English Premier League with the intention of increasing the number of home-grown soccer players in the English league's top four divisions by adopting "a holistic multi-disciplinary approach to talent development" (Jones, 2018, p. 307), facilitated through increased contact time and specialist coaching supporting player technical, tactical, physical, mental, lifestyle and welfare development (Premier League, 2011). EPPP academies are structured across three phases: 1) Foundation (U9 to U11), 2) Youth Development (U12 to U16) and 3) Professional Development (U17 to U23) with each academy awarded a Category status from 1 to 4, with Category 1 being the most elite and receiving the most funding (Premier League, 2011). Outside of the academy system, soccer is classed as being grassroots whereby participants take part on a recreational basis within community settings (Weissman et al., 2022).

Within the EPPP, and indeed any other talent development system, psychosocial skills are of particular importance for players to develop the necessary attributes required to meet the challenges and emotions experienced on the talent development journey (Gledhill et al., 2017; Larkin & Reeves, 2018; MacNamara et al., 2010a, 2010b). These may include moving to the next phase of the EPPP (i.e., normative transitions) or dealing with setbacks such as injury or de-selection (i.e., non-normative transitions (Wylleman & Lavallee, 2004; Wylleman et al., 2013)). Furthermore, psychosocial skills are prerequisites for learning and development and for the attainment and maintenance of high performance (Abbott & Collins, 2004). It is also important to note that players on the EPPP have non-athletic transitions, such as those that exist

within their micro- (e.g., educational studies, home) and macro-environments (e.g., youth and national culture) that may help to fulfil and facilitate their development as a person outside of soccer (Stambulova et al., 2021; Wylleman et al., 2013). Since only a very small amount (~5%) of boys will go on to play professional soccer, psychosocial skills should be considered particularly important for all EPPP academy soccer players (Nesti & Sulley, 2015) and will become increasingly important if players are released (Rongen et al., 2018). To date, however, much of the emphasis has been on measuring player physical, technical and tactical attributes as these are easier to measure objectively than their more abstract psychosocial counterparts (Koopman et al., 2020).

In their article examining challenges and solutions to optimising talent identification and development in sport, Till and Baker (2020) emphasised the importance of developing psychosocial characteristics within younger age groups where these attributes may not yet have emerged and may therefore be critical to future success. Indeed, future career success in adult professional soccer players has been associated with psychosocial qualities that these players demonstrated whilst they were adolescent youth players, such as, commitment to their goals, engaging in problem-focused coping behaviours, and seeking out social support (van Yperen, 2009). Ryom et al. (2020) also highlighted in their case study of KRC Gent's academy in Belgium the importance of psychosocial skills on the talent development pathway. The authors described an environment that positively developed the whole person across psychological, psychosocial and academic or vocational levels within that player's unique context. This was intended as a talent development process that allowed individuals to progress to elite level, as well as the wider developmental environment which focused on creating more rounded individuals, capable of being functional members of society if they did not reach the professional level in soccer. Also, player autonomy and seeking peer support (rather than autocratic coaching) were encouraged with positive effects noted on later development.

Similarly, Larsen and colleagues' (2020) case study with Ajax Amsterdam's academy (synonymous with developing excellent players and people for many years) found that a long-term, developmental environment was more effective than a more short-term 'win at all costs' approach. Additionally, like Ryom et al. (2020) the support from coaches, parents and schools was vital to developing players' psychosocial skills. However, it should be noted that cultural differences may exist between English academies and their European counterparts. Furthermore, to investigate further how these factors are manifested in English youth academy soccer players across ages and performance levels, a more comprehensive assessment of player psychosocial characteristics would be necessary (Collins et al., 2018).

MacNamara and Collins (2010a, 2010b) explored the development pathway of both elite and successful developmental athletes and identified a number of psychological characteristics of developing excellence (PCDEs) that would be required by young athletes to help negotiate the challenges and transitions of a talent development environment. These PCDEs included the development of mental skills traditionally addressed in sport psychology (e.g., use of goal setting and visualisation), in addition to the attitudes, emotions, and desires that developing athletes would require to be successful on the talent development pathway.

MacNamara and Collins (2011) later devised a PCDE questionnaire (PCDEQ) to assess six overarching PCDE factors: 1) support for long-term success, 2) imagery use, 3) coping with pressure, 4) organising and engaging in quality practice, 5) evaluating performances and 6) working on weaknesses and support from others. However, the original PCDEQ was limited by not accounting for maladaptive and dual effects of PCDEs and not being validated with adolescent athletes. Consequently, this led to a second version of the PCDEQ (PCDEQ2) being developed by Hill and colleagues in 2019 to address these shortfalls. The PCDEQ2 comprises seven PCDE factors, including: (1) Adverse response to failure (maladaptive responses to

failure including items related to anxiety, depression, focus and perfectionism), (2) Imagery and active preparation (ability to use visualisation for skill refinement and management of arousal), (3) Self-directed control and management (intrinsic willingness to engage without constant supervision), (4) Perfectionistic tendencies (perfectionism and associated maladaptive facets such as anxiety, fear of failure and obsessive passion), (5) Seeking and using social support (seeking help from appropriate stakeholders such as parents and coaches), (6) Active coping (proactive self-regulated deployment of coping strategies) and (7) Clinical indicators (mental health and associated factors such as anxiety, depression, eating disorders, and changes in behaviour).

The PCDEQ approach has been advocated over others such as grit (Duckworth et al., 2007), growth mindset (Dweck, 2017) and resilience (Fletcher & Sarkar, 2016), which are often oversimplified and only partially address some of the many complex psychosocial challenges faced on the talent development journey (Collins et al., 2018; Laureys et al., 2021; Taylor et al., 2022). Due to the comprehensive nature of the PCDEQ2, a notable advantage is its ability to differentiate between athletes across various PCDEs, which can subsequently be used to identify those psychological characteristics that require development. Indeed, Hill et al. (2019) discovered that adverse response to failure, self-directed control and management, seeking and using social support and clinical indicators discriminated between those athletes deemed by coaches to have a low and high likelihood of developing to the elite level.

Despite these previous findings and the potential importance of the PCDEs, very little research has explored PCDE profiles in academy soccer players (Kelly et al., 2018; Seward et al., 2019). Contrary to Hill et al. (2019), Kelly et al. (2018) did not find any association between PCDEs, and low and high performers as measured by the original version of the questionnaire (PCDEQ). However, it is important to note that Kelly et al. (2018) examined current

performance rather than potential development and may therefore have missed important psychosocial skills that were gestating within the players, to potentially emerge at a later point. Additionally, this research was conducted on a case study basis that explored PCDEQ profiles within a single Category 3 academy and therefore did not allow for any comparison between other categories of participation. Seward et al. (2019) also used the first version of the PCDEQ across a 20-month period to examine how PCDEs may be associated with future playing standard. These authors discovered several age-related changes in PCDE factors that may influence career progression and be characteristic of Category 1 and 2 scholars across the U12 to U16 age groups. Importantly, factors that were found to indicate membership of higher category status were the ability to cope with performance and developmental pressures and evaluating performances and working on weaknesses. Interestingly, imagery use (during practice and competition) appeared to decrease with age, whereas coping with performance and developmental pressures appeared to increase. However, similar to Kelly et al. (2018) this study involved players from a single Category (Category 2) from two clubs, further highlighting the importance of investigations across different age groups and performance levels. To the authors' knowledge, however, there still remains no multi-club studies that have investigated PCDEQ2 profiles across age groups and performance levels in male English youth soccer players.

Identifying differences in PCDE factor scores across age groups and levels of participation could provide key stakeholders (e.g., academy managers, coaches) in academy soccer with useful insights into the psychosocial characteristics that may differentiate players at different ages and stages of their development. Additionally, it could help to provide more focus on which PCDE factors to develop at younger ages or at lower categories of participation that seem essential for future success (Taylor & Collins, 2021b). This may also help to reduce the collateral damage of players being incorrectly selected or de-selected (type I or Type II

errors, respectively) whilst in a TIDS like the EPPP (Wattie & Baker, 2017) and help to provide youth players with appropriate PCDEs to successfully navigate the challenges and transitions they will inevitably face during their talent development journey.

Accordingly, the primary aim of this study was to examine differences in the seven PCDE factors across age groups and performance levels in male English youth soccer players using the PCDEQ2. It was hypothesised that older players and those at higher levels of participation would have significantly different scores across the seven PCDE factors compared to younger players and those at lower levels of participation. A secondary aim was to examine differences in PCDEs across age groups at each category of participation and vice versa, to determine interaction effects of age and category of participation. It was hypothesised that significant differences in PCDEs would exist across age groups at higher compared to lower categories of participation and across categories of participation in older compared to lower age groups. The data collected from this study can also supplement existing knowledge around normative PCDE profiles of academy players across different ages and performance levels.

3.3. Methods

3.3.1. Study design

A cross-sectional research design was used to investigate differences in PCDE profiles across different age groups and performance levels in male English youth academy soccer and grassroots players.

3.3.2. Participants

Three hundred and seventy-five male English youth soccer players (age: 12 to 18) were purposively sampled from Category 1 to 3 EPPP soccer academies (n = 294) or grassroots (n = 81) performance levels. The number of clubs that participants were sampled from at each performance level included: Category 1 (one club), Category 2 (one club), Category 3 (two

clubs) and grassroots (one club). Table 2 provides the total number, mean age and standard deviation of participants across each age group and performance level. The U17 and U18 age groups were merged into a youth team category comprising academy first- and second-year scholars, which is representative of the academy structure at these age groups. Soccer academies exist as TIDS with the aim of selecting and producing elite players (Bergkamp et al., 2019), whereas grassroots soccer is more about providing opportunities for amateur players to participate recreationally within community settings (Weissman et al., 2022).

Table 2. Total number (n), mean age (years) and standard deviation (SD) of players across age group and performance levels

Age Group	Category 1		Category 2		Category 3		Grassroots		Total	
	<i>n</i>	Mean Age (SD)	<i>n</i>	Mean Age (SD)	<i>n</i>	Mean Age (SD)	<i>n</i>	Mean Age (SD)	<i>n</i>	Mean Age (SD)
U13	15	13.21 (0.06)	17	13.54 (0.55)	26	13.36 (0.17)	20	13.11 (0.24)	79	13.48 (0.08)
U14	16	14.04 (0.18)	12	14.29 (0.25)	33	14.36 (0.39)	20	14.48 (0.23)	81	14.37 (0.11)
U15	31	14.86 (0.20)	11	15.45 (0.07)	28	15.20 (0.18)	21	15.58 (0.18)	91	15.26 (0.28)
U16	26	16.15 (0.23)	4	15.88 (0.46)	23	16.53 (0.15)	12	16.25 (0.39)	65	16.62 (0.37)
Youth Team (U17 – U18)	25	17.05 (0.16)	18	17.10 (0.24)	9	17.41 (0.35)	8	17.92 (0.42)	59	17.18 (0.11)
Total	113		62		119		81		375	

3.3.3. Procedure

Ethical approval was granted from the author’s institutional ethics committee (approval number BAHSS2 0012), with voluntary informed (for participants over 16) or parental consent (for participants under the age of 16) attained prior to participation. Players were only selected if they fulfilled the inclusion criteria of playing in an age group between U-13 and U-18 on 1st

September in that selection year. Players that were currently on trial at academies and not signed were excluded from the study. No data was available regarding how long the players had been at the academies or involved in grassroots football. Participants were informed about the general purpose of the study and told that their identities would be kept strictly confidential and that all the items in the questionnaire should be answered as honestly as possible. Following gate keeper approval PCDEQ2 questionnaires were either e-mailed to prospective participants for completion using the online platform Survey Monkey or were completed under the supervision of the lead researcher following COVID-19 regulations. A major advantage of electronic questionnaires is the greater flexibility allowed to participants, especially as much of this study was conducted during COVID-19 lockdowns. Clear instructions on how to complete the PCDEQ2 were provided to participants in the information sheet, including the importance of completing the questionnaire on their own. All PCDE questionnaires took between 15 to 30 minutes to complete and were obtained from players between October 2019 and April 2020 during the competitive playing period. This questionnaire has been validated for use with the U-13 age group and above and is thus considered the optimal tool, as discussed in Chapter 2.

3.3.4. Psychological characteristics of developing excellence questionnaire version 2 (PCDEQ2)

The PCDEQ2 questionnaire devised by Hill et al. (2019) was used. The PCDEQ2 consists of 88 items, with similarity responses marked on a 6-point Likert scale from 1 (“very unlike me”) to 6 (“very like me”). A combination of positively framed ($n = 72$) and negatively framed ($n = 16$) items were used in an attempt to minimise response bias (Field, 2018) and acquiescence bias (Horn & Smith, 2019). Negatively framed items were reversed (e.g., a score of 6 on the Likert scale would become 1). Table 3 highlights the seven PCDEQ2 factors with an example of sample items. The internal consistency of the PCDEQ2 has previously been reported by Hill

et al. (2019) as good ($\alpha = 0.88$) with each individual PCDE factor also rated as good ($\alpha = 0.72$ - 0.91). In the current study the internal consistency of the PCDEQ2 ($\alpha = 0.87$) along with each individual PCDE factor was also rated as good ($\alpha = 0.74$ - 0.93) (Field, 2018).

Table 3. Subscales and sample items from the psychological characteristics of developing excellence questionnaire version 2 (PCDEQ2).

Factors/subscales	Sample Items
Adverse response to failure (ARF - linked to fear of failure) 21 items	“When things are going wrong for me, my future seems uncertain”
Imagery and active preparation (IAP - for managing arousal and practising skilled performance) 15 items	“I include imagery in my preparation”
Self-directed control and management (SDCM - related to self-regulation in development) 14 items	“I often act without thinking through all the alternatives”
Perfectionistic tendencies (PT - including perfectionism, anxiety, fear of failure, obsessive passion, and realistic performance evaluation) 10 items	“The people around me expect me to be perfect at everything I do”
Seeking and using social support (SUSS - use of effective support networks in Talent Development) 9 items	“I often seek advice from different people”
Active coping (AC -proactive deployment of coping mechanisms) 10 items	“When we need to work hard, I am first in the queue”
Clinical Indicators (CI - of mental health factors such as anxiety, depression and eating disorders) 9 items	“After eating, I sometimes feel guilty about its effect on my body shape”

3.3.5. Statistical Analysis

Descriptive statistics for all PCDE factors are reported using the median score and interquartile range (IQR). Normality of data for all variables was checked using a Kolmogorov-Smirnov Test and confirmed that non-parametric analysis should be used. Homogeneity of variance was checked with Levene’s test and confirmed equal variance across groups. To examine differences in PCDE factors across age groups and performance levels Kruskal-Wallis H (non-parametric) test was performed in SPSS (version 27, Chicago, Illinois). When significant main effects were found Dunn’s post-hoc analysis was used to determine pairwise comparisons

between age groups and performance levels using the Bonferroni adjusted alpha level to reduce chance of a type I error. The level of significance was set at $p < 0.05$. Cohen's d effect size was calculated by transformation of partial eta squared to obtain the magnitude of differences through the effect size calculator for non-parametric tests (www.psychometrica.de/effect_size.html) and interpreted using the scale from Cohen (1998) as: trivial (0-0.19), small (0.2-0.49), moderate (0.5-0.79) and large (>0.8).

3.4. Results

3.4.1. Differences in psychological characteristics of developing excellence (PCDEs) between age groups

The median scores and IQR for all PCDE factors by age group are presented in Table 4. Significant main effects were found between age groups on adverse response to failure ($H(4) = 24.21, p < 0.001, d = 0.49$), imagery and active preparation ($H(4) = 21.31, p < 0.001, d = 0.48$), and perfectionistic tendencies ($H(4) = 30.60, p < 0.001, d = 0.57$) (Table 5). Pairwise comparisons for PCDEs with significant main effects are also presented in Table 4.

3.4.2. Differences in psychological characteristics of developing excellence (PCDEs) between categories of participation

The median scores and IQR for all PCDE factors by category of participation are presented in Table 5. Significant main effects were found between categories of participation on: adverse response to failure ($H(3) = 31.31, p < 0.001, d = 0.59$), imagery and active preparation ($H(3) = 11.60, p = 0.009, d = 0.32$), self-directed control and management ($H(3) = 34.60, p < 0.001, d = 0.63$), perfectionistic tendencies ($H(3) = 36.49, p < 0.001, d = 0.64$), active coping ($H(3) = 9.40, p = 0.024, d = 0.27$) and clinical indicators ($H(3) = 17.43, p = 0.001, d = 0.41$) (Table 5). Pairwise comparisons for PCDEs with significant main effects are also presented in Table 5.

3.4.3. Differences in psychological characteristics of developing excellence (PCDEs) between age groups within each category of participation

The median scores and IQR for all PCDE factors for age groups in each category of participation are presented in Table 7. Across academy categories, significant main effects were only found between age groups in category 1 players on: imagery and active preparation ($H(4) = 25.50, p < 0.001, d = 1.00$); self-determined control and management ($H(4) = 16.71, p = 0.002, d = 0.73$); perfectionistic tendencies ($H(4) = 28.46, p < 0.001, d = 1.08$); and seeking and using social support ($H(4) = 18.72, p < 0.001, d = 0.79$) (Table 6). Significant main effects were also found at Grassroots level in imagery and active preparation ($H(4) = 20.10, p < 0.001, d = 1.04$); self-directed control and management ($H(4) = 15.25, p = 0.004, d = 0.83$); and active coping ($H(4) = 14.08, p = 0.007, d = 0.78$) (Table 6). Pairwise comparisons for PCDEs with significant main effects are presented in Table 6.

3.4.4. Differences in psychological characteristics of developing excellence (PCDEs) between categories of participation for each age group

The median scores and IQR for all PCDE factors for categories of participation in each age group are presented in Table 7. Significant main effects were found between categories of participation in the U14s, U15s and youth team (Table 7). In the youth team the only PCDE with a significant main effect between age groups was perfectionistic tendencies ($H(4) = 13.70, p = 0.003, d = 0.98$). In the U14s significant differences were found in adverse response to failure ($H(4) = 16.97, p < 0.001, d = 0.94$), and self-directed control and management ($H(4) = 18.41, p < 0.001, d = 1.00$). In the U15s significant main effects were found in self-directed control and management ($H(4) = 30.22, p < 0.001, d = 1.35$), seeking and using social support ($H(4) = 15.46, p = 0.001, d = 0.82$) and active coping ($H(4) = 27.87, p < 0.001, d = 1.27$). Pairwise comparisons for PCDEs with significant main effects are presented in Table 7.

Table 4. Median (M), inter-quartile range (IQR) and differences across age groups in psychological characteristics of developing excellence (PCDE) factors.

PCDE Factors	U13		U14		U15		U16		Youth Team		Main Effects		
	M	IQR	M	IQR	M	IQR	M	IQR	M	IQR	H (4)	<i>p</i>	Cohen's <i>d</i>
ARF	2.71 ^e	1.10	2.60 ^{d,e}	1.14	2.79 ^e	1.10	3.07 ^b	1.14	3.33 ^a	1.19	24.21	< 0.001*	0.49 S
IAP	3.60 ^{d,e}	0.90	3.83	1.28	3.53 ^{d,e}	1.13	4.00 ^{a,c}	1.07	4.20 ^{a,c}	0.92	21.31	< 0.001*	0.48 S
SDCM	4.43	0.96	4.50	0.80	4.64	1.18	4.57	0.98	4.43	1.00	1.38	0.849	0.18 T
PT	3.10 ^{d,e}	1.05	3.20 ^e	1.12	3.10 ^{d,e}	0.85	3.55 ^{a,c}	1.28	3.70 ^a	0.95	30.6	< 0.001*	0.57 M
SUSS	4.44	0.78	4.33	1.00	4.56	0.94	4.06	1.19	4.33	1.00	6.94	0.139	0.18 T
AC	4.40	0.55	4.50	0.93	4.50	0.95	4.40	0.90	4.60	0.83	1.54	0.819	0.08 T
CI	2.33	0.94	2.22	1.03	2.11	1.22	2.17	1.28	2.33	0.92	3.22	0.523	0.09 T

Youth team = U17 and U18 age groups, ARF = Adverse response to failure, IAP = Imagery and active preparation, SDCM = Self-directed control and management, PT = Perfectionistic tendencies, SUSS = Seeking and using social support, AC = Active coping, CI = Clinical Indicators, T = Trivial effect size, S = small effect size, M = moderate effect size, a = different from U13 with $p < 0.05$, b = different from U14 with $p < 0.05$, c = different from U15 with $p < 0.05$, d = different from U16 with $p < 0.05$, e = different from youth team with $p < 0.05$. *Denotes significant main effect ($p < 0.05$).

Table 5. Median (M), inter-quartile range (IQR) and differences across categories of participation in psychological characteristics of developing excellence (PCDE) factors.

PCDE Factors	Category 1 (n = 113)		Category 2 (n = 63)		Category 3 (n = 118)		Grassroots (n = 81)		Main Effects		
	M	IQR	M	IQR	M	IQR	M	IQR	H (3)	<i>p</i>	Cohen's <i>d</i>
ARF	3.10 ^c	0.98	3.00 ^c	1.08	2.45 ^{a, b, d}	1.33	2.86 ^c	1.12	31.31	< 0.001*	0.59 M
IAP	4.00 ^{c, d}	1.33	3.73	0.92	3.73 ^a	1.33	3.70 ^a	1.07	11.60	0.009*	0.32 S
SDCM	4.71 ^d	0.93	4.43 ^d	0.84	4.64 ^d	0.82	4.00 ^{a, b, c}	1.21	34.60	< 0.001*	0.63 M
PT	3.60 ^{b, c, d}	1.00	3.45 ^{a, d}	0.95	3.10 ^a	1.15	3.00 ^{a, b}	1.20	36.49	< 0.001*	0.64 M
SUSS	4.44	1.28	4.33	1.17	4.44	1.00	4.33	0.89	0.79	0.853	0.16 T
AC	4.60 ^d	0.80	4.45	0.70	4.50	0.90	4.20 ^a	0.85	9.40	0.024*	0.27 S
CI	2.00 ^{b, d}	0.89	2.44 ^a	0.78	2.11 ^d	1.00	2.56 ^{a, c}	1.11	17.43	< 0.001*	0.41 S

ARF = Adverse response to failure, IAP = Imagery and active preparation, SDCM = Self-directed control and management, PT = Perfectionistic tendencies, SUSS = Seeking and using social support, AC = Active coping, CI = Clinical Indicators, a = different from category 1 with $p < 0.05$, b = different from category 2 with $p < 0.05$, c = different from category 3 with $p < 0.05$, d = different from grassroots with $p < 0.05$ from category 2 with $p < 0.05$, c = different from category 3 with $p < 0.05$, d = different from grassroots with $p < 0.05$. *Denotes significant main effect ($p < 0.05$).

Table 6. Median (M), inter-quartile range (IQR) and differences in psychological characteristics of developing excellence (PCDE) factors across age groups in each category of participation.

Level of Participation	PCDE Factors	U13		U14		U15		U16		Youth Team		Main Effects		
		<i>M</i>	IQR	<i>M</i>	IQR	<i>M</i>	IQR	<i>M</i>	IQR	<i>M</i>	IQR	H (4)	<i>p</i>	Cohen <i>d</i>
Cat 1	ARF	3.10	0.98	2.91	1.18	2.81 ^d	1.48	3.10	1.04	3.48 ^b	0.79	13.41	0.009	0.96 L
	IAP	3.23 ^{b,c,d,e}	1.13	4.53 ^a	1.07	3.73 ^a	1.53	4.07 ^a	1.30	4.33 ^a	1.13	25.50	< 0.001*	1.00 L
	SDCM	4.25 ^c	0.57	4.79	0.50	4.93 ^{a,d}	0.50	4.36 ^c	0.89	4.50	1.32	16.71	0.002*	0.73 M
	PT	3.60	1.10	3.70	1.13	3.20 ^{d,e}	0.70	3.95 ^c	1.17	4.10 ^c	0.90	28.46	< 0.001*	1.08 L
	SUSS	3.83 ^c	1.25	4.50	1.50	4.78 ^{a,d}	0.78	3.78 ^c	1.81	4.44	1.17	18.72	< 0.001*	0.79 M
	AC	4.40	0.92	4.75	0.85	4.80 ^d	0.90	4.35 ^c	1.08	4.70	0.95	13.69	0.008*	0.63 M
	CI	2.22	0.83	1.89	1.08	1.89	0.78	2.06	1.03	2.11	2.89	4.71	0.318	0.16 T
Cat 2	ARF	2.52	0.98	2.67	1.18	2.95	1.48	2.00	1.04	3.07	0.79	3.30	0.510	0.22 S
	IAP	3.53	1.13	3.60	1.07	3.90	1.53	3.87	1.30	3.80	1.13	0.57	0.966	0.51 M
	SDCM	4.50	0.57	4.29	0.50	4.64	0.50	4.93	0.89	4.32	1.32	1.38	0.847	0.44 S
	PT	2.80	1.10	3.65	1.13	3.40	0.70	2.80	1.17	3.50	0.90	5.94	0.203	0.38 S
	SUSS	4.56	1.25	4.00	1.50	4.56	0.78	3.83	1.81	4.06	1.17	12.26	0.16	0.82 L
	AC	4.40	0.92	4.45	0.85	4.75	0.90	4.40	1.08	4.40	0.95	3.32	0.505	0.22 S
	CI	2.33	0.83	2.72	1.08	2.44	0.78	1.44	1.03	2.33	0.72	2.88	0.578	0.28 S
Cat 3	ARF	2.43	1.00	2.14	1.45	2.64	1.48	2.81	1.48	2.62	2.67	5.97	0.201	0.26 S
	IAP	3.80	1.47	3.53	1.38	3.73	1.13	3.83	1.70	4.20	0.90	4.69	0.321	0.16 T
	SDCM	4.36	0.86	4.79	0.63	4.64	0.86	4.79	0.93	4.68	1.66	4.79	0.309	0.17 T
	PT	3.40	1.10	2.90	0.98	3.00	1.30	3.30	0.80	3.25	2.25	4.35	0.360	0.11 T
	SUSS	4.28	1.11	4.33	1.00	4.50	1.11	4.28	0.72	4.56	1.58	0.61	0.962	0.35 S
	AC	4.55	1.40	4.30	1.15	4.35	1.00	4.60	0.80	4.80	1.00	3.33	0.504	0.54 M
	CI	2.33	1.11	1.94	1.08	2.11	1.00	2.11	0.94	2.39	2.89	2.42	0.659	0.24 S
Grassroots	ARF	2.52	0.87	2.76	1.04	2.91	0.88	3.76	1.25	2.74	1.62	6.95	0.139	0.40 S
	IAP	3.67	0.38	3.73 ^d	1.25	3.33 ^d	0.73	4.43 ^{b,c}	0.53	4.23	0.87	20.10	< 0.001*	1.04 L
	SDCM	4.64 ^c	1.05	4.00	0.96	3.46 ^a	0.86	4.39	1.25	4.21	0.93	15.25	0.004*	0.83 L
	PT	2.60	0.88	2.95	1.23	3.10	1.15	3.65	1.62	3.05	1.27	6.35	0.174	0.36 S
	SUSS	4.56 ^c	0.53	4.39	1.00	3.78 ^a	0.78	4.17	0.86	4.39	0.53	9.96	0.41	0.58 M
	AC	4.40	0.50	4.45 ^c	1.02	3.85 ^b	0.70	4.15	1.15	4.60	0.63	14.08	0.007*	0.78 M
	CI	2.44	1.36	2.39	0.53	2.56	1.50	2.89	1.72	2.94	1.72	1.66	0.798	0.36 S

Youth team = U17 and U18 age groups, ARF = Adverse response to failure, IAP = Imagery and active preparation, SDCM = Self-directed control and management, PT = Perfectionistic tendencies, SUSS = Seeking and using social support, AC = Active coping, CI = Clinical Indicators, T = Trivial effect size, S = small effect size, M = moderate effect size. a = different from U13 with $p < 0.05$, b = different from U14 with $p < 0.05$, c = different from U15 with $p < 0.05$, d = different from U16 with $p < 0.05$, e = different from youth team with $p < 0.05$. *Denotes significant main effect ($p < 0.05$).

Table 7. Median (M), inter-quartile range (IQR) and differences in psychological characteristics of developing excellence (PCDE) factors across categories of participation in each age group.

Level of Participation	PCDE Factors	Category 1		Category 2		Category 3		Grassroots		Main Effects		
		M	IQR	M	IQR	M	IQR	M	IQR	H (4)	<i>p</i>	Cohen's <i>d</i>
U13	ARF	3.10 ^c	0.98	2.52	1.75	2.38 ^a	1.00	2.52	0.87	10.03	0.018*	0.64 M
	IAP	3.23 ^c	1.13	3.53	1.03	3.80 ^a	1.47	3.67	0.38	8.54	0.036*	0.56 M
	SDCM	4.25	0.57	4.50	0.93	4.39	0.86	4.64	1.05	2.23	0.527	0.20 S
	PT	3.60 ^d	1.10	2.80	0.85	3.30	1.10	2.60 ^a	0.88	10.87	0.012*	0.69 M
	SUSS	3.83 ^{b, d}	1.25	4.56 ^a	0.64	4.33	1.11	4.56 ^a	0.53	13.20	0.004*	0.79 M
	AC	4.40	0.92	4.40	0.65	4.60	1.40	4.40	0.55	1.63	0.653	0.27 S
	CI	2.22	0.83	2.33	1.19	2.33	1.11	2.44	1.36	1.09	0.779	0.32 S
U14	ARF	3.05 ^c	1.29	2.67 ^c	1.92	2.14 ^{a, b, d}	1.02	2.76 ^c	1.10	16.97	< 0.001*	0.94 L
	IAP	4.67 ^{c, d}	1.07	3.60	0.63	3.47 ^a	1.30	3.67 ^a	1.27	14.76	0.002*	0.85 L
	SDCM	4.79 ^d	0.50	4.29	0.52	4.68 ^d	0.57	4.07 ^{a, c}	0.93	18.41	< 0.001*	1.00 L
	PT	3.70 ^c	0.90	3.65	0.68	4.68 ^a	0.95	4.07	1.30	13.18	0.004*	0.78 M
	SUSS	4.44	1.44	4.00	1.86	4.39	1.00	4.44	1.00	1.11	0.776	0.32 S
	AC	4.80	0.80	4.45	0.88	4.30	1.15	4.44	1.00	4.97	0.174	0.32 S
	CI	1.89	1.00	2.72	1.39	1.89	1.17	2.44	0.56	6.10	0.107	0.41 S
U15	ARF	2.81	1.48	2.95	1.00	2.64	1.48	2.95	0.88	2.03	0.567	0.21 S
	IAP	3.73 ^d	1.53	3.90	1.33	3.73	1.13	3.33 ^a	0.73	8.21	0.042*	0.51 M
	SDCM	4.93 ^d	0.50	4.64	0.64	4.64 ^d	0.86	3.50 ^{a, c}	0.86	30.22	< 0.001*	1.35 L
	PT	3.20	0.70	3.40	1.40	3.00	1.30	3.10	1.15	1.52	0.677	0.26 S
	SUSS	4.78 ^d	0.78	4.56	0.67	4.50	1.11	3.78 ^a	0.78	15.46	0.001*	0.82 L
	AC	4.80 ^{c, d}	0.90	4.75 ^d	0.50	4.35 ^a	1.00	3.80 ^{a, b}	0.70	27.87	< 0.001*	1.27 L
	CI	1.89 ^d	0.78	2.44	0.67	2.11	1.00	2.50 ^a	1.50	7.89	0.48	0.49 S
U16	ARF	3.05	0.98	2.00	0.00	2.83	1.52	3.71	1.33	6.71	0.082	0.51 M
	IAP	4.00	1.17	3.80	0.00	3.73	1.68	4.47	0.60	5.38	0.146	0.40 S
	SDCM	4.36	0.82	4.71	0.00	4.82	0.98	4.21	1.36	8.34	0.039*	0.62 M
	PT	3.90	1.25	2.80	0.00	3.25	0.78	3.80	1.70	7.21	0.065	0.55 M
	SUSS	3.89	1.83	4.00	0.00	4.44	0.72	4.22	0.89	3.04	0.385	0.05 T
	AC	4.30	1.10	4.40	0.00	4.60	0.80	4.10	1.10	4.18	0.243	0.28 S
	CI	2.00	1.06	1.44	0.00	2.11	0.92	2.89	1.00	5.18	0.159	0.39 S
Youth Team (U17-U18)	ARF	3.50	0.82	3.07	0.93	2.48	3.10	2.76	1.67	4.19	0.242	0.30 S
	IAP	4.33	1.17	3.80	0.83	4.00	0.93	4.33	0.33	5.26	0.154	0.41 S
	SDCM	4.46	1.23	4.32	0.79	4.71	1.93	4.29	0.43	1.12	0.773	0.38 S
	PT	4.10 ^{b, d}	0.90	3.50 ^a	0.5	3.10	2.70	3.20 ^a	1.50	13.70	0.003*	0.98 L
	SUSS	4.39	1.06	4.06	1.11	4.56	1.89	4.44	0.44	3.50	0.321	0.19 T
	AC	4.65	1.03	4.40	1.05	4.90	1.20	4.60	0.70	2.57	0.463	0.18 T
	CI	2.11	0.56	2.33	0.78	2.44	1.67	3.22	1.44	5.31	0.151	0.42 S

ARF = Adverse response to failure, IAP = Imagery and active preparation, SDCM = Self-directed control and management, PT = Perfectionistic tendencies, SUSS = Seeking and using social support, AC = Active coping, CI = Clinical Indicators, T = Trivial effect size, S = small effect size, M = moderate effect size. a = different from Category 1 with $p < 0.05$, b = different from Category 2 with $p < 0.05$, c = different from Category 3 with $p < 0.05$, d = different from Grassroots with $p < 0.05$. *Denotes significant main effect ($p < 0.05$).

3.5. Discussion

The purpose of this study was to examine differences in the seven PCDE factor scores across age groups and performance levels in male English youth soccer players using the PCDEQ2. A further aim was to examine differences in PCDEs across age groups at each category of participation and vice versa, to determine interaction effects of age and category of participation. It was hypothesised that older players and those at higher levels of participation would have significantly different scores across the seven PCDE factors. The key findings of this study were that (1) in agreement with the hypothesis older players (U16 and youth team) had significantly higher PCDE scores than younger players (U13-U15), but only in adverse response to failure, imagery and active preparation and perfectionistic tendencies, (2) perfectionistic tendencies were significantly higher in Category 1 players than all other levels of participation, with youth team players reporting the highest scores, (3) youth team players also had significantly higher scores in adverse response to failure than younger age groups (U13-U15), with Category 1 players reporting the highest scores, (4) when examining differences across categories of academies the only differences in PCDEs were found in Category 1 players in imagery and active preparation, self-determined control and management, perfectionistic tendencies and seeking and using social support and (5) grassroots players had significantly lower scores in self-directed control and management than all academy players. Ideal scores for the PCDEQ2 factors would be as high as possible (i.e., close to 6) for those deemed positive (AC, IAP, SDCM and SUSS), as low as possible (i.e., close to 1) for negative (i.e., ARF and CI) and somewhere in the middle for PT due to it having dual effects i.e., both negative and positive connotations (around 3).

3.5.1. Perfectionistic tendencies

Interestingly, the greatest effect size difference between the older and younger age groups was in perfectionistic tendencies ($d = 0.57$) with Category 1 youth team players reporting the

highest scores. Furthermore, pairwise comparisons showed that Category 1 players had significantly higher scores than all other categories of participation, suggesting that perfectionistic tendencies increased through the age levels (median score of 3.7 for YT compared to 3.1 for U13) and categories of participation (median score of 3.6 for Category 1 compared to grassroots). Perfectionism is generally accepted as being multidimensional (Hill et al., 2018), consisting of perfectionistic strivings (adaptive, self-referenced and leading to setting of high standards) and perfectionistic concerns (maladaptive worries over making mistakes and feeling an imbalance between expected and actual performance (Madigan, 2016). Hill et al. (2018) speculated that perfectionism may change with age as individuals develop over their lifespan. Therefore, it is a distinct possibility that the importance of winning and outcome goals in general (e.g., competition for scarce places at the next age group) may increase throughout adolescence, which in turn leads to greater levels of perfectionistic tendencies, as found in the current study. Larkin et al. (2015) discovered that higher perfectionistic strivings in players seemed to facilitate more engagement in types of soccer practice (coach-led, individual practice, peer-led play, and indirect involvement), which ultimately lead to higher levels of performance. Therefore, if players can avoid the negative connotations of perfectionistic concerns (such as burnout and dropout – Laureys et al., 2021), this could be a helpful factor in advancing through age groups and reaching and/or staying at higher categories of participation. It could also explain why those athletes that are unable to deal with this in a certain manner may be filtered out of the system as they get older or find their level further down the participation structure (at a lower category of participation) – a form of sporting natural selection. Alternatively, perfectionistic tendencies may be a part of an elite player's make-up and be necessary for them to progress to higher levels. Either way, player support/training on how to avoid the negative consequences of perfectionistic concerns would seem like a vital part of the process for player wellbeing and for reducing the chance of

type one (incorrectly selected/retained) or type two errors (incorrectly removed/de-selected) when making decisions on players' futures (i.e., retain or release) (Wattie & Baker, 2017).

3.5.2. Adverse response to failure

The results illustrated that similar to perfectionistic tendencies, adverse response to failure was also highest in Category 1 players (median score of 3.1 compared to 2.86 in grassroots) and more prevalent in older players (median score of 3.33 for YT and 2.71 for U13). For example, youth team players had significantly higher scores than the U13-U15 age groups. The close links between perfectionism and fear of failure (Hill et al., 2019) may suggest that an adverse response to failure could be a manifestation of perfectionistic tendencies. This would suggest that as players progress through the system, there is a likelihood of both adverse response to failure and perfectionistic tendencies increasing as they get closer to the professional phase (Noon, 2015). This may also be linked to the development of a more exclusive athletic identity (possibly even foreclosure) at higher COP and older age groups. As players get closer to the prospect of a professional contract it may be that they invest even more time and effort into their athletic endeavors at the expense of other elements of their identity.

This phenomenon has been examined by Rongen et al. (2020) who examined the differences in athletic identity between Category 1 academy players and age-matched soccer playing school pupils. The study found consistently higher athletic identity in those players registered with a Premier League Category 1 soccer club, compared to age-matched soccer-active secondary school pupils. Therefore, this reinforces the importance of holistic player development in ensuring players develop as more rounded people regardless of whether they make it to the elite level. Also, an increased chance of adverse response to failure may also coincide with more stressful challenges and important transitions that players experience as they progress across age groups and when involved at higher categories of participation. For

example, both Savage et al. (2017) and Stambulova et al. (2021) identified the junior to senior transition (JST) in sport as being particularly stressful for athletes with increased demands being experienced during this specific time-point of a player's journey (e.g., training intensity and level of competition). It may be the skills that a player brings to the situation that are more important than the situation itself as a learning opportunity (Savage et al., 2022). In accordance with the findings, this highlights the importance of targeted interventions in and around these important transition points, particularly for older players and those involved at higher categories of participation. The current study would support both studies (Savage et al., 2022, Stambulova et al., 2021) particularly as both ARF and PT showed a linear increase through the age groups (with the exception of the U14s) and in the highest COP (i.e., Category one and two academies), peaking at U16 and youth team level (just before and after the JST occurred).

It is also interesting to note that higher adverse response to failure scores have previously been suggested to lead to “suboptimal interaction with developmental challenge” (Hill et al., 2019, p.524). Indeed, Hill et al. (2019) found that players rated most likely to progress to the elite level had significantly lower scores in adverse response to failure than players rated less likely to progress. This finding would seem to disagree with the findings of the current study, although it is important to recognise that although adverse response to failure itself is not thought to have a dual effect (i.e., both adaptive and maladaptive), a ‘fear of failure’, on which it is partially based, does. This could possibly mean that higher scores in adverse response to failure (and perfectionistic tendencies) could also lead to, or represent, positive psycho-behavioural characteristics (e.g., quality practice, goal-setting and self-reinforcement, focus and distraction control), in addition to the negative characteristics previously mentioned. For example, Sagar and Stoeber (2009) found that perceived coach pressure predicted a heightened fear of experiencing shame and embarrassment in their participants when experiencing failure, in comparison to less-demanding coaches. However, this enhanced

perceived pressure also elicited more positive emotions after success (e.g., happiness, pride, satisfaction), perhaps again illustrating the potential dual-effect nature of a fear of failure and its effect on adverse response to failure mentioned previously. Therefore, fear of failure may not necessarily be a bad characteristic but be indicative of being part of an elite environment where high expectations are the ‘norm’, especially as it seems to be a more prevalent trait in older and higher category players within the current study. As such coaches need to be made aware of how their coaching behaviours may positively or negatively influence their players and ensure that players have the necessary psycho-behavioural skills required to deal with both the negative and positive effects of fear of failure (and whether this leads to adverse response to failure or not). To do this, Collins and MacNamara (2017b, p.341) have advocated a “systematic teaching, challenging, evaluating and refining cycle” that embeds periodised challenge into the pathway. This challenge is designed to test players’ current psychosocial skills and develop appropriate mental tools to cope with any areas of issue which may include an adverse response to failure caused by a negative response to fear of failure. Indeed, it is not just coaching staff, but all significant others that are vital in this process, including parents and teachers. Stambulova et al. (2021, p.359) state that the most successful environments for supporting athletes exist when all the individual constituent parts “(e.g., school, club coaches, parents) are integrated, and when there is a recognition of the need for coherent messages and optimal support from different stakeholders”.

3.5.3. Self-directed control and management

An important positive PCDE characteristic that may help facilitate players’ development and effectively navigate adverse response to failures is self-directed control and management (Toering & Jordet, 2015). It includes elements such as metacognition, grit, and delayed (rather than instant) gratification i.e., working hard for success in the long-term over the short-term (Hill et al., 2019; Toering & Jordet, 2015). These findings agree with the current study that

found players who had been selected for an academy had significantly higher scores than grassroots players (median score of 4). Furthermore, in the current study Category 1 players had the highest scores (median score of 4.71). Collectively, this would suggest that academy players and particularly those performing at the highest level possess higher levels of autonomy (self-regulation and self-control) and focus on planning towards their long-term goals. These psychological characteristics are vital for motivating players towards practice that may often be viewed as tedious and unenjoyable (Baker et al., 2009). Although Ericsson and colleagues' (1993) deliberate practice theory (i.e., an accumulation of thousands of hours of practice is required to achieve expertise in a domain) has largely been debunked, Toering and Jordet (2015, p.344) point out that "the willingness to do just a little more than others each day may to some extent contribute to differences between elite performance levels". In the study by Toering and Jordet (2015) players with higher self-regulation reflected more (also thought to facilitate advancement to higher levels) and tried harder, even under challenging conditions. According to the findings of the current study, these traits would seem to be important characteristics representative of players entering EPPP academies with a player's social environment influencing their development (Larsen et al., 2020; Ryom et al., 2020). The case studies by Larsen et al. (2020) and Ryom et al. (2020) both found that "autonomy supportive coaching" (Gledhill et al., 2017, p.17) within a supportive micro-environment (prioritising development over winning) on an individualised basis was indicative of positive cultures. As such, practice design would need to account for coaching behaviours where players are given the chance to self-regulate, in line with findings from Mills et al. (2014), who interviewed elite soccer academy coaches for their views on optimal development environments. This might include providing practices that are specific, appropriately challenging and more task/mastery-oriented (Collins et al., 2018), thus allowing players to engage more effectively with the programme, whilst also developing the psychosocial skills necessary for success within and

extrinsic to the sporting world. In addition to coaches, it is also important to acknowledge the role of parents in facilitating player self-directed control and management. Collins et al. (2016) highlight the importance of parents being supportive but also allowing their children to make mistakes and have ownership in their development. These authors also highlight that ‘pushy’ parents are often associated with less elite athletes. For example, those that were labelled as ‘super champions’ described how their parents “took a back seat, and though interested, were not a significant driver of their development” (Collins et al., 2016, p.7). Therefore, education sessions for significant others (e.g., coaches and parents) may be beneficial in helping to support self-directed control and management and for understanding the advantages of having a more ‘hands-off’ approach with their players/children (Appendices 8 and 9).

3.5.4. Imagery and active preparation

Imagery and active preparation is another positive PCDE factor that can influence player development and explores how an athlete uses visualisation for motor learning and arousal regulation purposes (Hill et al. 2019). As with SDCM, the higher the levels of IAP, the more likely players are to progress according to Hill et al. (2019). Imagery and other forms of active preparation such as pre-competition and competition focus plans when used from an early age have been shown to enhance competition preparation, transitions to a different level, coping with injury, and self-evaluation of performance (MacNamara et al., 2010a). In the current study players in older age groups (i.e., U16 and youth team) had significantly higher scores (median scores of 4 and 4.2 respectively) than players in younger age groups (i.e., U13– with a median score of 3.6). Category 1 players with a median score of 4 also appear to visualise and actively prepare more than those in lower categories, including grassroots (median score of 3.7). These findings are in contrast to those of Saward et al. (2019) who found that imagery use (during practice and competition) appeared to decrease with age. When comparing elite and sub-elite athletes there is a link between use of psychological skills and level of performance (Laureys

et al., 2021). Additionally, top performers (i.e., Olympic and world champions) use more imagery and at a more demanding level (i.e., visualised themselves achieving champion status), as opposed to less successful athletes that set their sights lower (Saward et al., 2019). From a perceptual-motor control perspective, Pocock et al., (2017) also discovered the advantages of using imagery for soccer-specific tasks i.e., visual exploratory behaviour (or scanning) which may explain differences between anticipation and successful actions in Premier League soccer players (Jordet et al., 2013). The implications for this would be that imagery and active preparation should still be encouraged in players from higher categories of participation but also enhanced in those from lower categories and from an earlier age where time and budgets allow. One possible method may be to deliver workshops to players (and coaches and parents) to explain and encourage use of imagery and active preparation as young as possible, with regular monitoring of deployment of these skills, possibly as part of a wider PCDE package (Collins et al., 2018).

3.5.5. Active coping and clinical indicators

The PCDE factors of active coping and clinical indicators had small significant differences between categories, but no differences were found between age groups. With regards to active coping higher scores are seen as more facilitative of progression (Hill et al., 2019) and for the current study the highest score was observed in Category 1 players (median score of 4.6). However, when comparing them to other categories no significant differences were noted. These findings are similar to Hill et al (2019), who investigated a smaller sample of elite academy soccer and rugby players aged between 14 to 20 and reported significantly higher active coping and significantly lower clinical indicators (a desirable outcome) in those ranked with the most likely chances of developing to the elite level in their sport. Interestingly, Category 1 and grassroots players both had the same CI median scores (2.33) and grassroots players (2.56) were higher than category 1 (2), although again these results were not significant.

Similarly, the findings from the current study would suggest that players across all categories of participation seek to deploy active coping mechanisms, and that this seems to be most prevalent in higher performing Category 1 players. When these testing situations do arise, they are seen as more of a challenge than a threat by ‘active copers’ (i.e., those in higher categories of participation) who also have more of a tendency to engage in approach rather than avoidance behaviours (Collins et al., 2016).

Education for players into the benefits and workings of being active copers (e.g., Dweck’s Mindset approach, 2017) may be useful to improve their progress on the pathway. Hill et al (2016) found similar results in clinical issues (mental health issues such as eating disorders, anxiety and depression) where athletes experiencing these issues tended to use avoidance rather than approach coping methods. Although there was only a small effect size difference between categories, Category 1 players did have the lowest median score (2.00) which *may* initially suggest that they have less clinical issues than their lower category counterparts. However, Sothorn and O’Gorman (2021) found that Category 1 academy soccer players reported having to play through pain and injury due to the fear of de-selection, fueled by perceptions of how parents and coaches would react negatively if they did not compete. Impression management seemed to be an important factor towards these significant others. Indeed, as seen with other factors, the dynamic between players and key stakeholders appeared pivotal in how players attempted to conform to perceived standards. It appears that players became ‘actors’ in order to portray the behaviours they believed would gain approval from coaches and parents, trying to appear “mentally tough” (Sothorn & O’Gorman, 2021, p.8). Part of this facade was to avoid any discussion about their thoughts or feelings for fear of appearing weak. It could be that Category 1 players are simply better at hiding their issues than their lower category counterparts. Lack of awareness or denial of clinical issues could potentially not only derail the talent development process but cause distress to players in their life outside

of sport. All athletes could benefit from assessment of clinical issues and appropriate intervention when required (e.g., counselling), not least to improve their all-round wellbeing if a holistic and humanistic approach is to be taken (Wilkinson, 2021). A move away from the culture where players are encouraged to internalise emotions and self-manage their mental wellbeing (Noon et al, 2015) would also be beneficial. Further examination of how the “hyper-masculine” environment (Ong et al., 2018, p.19) affects players across age groups and categories of participation would be a useful step forward.

3.5.6. Seeking and using social support

Finally, seeking and using social support was the only factor which was non-significant across both age groups and categories suggesting players sought similarly low amounts of support from those around them. The results from the current study may suggest that players are reasonably comfortable with seeking support but do not do it all the time (otherwise median scores would be closer to 6 – the higher the better according to Hill et al., 2019). This could be down to reluctance to seek assistance if their ‘supporters’ are not actually that supportive or alternatively that being more autonomous learners, they are better at solving their own problems. Van Yperen (2009, p.326) found in his study that those players who reach elite level as adults were more adept at dealing with stressful situations “possibly by using their social resources more frequently and more flexibly”. The same may be true of the sample used in the current study, although further study with a larger sample is warranted. To reiterate a theme from this paper, educating key stakeholders into how to optimise their supporting behaviours should be an important – if not vital – element of TIDS pathways.

3.6 Limitations

The current study was the first to examine PCDEs across different ages and categories of participation in male English youth academy soccer players, however a number of limitations

should be noted. Firstly, it was not possible to ensure the same number of participants across all age groups and categories of participation. Therefore, some groups had lower sample sizes (e.g., Category 2 U16 and grassroots) that could potentially lead to increased risk of outliers skewing results (Field, 2018).

Secondly, although the PCDEQ2 can provide a large set of cross-sectional data across a range of psycho-behavioural characteristics, certain drawbacks are also evident from such a snapshot approach including the risk of various cognitive biases. Social desirability and demand characteristics may increase if retain or release meetings are imminent – for example (Horn & Smith, 2019). Many other variables such as the emotional impact of recent performances could also vary the results across the course of a season with players possibly marking themselves more harshly after a defeat than a victory which could affect accuracy of recall, although this in turn may depend on personality factors (Ottenstein & Lischetzke, 2020). Other different aspects from players' non-athletic (e.g., domestic or academic) lives may also affect their self-perception, especially during adolescence (Wylleman et al., 2013).

Furthermore, the PCDEQ2 is a generic formative assessment tool, therefore, future research should look to adopt a mixed methods approach with the PCDEQ2 used as part of a larger battery of assessments that are specifically designed for football. For example, interviews with key stakeholders in the talent development environment may well yield some useful insights into their beliefs around how psychosocial factors may be positively developed in a positive manner – exploring both current good practice and areas that can be improved. Additionally, observation of player psycho-social behaviours could be used to either support or refute data from the PCDEQ2 to test its ecological validity. Interviews with the players themselves (who should after all be the most important people in the process) could also be useful to explore their beliefs around psychosocial development in talent development pathways (Rongen et al., 2020; Taylor & Collins, 2021; Willams & MacNamara, 2020).

Finally, a specific drawback of the PCDEQ2 is that it does not distinguish between perfectionistic strivings (seen to be facilitative) and concerns (seen to be potentially debilitating). Stoeber and Janssen (2011) point out that these two elements of perfectionism are highly correlated, but also that there is still a need to differentiate between them as this affects how stakeholders may interact with players. It could be argued that the healthier *strivings* (associated with positive processes and outcomes including approach behaviors and positive affect) should be encouraged (Sagar & Stoeber, 2009), which presumably would improve a player's longevity within talent development programmes. The more harmful *concerns* should be discouraged, but with the strong link between them it could be easy to mistake one for the other using the PCDEQ2 alone. Without this distinction it is hard for practitioners to decipher whether their actions would be helpful or a hindrance. Given the potential importance of adverse response to failure and perfectionistic tendencies identified in this study, further research is needed to develop an assessment approach that clearly defines what an adverse response to failure is and distinguishes between perfectionistic strivings and concerns.

3.7. Conclusion

This study was the first to examine the differences in the seven PCDE factor scores between different age groups and categories of participation in male English youth soccer players using the PCDEQ2. An important finding of the current study, in partial agreement with the hypothesis that there will be significant differences between age groups and categories of participation (stated in section 3.2). Older players (U16 and youth team) had significantly higher PCDE scores than younger players (U13-U15) but only in adverse response to failure, imagery and active preparation and perfectionistic tendencies. For perfectionistic tendencies and adverse response to failure the highest scores were found in Category 1 youth team players. Since perfectionistic tendencies and adverse response to failure can have dual effects on players, it is important that key stakeholders (i.e., coaches, parents, academy managers) are

aware of this and seek to develop the adaptive characteristics of these PCDEs. Higher performing players also demonstrated better use of both imagery and active preparation, and self-directed control and management suggesting that these PCDEs are key to higher levels of performance. These findings also imply that there should be perhaps more focus at lower categories and younger age groups to develop these PCDEs. This would allow players the opportunities - not only to excel and overcome the challenges faced on the talent development journey - but also to develop more holistically as a person for life outside of soccer (Figure 4).

Chapter 3 explored differences in PCDE factor scores across age groups and levels of participation from Category 1 to 3 highlighting the importance of PCDEs in development. This information can be useful for key stakeholders involved in the planning and monitoring of a talent development environment with a need for careful consideration of how to identify and develop players' PSCs to ensure positive outcomes on their academy journey regardless of destination. Despite offering some objective and quantitative data i.e., 'how much', this information does not provide information on how academies are currently identifying and developing PSCs in players.

Formalised assessment of PCDEs to identify areas for development is a crucial part of this process, in addition to other triangulated methods (such as player observation and open-ended questions to coaches, players and parents) about the PCDE in question. An important next step should be to evaluate what is currently being done to address PCDEs within academy soccer and corresponding challenges. Educating coaches, parents and academy managers into how PCDEs can be successfully integrated within the talent development process should be a priority. Accordingly, Chapter 4 will explore academy managers' experiences of identifying and developing psychosocial skills and characteristics in youth academy soccer players.

EXAMINING THE PSYCHOLOGICAL CHARACTERISTICS OF DEVELOPING EXCELLENCE PROFILES OF MALE ENGLISH YOUTH SOCCER PLAYERS
BARRACLOUGH, GRECIC & HARPER (2022)
INTERNATIONAL JOURNAL OF SPORT AND EXERCISE PSYCHOLOGY, 22(1), 250–272

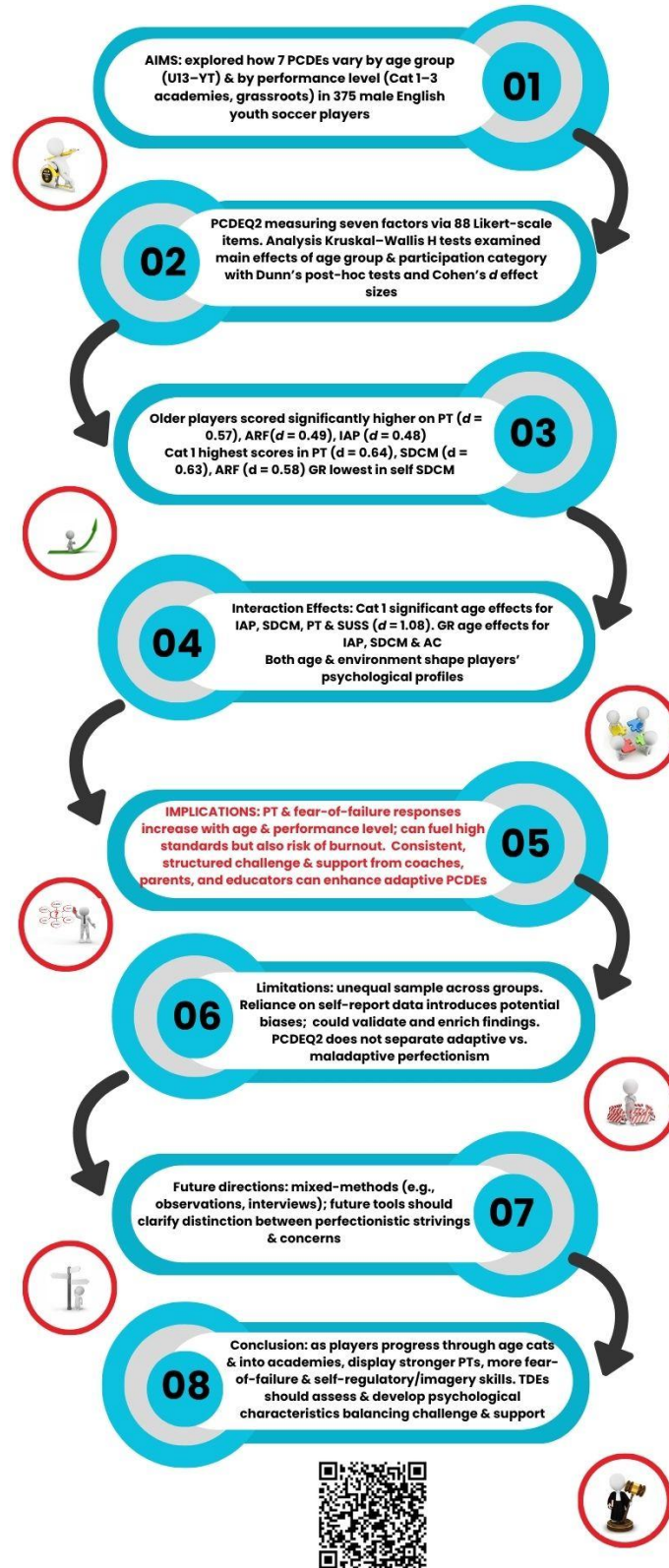


Figure 4. Infographic summary of Chapter 3

Chapter 4

This chapter comprises the following manuscript published in the Journal of Sports Science:

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.*

Chapter 4 - academy managers' experiences of identifying and developing psychosocial skills and characteristics (PSCs) in youth academy soccer players

4.1. Abstract

In the current chapter academy managers' experiences of how psychosocial skills and characteristics are identified and developed in youth academy soccer players is explored. One of the key stakeholders with considerable insight into PSC development is the academy manager (AM). The aims of this study were: (a) explore AMs' experiences of PSC identification and development, (b) identify challenges AMs feel affect development of PSCs. Nine AMs (i.e., Category 1; n =3, Category 2; n =3 and Category 3; n =3) comprising an average coaching experience of 20.4 ± 7.4 years and time in the role of $5.2 \text{ years} \pm 3.2$ years participated in semi-structured interviews. Reflexive thematic analysis generated themes identified ideal PSCs that AMs felt were important namely realistic self-evaluation, resilience, a hard work ethic, interpersonal skills, independence and social support seeking. AMs identified current practices within academies alongside challenges: transitions, need to upskill coaches, access to additional support from external partners and National Governing Bodies. There was consensus that PSCs are key drivers of progression and that embedding them into the pathway was critical to facilitating development. Academies should think carefully about design, implementation, and evaluation of programmes to support player PSC development for success during and after soccer careers.

4.2. Introduction

In 2012 the English Premier League (EPL) introduced the Elite Player Performance Plan (EPPP) with the aim of “producing more and better homegrown players” (Premier League, 2011). As part of the EPPP each academy is awarded a category status from 1 (highest) to 4 (lowest), with category 1 receiving more funding, contact time with players, and full-time coaching and specialist staff (e.g., sport psychologists). The EPPP review conducted in 2022 encouraged soccer academies to engage with a more multi-disciplinary and holistic approach to player development (Premier League, 2022) that incorporates all areas of the English Football Association’s four-corner model (i.e., technical/tactical, physical, psychological, and social) (Simmons, 2004). Traditionally, much of the emphasis has been focused on technical/tactical and physical attributes when assessing and developing players (Koopman et al., 2020), which is in contrast with a growing body of research that highlights the importance of psychological factors in the processes of player talent development (Green et al., 2020; Hardy et al., 2017; Moodie et al., 2023; Till & Baker, 2020).

Within soccer talent development environments Gledhill et al. (2017) identified 22 internal psychological factors (e.g., self-awareness, self-regulation, task/mastery orientation, fear of failure) and 21 external social factors (e.g., autonomy supportive coaching, parent climate) that are interrelated (i.e., psychosocial). These were in turn associated with five player-level behavioural indicators (i.e., adaptive lifestyle choices, volitional behaviours, appropriate use of coping strategies, amount of soccer behavioural engagement, quality of soccer specific practice and play, and consistently high levels of soccer technical and tactical performance) that led to higher levels of soccer performance and subsequently higher chances of successful transition from the academy to senior team. As such, this highlights the importance of youth academy soccer players developing their psychosocial skills (i.e., learning how and when to deploy methods such as self-talk and imagery) that can regulate their psychological

characteristics (i.e., traits that a player possesses innately or that can be developed through psychological skills training, such as resilience or motivation) (Dohme et al., (2016). Crucially, it also highlights the importance of key stakeholders in soccer academies carefully considering the processes they use to identify and develop player psychosocial skills and characteristics (PSCs). For youth academy soccer players this may be particularly important as highlighted in the EPPP 10-year review that only a “small minority of boys will have professional playing careers” (Premier League 2022, p. 27). Therefore, PSCs can also be seen as important for developing players as people (e.g., facilitating essential life skills and managing emotional wellbeing) and for players being able to thrive in a career outside of soccer (Larsen et al., 2020; Ryom et al., 2020; Stambulova et al., 2021).

Despite this there is widescale disagreement about which ones are important and how they should be developed (Dohme et al., 2019). A range of approaches have been suggested by numerous authors, possibly due to variability in the contexts of study (e.g., age and sport), leading to inconsistencies in definitions and deployment (Dohme et al., 2016). Single construct approaches such as grit (Duckworth et al., 2007), growth mindset (Dweck, 2017) and resilience (Fletcher & Sarkar, 2016) have been popular previously, but more recently have been seen as being too simplistic, and part of a much larger picture (Moodie et al., 2023). A more comprehensive approach suggested by Collins et al. (2019) is the systematic teaching, testing and tweaking of a set of skills thought to be essential for developing psycho-behavioural factors (e.g., commitment, motivation and goal setting) in athletes, known as psychological characteristics of developing excellence (PCDEs), although , there does seem to be lack of distinction between which of these falls into the skills and characteristics brackets and . To that end, Dohme et al. (2019) conducted a systematic review exploring PSCs thought to facilitate development in youth athletes. From 92 PSCs identified, they filtered these down into eight skills (including social support seeking, realistic self-evaluation and maintaining a sense of

balance) and 11 characteristics (including hard-work ethic, interpersonal competencies, and resilience).

Notably, the work of Harwood and Anderson (2015) and Mitchell et al. (2022) has focused more on PSC development programmes ‘on the grass’, implemented through coaching staff who have the most contact time with players. Harwood and Anderson’s (2015) ‘5Cs approach’ prescribed a number of practices that could be delivered by coaches around the five constructs of commitment, communication, concentration, (emotional) control, and confidence. Mitchell et al. (2022) developed this further, including the 5Cs in their work, but adding resilience, presence and self-awareness to their ‘8 pillar’ approach, delivered in collaboration between sport psychology consultants, academy coaching staff and players. Mitchell et al. (2022) also identified a number of behaviours that could be observed in players by coaches during practical sessions to signify their level of psychosocial progress. For example, commitment included behaviours such as staying involved in the game, creating opportunities in training and games and showing for teammates. However, Mitchell and colleagues did acknowledge potential barriers to this approach, namely an overemphasis on technical and physical preparation, difficulty for coaches to understand and verbalise how to appropriately foster PSCs, and a prevailing attitude of some coaches to be autocratic. Support from appropriate agents (e.g., sport psychology consultants) may be useful in mitigating these limitations (Mitchell et al., 2022). Indeed, Cote and Gilbert (2009) suggest that expert coaches are well-positioned to enhance athletes’ psychological growth by creating optimal learning environments, drawing on the premises of self-determination theory (Ryan & Deci, 2000) to facilitate autonomy, relatedness and ultimately competence.

Although there are an increasing number of studies that have explored how PSCs are developed in youth academy environments (Barraclough et al., 2022 - Chapter 3; Crawley, 2021; Kelly et al., 2022; Kelly et al., 2023; Mitchell et al., 2022, Mitchell et al., 2024; Moodie

et al., 2023; Taylor & Collins, 2021a; Thomas & Grecic, 2020; Wilkinson & Grecic, 2021), to the authors' knowledge only a few of these have been undertaken within a EPPP soccer academy setting (Barraclough et al., 2022 - Chapter 3; Crawley, 2021; Green et al., 2020; Kelly et al., 2022; Kelly et al., 2023; Mitchell et al., 2022, Mitchell et al., 2024). The emphasis of these studies has generally been around measuring PSCs using a variety of methods including questionnaires (e.g., Barraclough et al., 2022 - Chapter 3; Kelly et al., 2022; Kelly et al., 2023) and via interviews with coaches for their views (Mitchell et al., 2022). There has been a call for some time to move the development of PSCs out of the classroom and onto the pitch to enhance their ecological validity (Diment, 2014) and to improve the receptivity to sport psychology in soccer generally (Pain & Harwood, 2004).

From the existing academic literature there continues to be notable challenges that EPPP soccer academies face in successfully implementing PSCs into their programmes. Although the EPPP was designed to develop players holistically (Jones, 2018), psychological profiling and support were only made mandatory at Category 1 (English Football League, 2018). This means that psychological support (i.e., assessment and development) at lower categories with less resources (i.e., time, staff and finances in particular) is down to the discretion of individual academy managers (AMs). Even at Category 1, McCormick et al. (2018, p.10) report that some clubs just “pay lip-service to the potential of sport psychology services in order to meet the requirements of the EPPP”, with sessions often being basic classroom-based workshops. The success of these sessions often depends on buy-in from coaches who can have a major impact on how players perceive them. This could be problematic as research by Champ et al. (2020) and Crawley (2021) suggests that coaches are not always receptive to new ideas and may maintain the hyper-masculine premise that psychology is for the weak. An understanding of current experiences of how PSCs are identified and delivered

across all categories of soccer academies would be useful in determining where improvements can be made and what good practice is already being conducted.

The AMs have the ultimate responsibility for the management of the academy. Their role includes developing, implementing, and monitoring the clubs coaching curricula to develop individual players and through guiding coaches they play an integral role in ensuring a successful foundation is built within the academy (PFSA, 2024). This underlines their position as a key stakeholder and one that has significant influence on the assessment and development of PSCs. No study has previously explored the experiences of these key stakeholders, who ultimately make the decisions based on personal philosophy, time and financial constraints, around what will, or will not be included within their programmes (Dean et al., 2022; Layton et al., 2023). This can be seen as vital in bridging a gap in knowledge by giving a voice to a previously under-publicised source, who have had a wealth of experience ‘in the field’. Such information could provide insights into what AMs see as being the most important PSCs for development both on and off the field, including perhaps some PSCs that have not previously been noted. Furthermore, it could also help to identify what good practices currently exist around the identification and development of PSCs in academies and what could be improved, which could elucidate a field that is currently subject to a lack of clarity (Dohme et al., 2019). This information could help guide academies into the successful development of psychosocial programmes and educate *all* key stakeholders (i.e., players, staff, and parents) into their importance. Exploring the commonalities and differences between Category 1, 2 and 3 academies would also be useful in attempting to level the playing field for academies with less resources by demonstrating where good practice exists and how lower Category academies could overcome a lack of resources. Therefore, the aims of this study were to (a) explore AMs’ experiences of how psychosocial factors are identified and developed in youth academy soccer players across different category levels and (b) identify what challenges AMs feel affect the

development of youth academy soccer players PSCs across different soccer academy category levels.

4.3. Methods

4.3.1. Research Philosophy

In line with recommendations from McGannon et al. (2021), it is important to outline philosophical stance when conducting qualitative research. The current study adopts an inductive approach which allows researchers to collect rich, context-specific data to explore phenomena from the perspective of the participants (in this case, AMs who rarely have such a voice). Jones et al. (2012) describe this as an attempt to explore what the participants think and feel about a topic through the lens of their own experiences. A pragmatic approach was adopted (Giacobbi et al., 2005) whereby the concept of reality depends on the experiences and knowledge of those interpreting it (i.e., the researcher acts as the research instrument). Although this is context-specific, pragmatists would argue that although this strategy is not necessarily directly generalisable to other real-world settings, there is a high degree of transferability possible. Furthermore, pragmatism would also claim that knowledge is “co-constructed” (Poucher et al., 2019, p. 3) through the researcher and participant both bringing their existing insights – and biases - into the process in order to learn more about the phenomena and research questions being explored.

4.3.2. Participants

A purposive homogenous sample of nine AMs (age: 44.3 ± 8.7 years) from two Premier League and seven English Football League club soccer academies volunteered to participate. Two of the Category 1 academies were in the Premier League and one in the Championship. Category 2 academies were in the Championship, League 1 and League 2. Category 3 academies were in League 1, League 2 and the National League. It should be noted that Category 1 academies

have more coaches (six compared to five, four and two at Categories 2, 3 and 4, respectively) and more coaching hours with players (between 8-14 compared to 3-12 at Category 3) (English Football League [EFL], 2024). AMs were recruited through personal contacts and use of social media including LinkedIn and Twitter (now X). The sample size of nine follows guidelines from Jones et al. (2012) who suggested that for a homogenous group, six to eight participants would be appropriate. Therefore, three AMs from each category level (i.e., category 1, 2 and 3) were recruited (Table 8). Mean coaching experience was 20.4 ± 7.6 years (range 10 to 32 years), with time in the role of 5.2 ± 3.2 years (range one to nine years). All participants had a minimum of UEFA 'A' license, with academic qualifications ranging from level 2 (GCSE) to level 7 (master's degree). Ethical approval was granted from the first author's institutional ethics committee (reference number BAHSS2 0305), and voluntary informed consent was obtained from all participants.

Table 8. Participant characteristics

Participant (Category level)	Age (years)	Playing experience (level)	Coaching experience (years)	Time in role (years)	Highest vocational qualifications	Highest academic qualifications
Cat 1	46	Semi-pro	18	9	ECAS, A, AYA	A level
Cat 1	39	Pro	10	3	A, AYA	BA
Cat 1	50	Pro	32	9	Pro	A level
Cat 2	44	None	15	2	A, EYL	GCSE
Cat 2	45	Semi-pro	21	6	A, AYA	HND
Cat 2	46	Pro	27	9	Pro, AYA	MSc
Cat 3	37	None	15	3	A, AYA	GCSE
Cat 3	62	None	30	5	A, AYA	MBA
Cat 3	31	Semi-pro	16	1	A	BA

ECAS = Elite Coach Apprentice Scheme; *A* = UEFA A license; *AYA* = FA Advanced Youth Award; *EYL* = UEFA Elite Youth License; *BA* = Bachelor of Arts; *HND* = Higher National Diploma, *Pro* = UEFA pro license; *MSc/MBA* = master's degree; *GCSE* = General Certificate in Secondary Education.

4.3.3. Interview guide

Interview questions were developed using recommendations from Castillo-Montoya (2016) on the interview protocol refinement framework. This involved a four-phase process with the initial phase being the construction of questions that first established rapport and then progressed to the questions most pertinent to the study aim. The second phase involved writing questions in the everyday language of the interviewee, free from academic jargon. The interviewer wrote a script to keep the questions in mind, including prompts in case participants needed further probing to answer questions. Phase three of the framework involved the sample questions being reviewed by research team members for “structure, length, writing style, and comprehension” (Castillo-Montoya, 2016, p. 826). Finally, phase four was the piloting of the interview conducted with two participants (AMs) to enhance reliability by practising technique and assessing the appropriateness of questions (Jones, 2015). Data from the pilot interviews was not included in the final analysis. This was followed by the participants providing critical feedback, which was used to make minor changes and to add further clarity to some of the questions. For example, a more specific probe was added to the final question “do you think the EPL, EFL and FA could do more? If so, what & how?” to give AMs some concrete examples of who might be responsible for assistance. Table 9 illustrates a sample of questions from the interview guide.

Table 9. Semi-structured interview questions.

Open question to achieve this purpose	Probes if participants do not provide enough detail in their answer	Contextual factors (if the purpose is still not achieved)	What is the purpose of this line of enquiry?
What is your current understanding of psychosocial skills on the development pathway?	Which factors do you think are important when developing players? How do you assess potential over current performance when developing players?	Is one specific corner more important than the other? If so – why is this? What is this based upon (evidence)? Current performance vs future development (psychosocial vs anthropometric/technical) Just through observation – what other methods?	Do they have a current understanding of psychosocial factors?
What approaches do you use to identify (assess) players' psychosocial skills?	Do you have an evidence-based approach of 'always done it this way'/gut feeling'?	Do you look at current research or trust your own instincts and those around you?	Are they looking at current performance or long-term potential?
Is there anything that limits you in how you identify and develop players' psychosocial skills?	Which constraints limit you from being more effective (e.g., – time, finance, knowledge)?	Budget/time constraints for lower categories?	Any factors that are done well or could be improved upon, especially from a psychosocial perspective? Any advice for others to improve best practice?

4.3.4. Data Collection

Interviews were semi-structured whereby a standard set of questions were prepared giving the researcher a degree of flexibility to the order of the questions and when to probe the interviewee further (Jones et al., 2012). All interviews were conducted by the first author either remotely using Microsoft Teams video conferencing software or face-to-face, dependent on interviewees' preferences. Remote interviews were recorded on Microsoft Teams. For face-to-face interviews the Memo application function on the iPhone was used, alongside the Evistr digital voice recorder (in case either failed). Interviews were transcribed verbatim (yielding 131 pages of transcript in total using the Word for web transcription function), and participants anonymised. Interviews lasted between 43 and 92 minutes (mean: 68 ± 16.6 minutes) and were concluded once the participants felt they had fully told their story.

4.3.5. Data Analysis

Data were analysed using reflexive thematic analysis according to guidance from Braun et al. (2019) to enable construction and evolution of codes throughout the analysis process. The researchers themselves are part of this process whereby they are narrators of a story, interpreted through their own reflexive lenses informed by their respective applied experiences. The first author had approximately 20 years' experience in coaching with UEFA level 3 and the English FA's level 4 Advanced Youth Award, around 10 years were spent in academy soccer at Category 3. The two co-authors had 60 years' combined experience in sport as coaches, coach educators, teachers and researchers including various professional roles within soccer talent development environments.

Reflective thematic analysis involved six phases as recommended by Braun et al. (2019). Phase one was familiarisation with data, which began with noting any commonalities and anomalies whilst transcribing, proofreading and editing the data. The second phase

involved generating codes using Nvivo qualitative analysis software (QSR, version 12). Phase three was constructing themes, whereby codes that showed patterns of similarity were clustered into data themes, again based on the first author's judgement. For phase four, the data themes were then collated into a thematic table to be reviewed by the second and third authors to provide feedback on their appropriateness and validity in relation to the data set. Phase five involved refining themes inductively into two story book themes: 1) identification and development of player PSCs, and 2) challenges that affect the implementation and development of player PSCs. The final phase was to write the report.

4.3.6. Trustworthiness

To improve trustworthiness within the current study researcher reflexivity was deemed important (Jones et al., 2012), whereby the interviewer was aware of their own potential biases at both the data collection (e.g., affecting the responses of interviewees with leading questions or verbal/non-verbal reactions) and analysis (i.e., subjective interpretation of data) stages with various measures taken to recognise, accept and reflect. These measures included feedback from second and third authors, pilot interviews and self-reflection from the first author during phases of thematic analysis. In this instance the second (DG) and third researchers (DH) prompted the principal researcher (JB) to amend interview guide questions as well as to reflect, explain and explore alternative interpretations from the data. This resulted in altering themes and their contents after consultation with the second and third researchers. For example, a subtheme of 'player assessment methods' was discarded, and relevant data was subsumed into the psychosocial testing theme, under the psychosocial factors' subtheme. Member reflection was considered as an additional method, but it was decided not to pursue this due to the time constraints placed on AMs especially during the season, and the transient nature of the job (four AMs had moved clubs/positions shortly after data collection).

4.4. Results

211 raw data codes were generated from the nine interviews with EPPP soccer AMs. Raw data codes were organised into 21 lower-order themes, then built into six higher-order themes and finally two storybook themes that were aligned with the aims of the study: 1) how PSCs are identified and developed in youth academy soccer players (Table 10), and 2) challenges that affect the development of youth academy soccer players PSCs (Table 11). Example raw data quotes from AMs are presented in each table with AMs classified according to participant number (i.e., AM1 to AM9) with their respective category number subscripted (i.e., C₁ to C₃).

4.4.1. Storybook theme 1: how psychosocial skills and characteristics (PSCs) are identified and developed in youth academy soccer players

4.4.1.1. Ideal PSCs

All AMs commented on the importance of player PSCs on the pathway with most acknowledging that they were the *key* drivers of a player's development: "*That's the heartbeat of making a player tick, and if you don't get that, you don't get the other bits*" (AM1_{C1}). "It's very much the corner which, in my opinion, makes or breaks professional footballers" (AM1_{C2}). Accordingly, AMs identified a number of ideal PSCs that they felt would be important to identify and develop in players. These included realistic self-evaluation, resilience, hard-work ethic, interpersonal competencies, independence and seeking and using social support. Independence seemed to be particularly important across all Category levels:

They have what they need, what they've got to practice on, what they need to work on. They're in control of their own destiny. We can only do so much, but we try and give them the tools away from here that they'll also need so not just being there for four hours a week, training on the Astro, it's much more than that (AM2_{C2}).

4.4.1.2. Current practices

AMs highlighted a number of current practices used in academies to identify and develop player PSCs. These included psychosocial testing, psychosocial training, psychological support, sharing knowledge, staff experiences on the pathway, and player centred approaches. Regarding psychosocial testing, AM1_{C2} mentioned the lack of knowledge in obtaining assessments of player PSCs. Similarly, AM3_{C2} stated that: “*we don't use questionnaires... it comes down to a lot of opinions and the head of recruitment role and the experience that they have over a period of time*”. This may even suggest that more formal assessments of PSCs may be dismissed altogether and not universally embedded into some academy curricula. One exception was where AM1_{C2} revealed that they were taking a more holistic approach to assessment, including emphasis on the psychosocial corner:

In the past it's just being done off eye and it's a subjective opinion, whereas now the work that we're doing with ***** [external company] will give us that objective opinion where they'll sit down and they will be able to tell us from footage, from interviews, from all the data they collect, if that person has improved and the way that we improve that.

There also appears to be some resistance (e.g., AM2_{C1}, AM1_{C3}) to using psychometric testing methods, such as questionnaires, as they may lack ecological validity and seem to be too dissociated from performance on the pitch:

There's questionnaires and all sorts of things that you could try to test these things. When you're looking at players, the difficulty is applying that when you're watching U 12 sessions or U 12 games, what does that look like on the grass? (AM2_{C1})

Other AMs referred to questionnaires but required specialist staff to manage this and were perhaps unaware of how this was operationalised (e.g., AM2_{C1}). Three AMs (AM2_{C2}, AM2_{C3},

AM3_{C3}) acknowledged that more could and should be done in assessing and developing PSCs in a more objective fashion. For example, AM2_{C2} stated:

In terms of the actual measurement that's something that the sports psychology will be looking into, but we don't really measure that other than it's just hard, looking visibly at the player and how they're operating in their environment, I think if someone gave me a piece of paper... I'm a little bit old school.

For psychosocial training, there was consensus across all AMs that embedding challenge into the pathway was essential for successful development of player PSCs. One AM (AM1_{C3}) offered some explanation to why they thought challenge to be important: *“We call it strategic stress. You've got to place hurdles and stress, challenges in development... if someone is comfortable and not being stretched then they can't be learning.”*

At one of the Category 3 academies, AM1_{C3} described a slightly different approach to embedding psychosocial challenge:

We have player led games. We send teams to games with no coaches... because we want the boys to lead, with the boys to articulate the points, to face challenges and come up with solutions cos ultimately that's what's going to stand them in good stead.

Levels of psychological support and staff varied across categories as might be expected in accordance with resources and funding. At Category 1 AMs commented about availability of full-time staff to support player psychosocial development. At Category 2 AMs also highlighted use of part-time psychology staff and external organisations. At Category 3, AMs described differing levels of support: *“We have psychology support throughout the whole academy... as the boys get older the level of support increases”* (AM1_{C3}). *“We have retained psychologists both for full time boys and for the nines to 16s programme”* (AM2_{C3}). More worryingly, AM3_{C3} stated that: *“we've actually got a lad who's studying psychology and he's*

going to do some profiling with the players. He's working intensely with the youth team first and he will then be introduced to working with the younger age groups”.

Sharing knowledge between departments about individual players was identified as a particular strength at Category 1. Another Category 1 AM described staff’s experience as ex-players as being important. Experienced staff was also mentioned as a strength by another Category 1 AM:

Specialist staff who've been here a long time, they understand the players and parents and form relationships better so they can pass on that information better and then there's a trust element from the player and parent back to us. (AM2C1)

At both Category 2 and 3, player-centred approaches seemed to be a particular method used to identify and develop player PSCs. For example, AM1C3 stated: *“We try and put the player at the centre of everything... we're very patient and we try and take a holistic approach with players... we're very personable... we try to interact.”*

Table 10. Academy Managers' experiences of how psychosocial skills and characteristics (PSCs) are identified and developed in youth academy soccer players

Higher-order theme	Lower-order theme	Raw data exemplars
Ideal PSCs	Realistic self-evaluation	We expect all players to clip their own performance and to highlight what they were seeing... each player has his own reflection book so he can reflect on the actual week training, how he felt his emotions were around that, how he felt during the game, before the game, after the game and over the course of his week. (AM2 _{C1}) The ones who were really keen with their clips and their reflection and likewise with those that basically aren't bothered I think that tells its own story a little bit about the individual. (AM2 _{C1})
	Resilience	We talk about players coming through with that display of resilience... Some of the players that we spoke about, their real quality that they had was resilience. (AM3 _{C2})
	Hard work ethic	I don't think it's a normal thing to push your body and to perhaps have an obsessive nature around improvement, or a desire to win or push your body beyond its normal thresholds. There's a reason why they're high performers. The will to win or a competitive edge can drive people to do things which aren't quite normal and that obsession to become perfect, that obsession to master skill, I think is something which, whilst on one hand is the thing that makes them great, of course it's something as well which can cause problems if it's not channelled the right way after sports. (AM3 _{C1}) I think that's prevalent in those players that don't make it because if I think about the top players that are playing top level right now playing the Premier League, internationals at the top of their game... they are comfortable with dealing with setbacks and they're comfortable in striving... it's a paradox in striving for perfection. They accept imperfection and I think you see them accepting it by the way they handle those moments. So, you're never going to see them have a meltdown... those that seek perfection aren't the ones that make it in my experience. (AM1 _{C1})
	Interpersonal competencies	The other pillar that's a psychosocial one is lifelong learner, committed to personal development, so you're talking about schools and talking about you've got to be adaptable to any circumstance. So, in the moment in the game can you adapt and can you if the situation changes or you learn enough to see it quickly and then show learning and then the last one is commit to personal development. (AM1 _{C1}) They've got to be a learner... receptive to information ... one thing we do ask is that they can pick things up... to keep developing them mentally that they don't suffer from any inadequacies in terms of their physicality. (AM2 _{C2})
	Independence	I use that a heck of a lot in the academy just to manipulate situations or get boys to learn autonomously. (AM1 _{C1}) We give them ownership of their own development in terms of the individual learning programmes we give them away... what they've got to practice on. They're in control of their own destiny... we can only do so much, but we try and give them the tools away from here that they'll also need so not just being there for four hours a week, training on the Astro, it's much more than that. (AM2 _{C2})
	Social support seeking	I would say all those boys I mentioned all balanced, all very well supported underneath from families. (AM1 _{C1})

		We just try and incorporate them [parents] and educate them as much as possible into the whole programme and not keep them at arm's length. (AM2 _{C1})
Current practices	Psychosocial testing	Psychosocial is the least looked at corner. You've got technical and tactical, which can be measured, so can physical, whereas psychosocial can't be. (AM1 _{C2}) A lot of the conversations are psychological around how we can change our players, thinking about how we can get a player to see things a little bit differently... but I wouldn't say it's part of a curriculum... as I'm hearing myself say this it sounds quite loose. (AM3 _{C1})
	Psychosocial training	It's more around dealing with adversity and setbacks and self-perception and how your teammates can help you through that. (AM1 _{C1}) There's bumps in the road that we'll put in place to help... We give them exposure of uncomfortable situations... We encourage them to focus on weaknesses as well as strengths. All our players here have a strength, but the majority have a lot of weaknesses as well, which is, if I'm being truthful, why they're here. (AM2 _{C2})
	Psychological support	We have one full time psych, but we've rebranded that department to the wellbeing team, but we also have what was originally player liaison is now under the heading wellbeing. (AM1 _{C1}) The club has moved into a partnership with a company who supply everything with regards to psychosocial health and wellbeing for players, staff or employees of the club. They'll have all the resources that they need. With regards to psych, we will appoint a full-time clinical psychologist, and we've got a sports psychologist coming in. (AM1 _{C2})
	Sharing knowledge	Everyone is constantly sharing information... everyone's aware of all the players... we're outstanding at creating an environment that allows players to be people and the amount of detail we go into helping players. (AM1 _{C1})
	Staff experiences on the pathway	We have people that have lived the journey and understand the demands of the game, so I think there's enough gladiators that have been in the arena (AM3 _{C1})
	Player-centred approach	Knowing the individual, what makes him tick... That gives us an advantage over a lot of teams because we do put the players at the centre of everything. (AM1 _{C2}) We try and put the player at the centre of everything. We understand that losing and mistakes is part of development. (AM1 _{C3})

4.4.2. Storybook theme 2: Challenges that affect the development of player psychosocial skills and characteristics (PSCs)

4.4.2.1. Transitions

Transitions in academy soccer can include athletic transitions i.e., moving from phase to phase such as youth development to professional development phases, non-athletic transitions (i.e., education/family-related), and dual career transitions (i.e., managing education or other work interests alongside sport) (Stambulova et al., 2021). In the current study AMs identified all these transitions to be challenges that could affect the development of player PSCs. With regards to dual careers there was a general perspective from AMs that the vast majority of academy players would not become professional footballers, and that recognising other career options was also important. This was summed up by AM1_{C3}: *“we want to produce players... but if he doesn't play professional football then we want to try and give him the life skills and development that are ultimately going to allow him to progress and develop in other walks of life.”*

4.4.2.2. Staffing issues

Within this higher-order theme AMs discussed challenges around staff recruitment, and continuing professional development (CPD) that could affect the development of player PSCs. Staff recruitment was seen as a potential issue by some but also seen as vital for development of player PSCs:

Recruit the people inside your building. They're going to be miles more important than the building itself... staff that have a bounce and energy... that care for the kids more than they care for themselves and their own careers... if their focus is on the boys then you've got the right type of person in and then that will give the greatest edge and the greatest platform to develop young people along the way (AM3_{C2})

With regards to staff CPD, AMs expressed a desire to improve staff knowledge around the importance of PSCs for player development, but that this was possibly constrained by resources:

When we had had the full-time psychologist here it was done probably once a month... the work wasn't done with players or squads it was done through the coach... if we were looking at leadership, for example, the psychologist would - if we were going to use a six week block - sit with the coaching staff and give us ways on how we could give players tasks to work on leadership... the psychologist was going through the coach to affect more people than he could if he was doing stuff on his own. (AM1_{C2})

4.4.2.3. Organisational constraints

Financial and time constraints were two organisational constraints that AMs expressed as challenges to developing players PSCs. Finance was mentioned by Category 2 and 3 AMs in particular. Time constraints, however, were pretty uniform across academies even at Category 1. At Category 2, AM2_{C2} stated:

There's always a problem here of people wanting a piece of the pie... the majority of time needs to be spent with the coaches... but I'm conscious of sports science and to get in that education, player care, psychology, nutrition, lots of staff members who quite rightly want a piece of that action.

A Category 3 AM also mentioned insufficient contact with players as being problematic:

Time, the more time you can give your players and parents and your staff, the better, the more information you can have. The more connections and conversations you can have the better... those are the things you can't control (AM1_{C3}).

Clearly, differences in academy category grading (based on up to 10 different factors such as training facilities, coaching, education and welfare provisions) have a huge effect on funding and other resources, creating an uneven playing field with potential implications on how player PSCs can be developed. AM2_{C3} summed up the situation within a Category 3 academy:

We're on 15% of what some of the Cat 1 budgets are and having to do probably 90% of the stuff... and being a small club and a Cat 3 academy the number of people to do that work is limited. I did 65, 70 hours every week and I could do more. I'm probably speaking for pretty much every Cat 3 manager that I know.

However, not all AMs saw these as barriers necessarily:

It's about the smaller clubs just working a little bit smarter. Always finding a way to do something...we don't look at the categorisation as a number. We just want to provide excellence whether we are Category 1 or Category 4. (AM1_{C2})

Similarly, AM3_{C1} (who had previously worked in a Category 3 academy) stated:

I think sometimes at cat 3, a small but talented staff where you can align messages, you can really have meaningful discussions and CPDs... I don't see the problem in football being solved by money and volume of staff.

4.4.2.4. Additional support

Obtaining additional support from external partners and national governing bodies (NGBs) were mentioned as challenges that could affect development of player PSCs. It was apparent that additional support was perhaps particularly pertinent and important for Category 2 and 3 academies with smaller budgets and less contact time as expressed by the AMs. External partners included developing partnerships outside of the academy setting to help with the development of player PSCs. Collaborating with other clubs was also mentioned by a number of AMs, as was additional support from non-soccer organisations:

We've got partnerships and relations with companies and external companies and charities that provide support in areas that we feel we can't offer support... one of the things that COVID forced us to do is jump online to have meetings and workshops, so you know the new world has shown us that there's other ways to do things. (AM1_{C3})

Support from other soccer organisations was also discussed by a number of AMs, namely the Football Association (FA), Professional Footballers' Association (PFA), the Premier League (EPL), and the Football League (EFL). This concurs with recommendations from Mitchell et al. (2022) that academies should use external organisations wherever possible to help overcome the challenges of developing PSCs, although some vetting of these would be necessary to ensure alignment in values.

Table 11. Challenges that affect the development of player psychosocial skills and characteristics (PSCs)

Higher-order theme	Lower-order theme	Raw data exemplars
Transitions	Athletic transitions	So, one thing we do ask is that they can pick things up because we've got players here who are even up to the first team they're physically not at the level of some other players. But they've got to try and find a way that works. So go back to the learning. It's no use telling a player who's physically not developed to keep running, keep running at a more physically developed individual, you see the difference of age and stature. If a player keeps doing that and fails, that shows us he's not learning. He's not picking it up, so they gotta find a way. And that's something that we're big on. With the younger ones to keep developing them mentally that they don't suffer from any inadequacies in terms of their physicality, so I think that's big certainly here. (AM2 _{C2})
	Non-athletic transitions	As they go through puberty and through the stages of turning from a boy into a man sometimes their characters can evolve, change to certain aspects. Temperaments can change... it's about trying to be patient... we do expect certain behavioural standards. (AM3 _{C2}) They might have a bit of a tough family background where they support themselves and they have to make their own way to training and back and a hard day at school. School work. They might be a bit troublesome at school or be in trouble, which then they take it into a game or into a training session. Again, making it clear to players that it's a short career, not everyone's going to make it, but we can give you the right tools, the best opportunities. And that's from all aspects. And you leave this place as a better player, a better person. And then we've had a good influence on you... (AM3 _{C3})
	Dual career transitions	We have to do more because that percentage of players that go on to become professional footballers are this... it's important that you have education. You have a background that is a primary focus, and this can be the secondary focus. I think we have to educate them more when they come in. (AM3 _{C2})
Staffing issues	Staff recruitment	We're actually limited to the type of coaches that we have... a lot of coaches that have come in recently probably have not had any sort of backgrounds in academy football, let alone working with children on a consistent basis. So, we're having to teach them to get them to understand just as well as the players. (AM3 _{C3})
	Staff CPD	Probably upskilling our staff who are the ones that spend the most time with the players... then they would have more chance to contribute with those aspects... we haven't done a huge amount on incorporating psych or social stuff into sessions. (AM2 _{C3})

Organisational constraints	Finances	Probably the only thing really that stops us is the finances... If something is going to be cut, nine times out of 10 it's going to be something to do with the academy. (AM1 _{C2})
	Time	Sometimes staff do three different jobs... to guard against that burnout we may need a couple of extra staff who are specialists in certain areas... The psych being an area because I only see that developing and getting bigger. (AM2 _{C1})
Additional support	External partners	The days of keeping things within these four walls, I think those days have gone. It's about collaboration now and speaking to football clubs, being open to working with any organisation who can help the individual... giving them the best opportunity to be a footballer. I think it's just being open minded and inviting people in as opposed to keeping them out (AM2 _{C2}) We've got into a project at the moment with a company called ***** who are now looking at measuring psychosocial elements of the game... We have a daily wellbeing health questionnaire... we'll have a real good understanding of each player before they even walk in through the door... we get reports sent to us on a monthly basis on how to deal with each individual. (AM1 _{C2})
	National Governing Bodies	The Premier League should send out a mental health/psych social ambassador one per club. (AM1 _{C1}) What I would love is the Premier League and EFL to ringfence funding like they are doing for the player care... for psychology... that would force clubs to do it. Because the problem is as well with Cat 2s and Cat 3s if there's an extra 10, 15, 20, 30 grand funding, it goes. (AM3 _{C2})

4.5. Discussion

The aims of this study were to (a) investigate AMs' experiences of how psychosocial factors are identified and developed in youth academy soccer players across different category levels and (b) identify what challenges AMs feel affect the implementation and development of player PSCs across different category levels. The findings highlight several ideal outcomes related to PSCs that AMs felt were important for identifying and developing in youth academy soccer players. Whilst AMs highlighted a range of current practices being used by academies to develop player PSCs (including embedding appropriate levels of challenge and encouraging independence) there was acknowledgement of a need for improvement in staff knowledge, formal assessment approaches, operationalisation of collected data and use of psychological support staff that could differ across category levels. Furthermore, AMs identified a range of challenges that could further hinder the development of player PSCs including transitions, staffing issues, organisational constraints, and lack of additional support, some of which seemed particularly pertinent to category 2 and 3 academies who have less staff and greater financial constraints.

4.5.1. How psychosocial skills and characteristics (PSCs) are identified and developed in players

An important finding from the current study was that AMs highlighted a range of ideal PSCs that they believed to be important for identifying and developing in players. These included social support seeking, realistic self-evaluation, resilience, hard-work ethic, interpersonal competencies, and independence. Social support seeking has been described by Dohme et al. (2019, p. 32) as an "athletes' ability and willingness to ask for and receive help and advice from others such as coaches, parents, teammates, or teachers". This can be from emotional, informational, or tangible perspectives and is thought to aid youth athletes' development of resilience. Realistic self-evaluation (Dohme et al. 2019) describes a vital part of development

whereby youth athletes evaluate their progress through identifying strengths and weaknesses, which in turn allows them to set appropriate goals and expedites learning. This aligns with the concept of “strategic stress” discussed by one AM (AM1_{C3}) in the current study whereby challenge is used within the programme to enable players to develop and deploy PSCs. Strategic stress can be likened to placing bumps in the ‘Rocky Road’ of talent development environments (Collins et al., 2016), such as players playing up or down a year group, in different positions, or even being used as a substitute. It is also important to note, however, that the challenges that these bumps present are highly varied based on players’ interpretations and experiences of the different challenges and types of challenges they face (Papastaikoudis et al., 2024).

Independence (also referred to as autonomous learning) has been documented by different researchers (e.g., Dohme et al., 2019; Gledhill et al., 2017; Hill et al., 2019; Toering & Jordet., 2015) as being an important basic need on the development pathway. This includes may drive a wider set of skills known as self-regulation which incorporate metacognition (being aware of one’s own strengths and weaknesses) and delayed gratification (short-term sacrifice for long-term gains). Autonomy supportive coaching has been noted by Gledhill et al. (2017) as being linked to better engagement levels from players, as well as improved enjoyment and decreased drop-out. Conversely, coaching behaviours that deny opportunities for player autonomy have been linked with a lack of progression by players. This can clearly be related to the autonomy part of self-determination theory (Ryan & Deci, 2000) whereby players who have at least partial ownership over their own destiny are likely to be more intrinsically motivated. Furthermore, Cote and Gilbert (2009, p. 313) claim that expert coaches are skilled in creating “optimal learning environments” where group members mutually support each other.

Regarding current practices being used to identify and develop player PSCs, AMs identified a number of considerations and approaches around assessment methods. Although some AMs acknowledged that more could and should be done in assessing and developing PSCs objectively, there was a reluctance to use questionnaires unless specialist staff were around to manage this, and AMs were perhaps unaware of how this was operationalised. Others were reticent of using psychometric testing at all through a lack of ecological validity for phenomena that occur “on the grass” and were less “tangible” than other measures in the physical, technical, and tactical corners. This may be reflected in a general decline in use of questionnaires since the turn of the century (Vealey et al., 2019). Although they offer a potentially efficient and structured method of assessment, many sport psychology consultants now deem them as lacking relevance (and ecological validity), undermining the relationship between athlete and consultant, and being at risk from various biases such as demand characteristics and social desirability (Wixey et al., 2023). Additionally, their use as formative and summative assessment tools may be countered by a lack of providing data during games and training, when it really counts.

Some AMs referred to using a more traditional and subjective coaches’ eye approach that relied on intuition and experience. Advantages of this approach include the ability to see the player in their most natural setting (i.e., the pitch) providing high levels of ecological validity (Sieghartsleitner et al., 2019) with several studies confirming that ratings from coaches were valid and reliable indicators of potential future progression (Fenner et al., 2016; Güllich et al., 2017; Jokuschies et al., 2017; Zuber & Conzelmann, 2014). However, there have also been a number of studies (Cumming et al., 2018; Hill et al., 2023; Sieghartsleitner et al., 2019) that urge caution in using this as a sole method of assessment due to factors such as cognitive biases and maturation effects. Overdependence on this method may also cause problems if it is used by inexperienced coaches who may be less versed in what to look for. To this end,

Mitchell et al. (2024) provided a list of age- and stage-appropriate behaviours that coaches can observe in players in order to gauge their current PSC status and develop this accordingly through co-creation of sessions with sport psychology staff.

Based on these findings future approaches to identifying a player's current PSCs should look to use a multi-dimensional approach (Sieghartsleitner et al., 2019) by combining objective and validated tools with ecologically valid approaches such as observations and synergistic input from coaches, AMs, and psychologists in training and games (Daley et al, 2020). Indeed, the involvement of coaches (with guidance from specialist staff) has already been advocated by researchers investigating how best to identify and foster PSCs in academy environments (Collins & MacNamara, 2017); Dean et al., 2022; Mitchell et al., 2022; Williams et al., 2020). Once player strengths and weaknesses have been assessed, a collaborative approach (Mitchell et al., 2022) could again be used to embed psychosocial challenge within the curricula (Collins et al, 2016; Collins & MacNamara, 2017). Mitchell et al. (2022) advocated an '8 pillar' approach, evolved from the 5Cs developed by Harwood and Anderson (2015), whereby they suggested the development of individualised performance profiling for every academy player. This would provide baseline scores that could be reassessed at regular points during the season, thereby adopting a player-centred approach, also promoting multi-disciplinary working within academies (Moodie et al., 2023). Forming partnerships with appropriate external agencies (e.g., charities and universities) may be useful in recruiting suitably qualified individuals to assist in this process, which in turn would provide them with valuable industry experience.

In the current study embedding challenge ("strategic stress") was seen as an important aspect for successful psychosocial training of players. This may occur in what Fletcher and Sarkar (2016) described as environments facilitative of building resilience i.e., being high challenge and high support. Whereas, in contrast Moodie et al (2023) suggested that athletes

should be exposed to a variety of highs and lows manipulated through deliberate planning, allowing them to experience a variety of different emotions, provided that reflection and supportive debriefing were also present. Challenge for challenge's sake may be detrimental, as chronically high challenge with no purpose and little athlete support can derail development (Taylor & Collins, 2020). Collins and MacNamara (2017a, p.4) describe a “teach-test-tweak cycle”, where age- and stage-appropriate challenge is periodised into programmes from an early age when players are more receptive and would benefit more greatly from positive habits formed from the PSCs being developed. This challenge element can be introduced incrementally and also involve checking that players are competent in dealing with this added pressure by deploying appropriate PSCs at each stage (Bell et al., 2013). Differentiation is also vital to ensure that the challenge is set at the correct level for every individual, and that appropriate support is also provided (Papastaikoudis et al., 2024, Williams & MacNamara, 2022) so that this strategic stress does not become distress.

4.5.2. Challenges that affect the development of player psychosocial skills and characteristics (PSCs)

With regard to the challenges that affect the implementation and development of player PSCs, AMs across all Categories described the importance of developing players as people capable of functioning outside of the soccer bubble, due to the vast majority not achieving a professional career. This echoes suggestions from Stambulova et al. (2021) and similarly from Larsen et al. (2020) and Ryom et al. (2020) in their case studies with mainland European academies Ajax Amsterdam and KRC Genk, respectively. These perspectives also seem to contradict the prioritisation of assessment and development of technical/tactical and physical attributes (Koopman et al., 2020). They would also agree with an increasing volume of research suggesting that player PSCs are important facilitators of future progression and developing their ability to cope with the transitions (i.e., athletic, non-athletic and dual-career) they will

experience throughout the pathway (Hardy et al., 2017; Moodie et al., 2023; Morris et al., 2015; Till & Baker, 2020).

Recruitment and training of staff were seen by AMs as further challenges that could affect the identification and development of player PSCs. Crawley (2021) and Dean et al. (2022, p.2) identified a lack of education and “psychological literacy” for coaches and perhaps an unwillingness to embrace the psychosocial elements of performance. Notably, Dean et al (2022) discussed a low level of guidance in the EPPP performance plan to inhibit the successful integration of PSCs into academy curricula. Additional support for academies from external sources was discussed by some AMs. Partnerships already existed between some academies and independent organisations, which could be an important step forward in mitigating financial and temporal constraints. Some AMs believed that the Premier League and the Players’ Football Association in particular could do more. The Premier League’s (2022) report on 10 years of the EPPP highlights a lot of success that the plan has enabled with contributions from the FA, EPL and EFL (but not the PFA). The report also identified 10 opportunities for progress including providing more varied experiences on the pathway to facilitate easier transitions out of soccer, allowing more of a player voice, and improving multidisciplinary working. These opportunities could guide future research in this field, along with investigating the impact of player care officers, now made compulsory at all Category 1 to 3 academies (EPL, 2022).

Additionally, a lack of acceptance of current PSC methods from key decision-makers as well as lack of buy-in from coaches are problematic (Nesti & Sulley, 2015). Aside from organisational challenges, the assessment and development of PSCs still lacks in ecological validity with an overemphasis on psychometric testing by sport psychologists, especially of an inductive nature (Wixey et al., 2023). Graduates and postgraduates may initially lack the required soft skills to work effectively with players and staff at academies, alongside a lack of

micropolitical literacy (Gibson & Groom, 2019). Involving coaches in the assessment (Mitchell et al., 2022, 2024) and delivery (Diment, 2014; Harwood & Anderson, 2015; Mitchell et al., 2022, 2024; Wixey et al., 2023) processes has only been a recent development suggesting a lack of previous inter-disciplinary collaboration.

Recommendations from Wixey et al. (2023) include the provision of a central database of resources for coaches, online workshops, changes at an organisational level such as better use of player reviews to assess PSC development, and a golf caddy approach from sport psychology staff whereby they work indirectly through coaches. Clearly, a more evidence-based approach to integrate PSCs into their curricula holistically with a player-centred focus would be beneficial (Wixey et al., 2023). Starting at younger ages to desensitise players towards the PSC programmes could be an important improvement (Laureys et al., 2021; Ong et al., 2018). Clearly, although some excellent practice already exists, much more work is required to improve the process (Mitchell et al., 2022; Nesti & Sulley, 2015).

Further recommendations from AMs to improve current practice include lower category academies (with greater budgetary/time constraints) developing innovative procedures and partnerships with external agencies (e.g., charities/universities), creation of a 'British Legion' of soccer by the PFA to better cater for released players, and upskilling coaching staff to enhance PSCs through session design. There has also been an underlying theme in evaluating and developing the whole person and not just the soccer player (through an inter-disciplinary approach) to prepare them for life outside of soccer and the inevitable transitions that they will experience in all domains.

4.6. Limitations

Although this is the first study to investigate AM perceptions of how PCS are identified and developed in EPPP soccer academies the sample only represents around 10% of the overall

population of AMs across Tier 1 to Tier 3 EPPP academies. Therefore, the findings of the current study may not be universal across every academy. It is also important to acknowledge that use of semi-structured interviews may have some inherent weaknesses that could have influenced the findings of the current study, such as self-report bias (giving inaccurate answers), recall bias (inability to recall events accurately), social desirability (presenting oneself in a socially favourable manner) and demand characteristics (giving answers that the participant believes the researcher wants) (Horne, 2022). Also, although AMs do have a significant influence on assessment and development of PSCs, they are by no means the sole stakeholders in this process and future research may benefit from consulting other staff members such as heads of coaching, phase leads, age group coaches, and indeed support staff (e.g., physiotherapists, sport scientists, and strength and conditioning coaches). However, the study has given the opportunity for a traditionally hard-to-reach sample to have a voice, shedding light on existing good practice and identifying areas for the further evolution of assessment and development of PSCs in players.

4.7. Conclusion

The aims of this Chapter were to explore academy managers' experiences of identifying and developing psychosocial skills and characteristics in youth academy soccer players. The key finding of this chapter was the consensus from AMs that PSCs are the key drivers for development of future soccer players and for succeeding in careers outside of soccer for the vast majority of players that do not go on to play professional soccer. Use of multiple, ecologically valid methods (i.e., both objective and subjective) were proposed as a potential way forward, including player self-assessments and coach observations. In terms of developing PSCs, there was some agreement that embedding challenge ("strategic stress") within academy curricula was an effective way of developing players' PSCs. Upskilling coaches by appropriately trained support staff and using support from external organisations was deemed

important to help overcome some of the organisational challenges (i.e., time constraints and staffing issues), especially those operating at lower category levels (Figure 5).

Findings from Chapters 3 and 4 may signpost ideal PSCs for players to strive towards. Chapter 3 suggested a need for carefully planned programmes to identify and develop players' PSCs, thereby ensuring positive outcomes on their academy journey, addressing the factors of PT, SDCM and ARF appropriately. Chapter 4 provided a more in-depth exploration from the perspective of academy managers as key stakeholders finding that such a programme should be holistic in nature to build ideal PSCs in players through upskilling coaches and working with external partners. Accordingly, Chapter 5 will explore some of the ways in which the above suggestions from Chapters 3 and 4 can be put into practice using an intervention programme approach that assesses youth development phase EPPP players at a Category 3 academy.

EPL & EFL ACADEMY MANAGERS' EXPERIENCES OF PSC DEVELOPMENT IN ACADEMY PLAYERS



Barraclough, Grecic & Harper (2024) *Journal of Sports Sciences* 42(13), 1259-1271

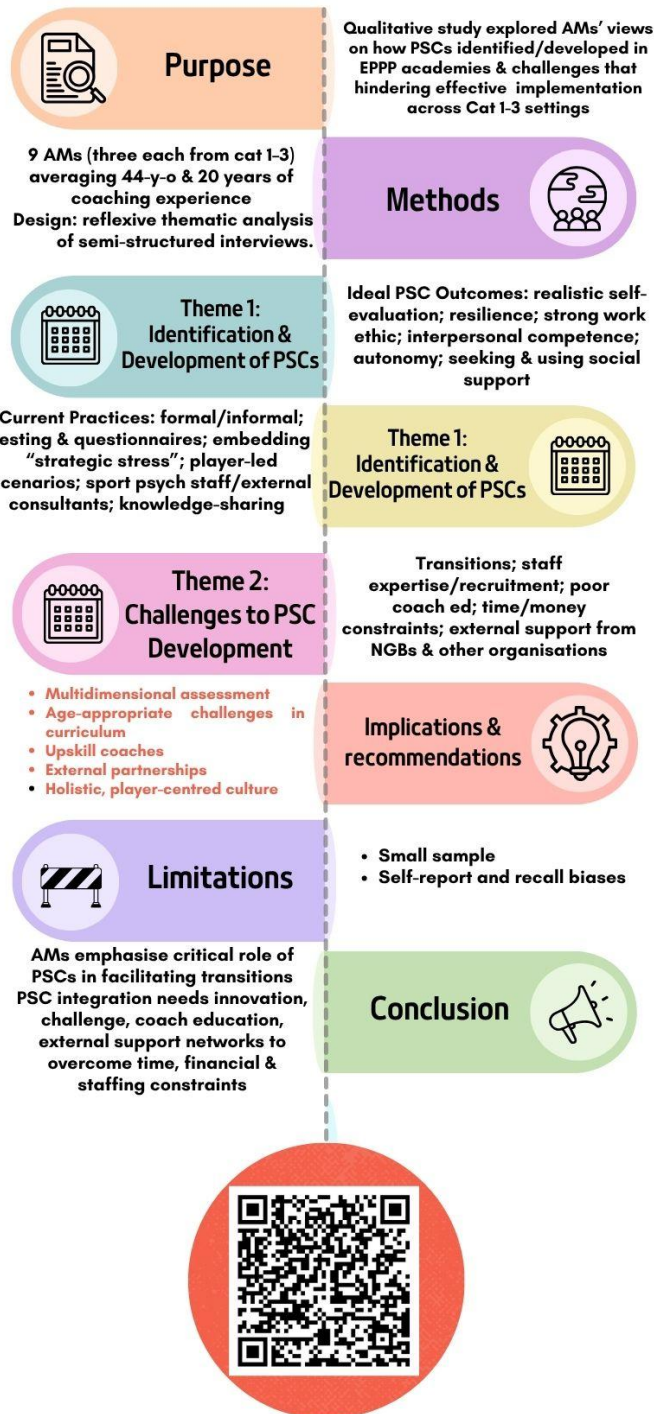


Figure 5. Infographic summary of Chapter 4

Chapter 5

Chapter 5 - Effectiveness of a psychosocial skills and characteristics (PSCs) development programme embedded into an English male professional soccer academy

5.1. Abstract

In the previous chapters, certain differences in PSCs (PCDEs) were noted between ages and categories of players with AMs agreeing that these are the key drivers of development in soccer players and for succeeding in careers outside of soccer for the vast majority of academy players that do not go on to play professionally. For assessment of PSCs, use of multiple measures was seen as being important including use of questionnaires, performance profiles and observations. In terms of PSC development, there was consensus that embedding challenge within academy curricula was an effective approach in developing PSCs (see section 4.4.1.2). Upskilling coaches by appropriately trained support staff and those from external organisations was suggested to help overcome some of the organisational challenges (i.e., time constraints and staffing issues), especially those operating at lower category levels. There is a scarcity of research, however, investigating the effectiveness of a PSC development programmes embedded into academy soccer clubs. Therefore, the aim of this study was to explore the effectiveness of an individualised 21-week PSC intervention programme embedded into a male Category 3 soccer academy. Nine players (age 12.63 ± 0.18 years) from the U13 squad volunteered to participate in the study. The lead researcher was embedded within the academy to plan, implement, and review the intervention programme in accordance with academy age-group coaches ($n = 2$). Data were gathered pre- and post-PSC intervention using the PCDEQ2 and performance profiles. Changes in player PSCs were analysed using paired samples *t*-tests with Cohen's *d* effect size used to determine the magnitude of change. For PCDEQ2 scores, small positive effects were noted for self-directed control and management ($d = 0.31$) and active coping ($d = 0.27$). Imagery and active preparation ($d = -0.42$), perfectionistic tendencies

($d = -0.43$) and seeking and using social support ($d = -0.22$) showed negative small effects. For the performance profile scores, moderate positive effects were observed on emotional control ($d = 0.76$), self-awareness ($d = 0.52$), and being a good learner ($d = 0.47$). Moderate negative effects were observed for commitment ($d = -0.56$), and concentration ($d = -0.79$). In conclusion, a 21-week PSC development programme embedded within a Category 3 soccer academy had both small-to-moderate positive and negative effects on player PSCs. Further research is needed to explore effectiveness of approaches for delivering PSCs in soccer academy environments in conjunction with academy coaches.

5.2. Introduction

Alongside development of technical, tactical and physical attributes a plethora of recent research demonstrates that psychosocial skills and characteristics (PSCs) are also vital for progression along the academy soccer pathway (Collins et al., 2018; Green et al., 2020; Gulbin et al., 2013; Hardy et al., 2017; Hill et al., 2023; Moodie et al., 2023; Till & Baker, 2020, Williams et al., 2020). Psychosocial characteristics are traits that a player possess innately (e.g., resilience, motivation) or that can be developed through psychosocial skills (i.e., learned methods that can regulate psychological and social characteristics) training (Dohme et al., 2016). Importantly, PSCs have the wider purpose of developing aspiring soccer players as people as well as athletes, capable of functioning in the world away from soccer, at whatever point they transition out of that environment (Stambulova et al., 2021).

The elite player performance plan (EPPP) was introduced by the English Premier League (EPL, 2011) in 2012 to revolutionise the academy system for EPL and English Football League (EFL) soccer academies. A key aim of the EPPP is to facilitate the holistic (i.e., physical, technical, tactical, psychosocial) development of players across each academy phase (i.e., Foundation Phase; U9-U11, Youth Development Phase; U12-U16 and Professional Development Phase; U17-U21) to ensure optimal player development, health and wellbeing (Roe & Parker, 2016). EPPP academies are categorised from 1 (highest) to 4 (lowest), with higher categories receiving more contact time with players, more funding and more staff (Premier League, 2011).

Although the EPPP was designed to develop players holistically (Jones, 2018), psychological profiling and support were only made mandatory at Category 1 academies with lower categories relying on external organisations for support or even going without (Chapter 4; Dean et al., 2022). Even at Category 1, McCormick et al. (2018) reported that some clubs

just do the bare minimum in terms of sport psychology services, with sessions often being confined to basic classroom-based workshops. These sessions often depend on buy-in from coaches who in turn can have a major impact on how players perceive them. This could be problematic as Champ et al. (2020) and Crawley (2021) suggest that coaches are not always receptive to new ideas and may maintain the hyper-masculine premise that psychology is for the weak. In addition, Gibson and Groom (2019) claim that micropolitics may come into play whereby individual coaches' self-interest leads to them manipulating the environment to their own needs, with less regard for the players. Additionally, at a macro level, lower Category academies lack specialist staff and must balance time and budgetary constraints (Chapter 4). High staff turnover and a need to stay in employment (professional self-interest) may be factors that also prevent new ideas taking root (Gibson & Groom, 2019).

Chapter 5 identifies that academies may not be employing psychosocial development despite academy managers recognising the importance of PSCs, with time and financial constraints being cited as restrictive factors, alongside difficulties in delivering effective staff development sessions. An additional reason may be coaches' reluctance to explore means of implementing PSCs as they find this too demanding and time-consuming and may be more prone to focusing on winning over development (Santos et al., 2018). To ensure optimal delivery of PSCs and overcome some of these challenges collaboration between key stakeholders (i.e., coaches, parents and academy management staff) is seen to be vital in this process (Chapter 4; Dean et al., 2022; Mitchell et al., 2022, 2024; Santos et al., 2018; Rothwell et al; 2020).

Although many frameworks exist with the best of intentions in implementing PSC development (Collins et al., 2018), many practitioners struggle to operationalise theory into practice i.e., by transferring from classroom-based sessions to the pitch (Mitchell et al., 2022 & 2024). Other approaches such as PCDEs (Collins et al., 2010a, 2010b) offer detailed

suggestions but only on a generic basis. Some notable exceptions in soccer include work by Diment (2014), Harwood and Anderson (2015), and Mitchell et al. (2022) where PSC training has been periodised into academy curricula and delivered by coaching staff. Diment (2014) applied a ‘drill-based approach’ involving educating coaches into integrating seven psychological skills (e.g., concentration, self-talk, communication) into players’ daily training using sport-specific drills. Harwood and Anderson’s (2015) approach prescribed practical sessions to be delivered by coaches around the 5Cs of commitment, communication, concentration, (emotional) control, and confidence. Mitchell et al. (2022) developed an ‘8 pillar’ approach which incorporated the 5Cs with an additional three pillars (resilience, presence and self-awareness), again to be delivered by academy coaching staff with support from sport psychology consultants. One possible limitation of these three approaches was their programme-centred nature where the same content was delivered to all the players by staff. Mitchell et al. (2022) suggested a possible alternative to this would be to tailor the PSC programme to a more player-centred approach by implementing long-term individual assessments, such as performance profiling to measure baseline scores compared to post-intervention scores (Butler & Hardy, 1992).

It may also be prudent to apply learning theories (e.g., transtheoretical model, health belief model, social learning theory – Massey et al., 2015) more systematically as an evidence base to any intervention programme. Borrowing ideas from pedagogy has often been prevalent in coaching but this has not always been successful in transfer. It is argued by Moran et al. (2024) that ideas from new curricula may be more directly relevant to talent development environments, namely four principles: identifying the purpose of the programme; deciding on how these aims will be achieved, who will deliver the programme in a holistic and progressively challenging manner, and how will the success be evaluated? It may be necessary to use a variety of different coach inputs to facilitate and reinforce ideal PSC outcomes in

players. Use of overly simplistic methods such as operant conditioning suggested by MacNamara (2011) could be flawed as they do not allow for differentiation between learners and would not account for the dynamic, non-linear and individualised pathway in academies (Bailey et al., 2010).

When collecting data, triangulation is important when assessing individual PSCs with each measure having inherent strengths and limitations. Using more than one assessment method means that the strengths of one can mitigate the weaknesses of another (Collins et al., 2018). Accordingly, questionnaires such as the psychological characteristics of developing excellence questionnaire (PCDEQ) (MacNamara & Collins, 2011) have been developed and used to assess psychological characteristics of developing excellence (PCDEs), PSCs deemed by MacNamara & Collins, (2011) to be important for success in talent development environments. The PCDEQ was deployed by Kelly et al. (2022) across two seasons working with a Category 3 academy's foundation (i.e., U9 to U11s) and youth development phases (i.e., U12 to U16s). Scores were taken in pre-season, and two factors (coping with performance and developmental pressures and ability to organise and engage in quality practice) were positively associated with progression along the pathway. Similarly, Seward et al. (2019) tracked youth development phase (U-13 to U-16) players' PCDEs at a Category 2 academy over a 20-month period using the PCDEQ and what category level (i.e., 1-4) they subsequently reached at youth team level (i.e., indicator of successful career progression). They discovered that coping with performance and developmental pressures and evaluating performances and working on weaknesses scores increased with age at higher category levels, whereas imagery use during practice and competition scores decreased. When applied to career progression, it was suggested that for players in the YDP, coping with performance and developmental pressures was particularly important to develop resilience on the pathway and to cope with transitions. It also implies that effective, bespoke assessment methods are vital. Without measuring

individual baseline scores and reassessment at specified points, it would be difficult to judge the effectiveness of any intervention, other than by using the coach's eye which is fraught with potential issues around cognitive bias (Sieghartsleitner et al., 2019).

Despite the widespread use of the PCDEQ for tracking PCDE development, only Mitchell et al. (2024) have deployed the more recent version of this inventory (i.e., PCDEQ2; Hill et al., 2019) in soccer as a pre- and post-intervention assessment in their study with a Category 3 academy. They delivered an 8 Pillars (communication, control, commitment, confidence, concentration, resilience, presence, and self-awareness) programme via player workshops and age-group coaches. This entailed an initial pre-season workshop with coaches as an overview of the programme with examples of what each 'pillar' might look like on the pitch. This was followed by twice-monthly workshops focusing on co-creation of sessions between a sport psychology practitioner and the academy coaches with a single 'pillar' being addressed for four weeks at a time i.e., periodising that 'pillar' into the academy curriculum. Significant differences were reported in imagery and active preparation, seeking and using social support and active coping. In addition, they also noted significant improvements in players communication, control, commitment, concentration, and resilience.

Performance profiling has been advocated as an alternative or complementary method of measurement (Butler & Hardy, 1992) as it gives players the opportunity to be involved in the assessment process (Deci & Ryan, 1985; Visek et al., 2013) and could enhance self-regulation (Toering & Jordet, 2015). The process of self-evaluation has also been argued to act as an intervention in itself as it encourages performers to self-reflect (Hemmings & Holder, 2009), although self-report bias may be a factor with subjective scores being obtained.

Another method that can be used to assess PSCs is observation, providing more ecological validity by monitoring players in their natural environment (i.e., on the pitch)

(Mitchell et al., 2022). This could also avoid the self-report bias potentially present in performance profiling and questionnaires but could be prone to observer bias (Ashdown et al., 2024). Mitchell and colleagues (2022) suggested a number of observable behaviours for each of their 8 pillars across the three phases of academy soccer. For example, in the youth development phase, effective commitment can be observed in players who are “staying involved in the play, looking to create opportunities in training and games, showing for teammates” (Mitchell et al. 2022, p. 40).

According to academy managers who have an overriding influence on player curricula and developmental processes PSCs are deemed to be the most important catalysts for player development (Chapter 4). Despite this there is still little research investigating how PSCs are effectively assessed and developed in academy settings. Although many coaches will be incorporating PSC elements into their planning implicitly, there is a need to make this more explicit so that specific PSCs can be assessed and targeted for development more effectively. Therefore, the aim of this study was to explore the effectiveness of an individualised PSC development programme in a male Category 3 soccer academy with players in the youth development phase.

5.3. Method

5.3.1. Study design

A pre-, post-test intervention programme methodology was used to embed the first researcher directly within the context of their inquiry using a pragmatic approach whereby research is based upon its practical, social, and moral outcomes, aiming to bring about improvements in human populations (Giacobbi et al., 2005). Pragmatism often deploys singular or mixed methods (as in the current study) seen as appropriate to the research question and how the results may be used for the power of good. Such programmes should follow a set structure and according to Moran et al. (2024, p. 3), should reflect elements of a “new curriculum” whereby

pedagogical practices are applied to talent development environments such as football academies. Four general principles should be followed: (1) clarity of purpose (including developing in learners of autonomy and transferable skills), (2) including appropriate content (allowing flexibility and inter-disciplinary working), (3) appropriately planned and periodised strategies (accounting for the individualised, dynamic and non-linear nature of development), and (4) evaluation (both at formative and summative levels).

According to Cushion and Jones (2006), a power imbalance will always exist between those in an authority position (i.e., coaches and in this instance researchers) and players in a more submissive position. For the purpose of the current study, a collaborative share of power between researcher and participants was encouraged (i.e., coaches and players) to apply and extend upon previous research in an applied field-based setting (Boyle, 2012). More specifically, session design was co-created between researcher and coaches- and indeed at times players – and the latter were given more of a voice throughout the process in the activities outlined in Tables 12 and 13 based on recommendations by Mitchell et al. (2024). In this instance, the seven-phase model outlined by Thomas' (1990) was used as a framework and is described in more detail within the psychosocial skills development programme section. The use of this particular model was rationalised from the lead author's familiarity with it and its previous use in an intervention by Beauchamp et al. (2012).

5.3.2. Setting and participants

Ethical approval was granted from the University of Central Lancashire's institutional ethics committee (BAHSS2 0305), and informed consent was obtained from all participants and their parents prior to participation. Twelve Category 3 EPPP academy players in northwest England from the U13s (age 12.63 ± 0.18 years) youth development phase squad volunteered to participate in the study as this represented the squad size at the time of inception (trialists were

not included in case they were not later signed). One participant did not complete the pre- and post-intervention PCDEQ2 questionnaires, and two additional participants withdrew from the study due to personal reasons, meaning data is presented from nine players. The two part-time age-group coaches were involved in the implementation of the PSC programme: coach A (aged 22) who held an FA Level 2 Coaching Certificate and a BA in Football Coaching and Talent Development; and coach B (aged 28) who held the UEFA 'B' License and a BSc in Sports Science and Coaching. The U 13s youth development phase squad were chosen as this was the youngest age group that the PCDEQ2 was validated with, and it was thought beneficial to start with a younger age group that could be more receptive to psychosocial training (Laureys et al., 2021).

For the current study, the lead author (JB) provided workshops to the age-group coaches, players and parents in the capacity of lecturer, performance psychology consultant and level 4 Advanced Youth Award coach. These workshops featured a number of topics related to using psychological skills to develop psychosocial characteristics (e.g., goal setting, self-talk and imagery) and how these related to each pillar.

5.3.3. Developing and evaluating a psychosocial intervention programme

The framework used to develop and evaluate the PSC intervention programme was Thomas' (1990) seven-phase model, similar to the periodised approach used by Beauchamp et al. (2012) when deploying a psychological skills training programme with Canadian Olympic speedskaters (Figure 6) and supported by Moran et al.'s (2024) suggestions around new curricula. Previously, no such framework existed in this academy due to budgetary constraints at the academy which provided an opportunity to embed PSCs into the curriculum, delivered by coaches, and supported by the lead author.

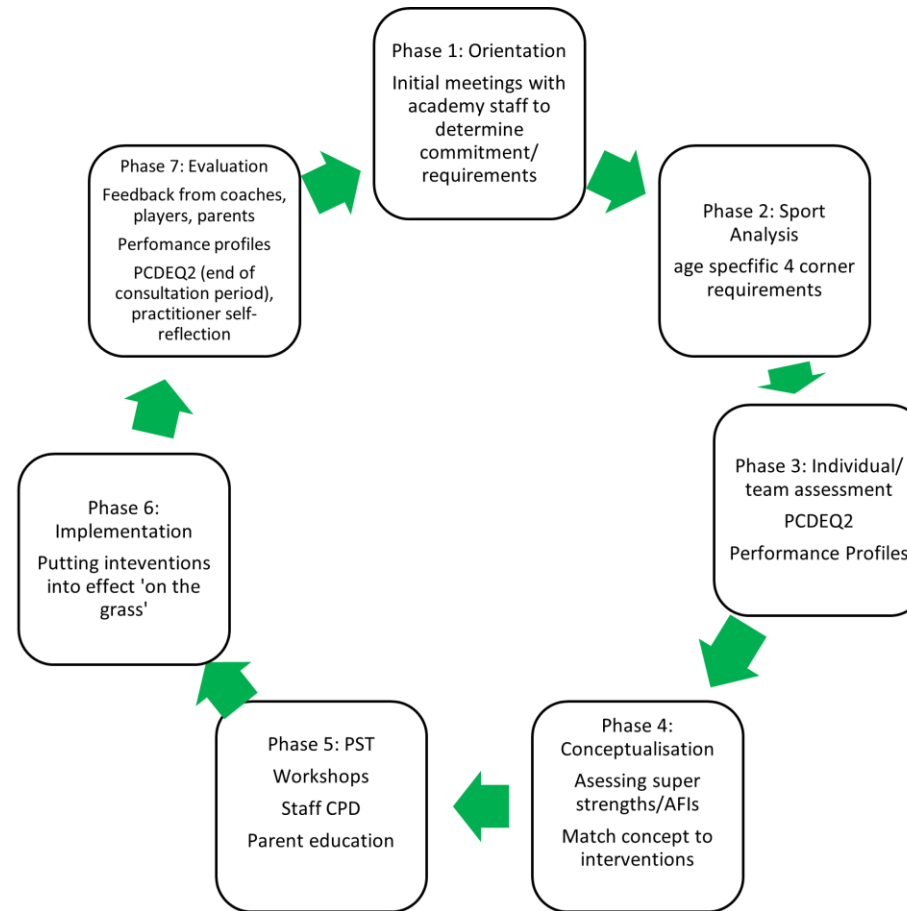


Figure 6. an adapted version of Thomas' (1990) seven-phase model. PCDEQ2 = psychological characteristics of developing excellence questionnaire version 2, AFI = area for improvement, CPD = continuing professional development. (N.B. phase 1 and 2 were only used in the first cycle. In subsequent cycles, the process went from phase 7 to phase 3).

5.3.3.1. Phase 1: orientation

Contact was made with the academy staff through mutual acquaintances followed by an initial meeting between the lead author, academy manager and head of coaching towards the end of the season before the consultation took place (March 2023). The purpose of this meeting was to establish the structure of the academy season and how the research could fit within that. This is what Moran et al. (2024) describe as clarity of purpose i.e., ensuring that an equitable, learner-centred approach is agreed and prioritised. It was also a chance for the first researcher to build rapport and share ideas of what could be developed based on previous research (Barraclough et al., 2022 - Chapter 3; Mitchell et al., 2022). This meeting went well, and both the academy manager and head of coaching seemed very receptive. A second meeting followed with the head of coaching and phase lead for the age group that would be participating – the U-13s. Again, this was positive and both parties seemed interested and committed to the process.

5.3.3.2. Phase 2: sport analysis

Although the first researcher was generally knowledgeable about practice at a Category 3 academy (with around 10 years' coaching experience in the youth development phase at this level), it was still necessary to become familiar with procedures at this particular academy. A second meeting took place between the first author, head of coaching and youth development phase lead in May 2023 to establish a timeline for the upcoming season and which PSCs academy staff believed should be developed. Areas that the staff requested included having player-led sessions to develop autonomy, using the 5Cs (commitment, communication, concentration, control, and confidence), having mixed age groups and improving communication in players, all of which aligned with current recommendations (e.g., Barraclough et al., - Chapter 3), although the current study would deploy a slightly different

approach as outlined below. At this point, it was also discussed with the head of coaching and YDP phase lead about which factors would be included in the performance profiles in the technical and tactical corners for each position at U-13 level, thereby countering the criticism of the four-corner model as being overly prescriptive (see Figure 11 for an example of a completed profile for a central defensive midfielder). This aligns with the second part of Moran et al.'s (2024) new curriculum – deciding on content that is flexible and where possible involves inter-disciplinary collaboration between departments.

. The academy season was periodised into six blocks, each six weeks in length (i.e., 36 weeks in total (Table 12), preceded by a brief pre-season block of three weeks. The four cycles for the current study consisted of pre-season and the first three six-week blocks. Data from field notes, questionnaires and other resources such as presentations and handouts were gathered continuously during this time by the lead author. The information collected was then used to identify (and maintain) good practice and adapt areas that required improvement, based on personal reflections and feedback from others involved in the process (i.e., players, coaches and other academy staff such as phase leads and head of coaching).

5.3.3.3. Phase 3: assessment of player psychosocial skills and characteristics (PSCs)

5.3.3.3.1. Performance profiles

Performance profiling has been advocated (Butler & Hardy, 1992) as it gives players the opportunity to be involved in their development (Deci & Ryan, 1985; Visek et al., 2013) and could enhance self-regulation (Toering & Jordet, 2015). The process of self-evaluation has also been argued to act as an intervention in itself as it encourages performers to self-reflect (Hemmings & Holder, 2009), although self-report bias may be a factor with subjective scores.

In this instance, data were collected prior to the start of the first cycle (i.e., pre-season) using performance profiling (Butler & Hardy, 1992) to assess players' current PSC strengths

and weaknesses to focus specifically on 12 PSC items recommended by Mitchell et al. (2022 & 2024) and Barraclough et al. (2024 - Chapter 4) (i.e., commitment, resilience, confidence, emotional control, communication, concentration, good learner, enjoys challenge, teamwork, leadership, presence, self-awareness). Players rated themselves on a Likert scale ranging from 1 (lowest) to 10 (highest) on each of these prescribed items, with coaches doing the same thereby creating a mean score to represent players 'super strengths' and areas to develop (Ludlam et al., 2015).

In addition, ratings of technical and tactical elements were also rated by both players and coaches to provide mean scores, thereby allowing co-creation of sessions that were holistic in nature, ascribing to the English Football Association's four-corner model (Simmons, 2004). This model has been criticised for being overly simplistic and insufficient for age- and stage-appropriate application to individuals (Moran et al., 2024). However, this concern is bypassed in the current study as it is used as a tool to select refined bespoke areas for development from a wider list, that can indeed be tailored towards individual needs. Thus, the PSC the player was working on could be tied in with appropriate football-specific techniques and tactics to provide greater ecological validity i.e., developing PSCs 'on the grass' and not just in the classroom (Mitchell et al., 2024). Physical elements were not assessed in the performance profiles for this programme, as this was deemed less important during a time of adolescent growth, but this data could be provided from the EPPP testing that players undergo during a season, if deemed necessary. Where physical testing did take place and if performance analysis was also available at an academy this would also allow the opportunity for multi-disciplinary collaboration, as recommended by Moran et al. (2024).

During this assessment, neither the players nor coaches were aware of the other's scores with a mean score obtained in an attempt to reduce bias between athlete and coach scores. The same method was redeployed at the end of the consultation period to compare baseline scores

to those post-intervention as advocated by Mitchell et al. (2022). Data from the performance profiles that was deemed relevant to session design (i.e., technical, tactical and psychosocial ‘super strengths’ and areas to develop) was shared with coaches in order to aid practice co-creation. The lead author created a list of these factors and disseminated it to coaches on a weekly basis (Table 13).

5.3.3.3.2. Player observations

One of the most ecologically valid ways of assessing players is through observation during training and games (Mitchell et al., 2022), but as Christensen (2009) points out, this is only effective if the observer knows what they are looking for. For this purpose, a coach education workshop was provided prior to the start of the intervention period (i.e., pre-season) to familiarise staff with a checklist of age-appropriate behaviours that corresponded to certain PSCs, relevant to their phase (Mitchell et al., 2022). For example, a youth development phase player may exhibit concentration by adapting correct positions in open play, staying focused when fatigued, showing anticipation skills and quickly refocusing after a break in play.

Accordingly, in the current study, weekly ‘bullseye’ players were observed in training and games by both age-group coaches (initially alongside the lead researcher who provided guidance) based on recommendations from Mitchell et al’s (2022, 2024) 8-pillars programme. Although these were essentially subjective opinions, it was hoped that discussion between coaches and lead researcher would allow for some consensus to be reached. For example, when visually assessing emotional control, the coach can observe how the player in question responds both after successful actions or making mistakes and whether they argue with officials after a controversial decision against them. This should inform coach scores on performance profiles when repeat scores are taken later in the season by detecting PSCs as they occur in the most natural setting (i.e., on the soccer pitch).

5.3.3.3.3. Psychological characteristics of developing excellence questionnaire version 2 (PCDEQ2)

The PCDEQ2 (Hill et al., 2019) was used to assess pre- and post-intervention PCDE scores. The questionnaire consists of 88 items and has been validated with the U-13 age group, with similarity responses marked on a 6-point Likert scale from 1 (“very unlike me”) to 6 (“very like me”) to measure seven PCDE factors: (1) adverse response to failure, (2) imagery and active preparation, (3) self-directed control and management, (4) perfectionistic tendencies, (5) seeking and using social support, (6) active coping, and (7) clinical indicators. Both positively framed (n = 72) and negatively framed (n = 16) items were used to reduce response bias (Field, 2018) and acquiescence bias (Horn & Smith, 2019). Previously, Hill et al. (2019) have reported the internal consistency of the PCDEQ2 as good ($\alpha = 0.88$) also with individual PCDE factors as good ($\alpha = 0.72-0.91$). Data collected from the PCDEQ2 was stored securely and not shared with academy staff to ensure confidentiality.

Although this programme was not specifically aimed at the seven PCDEQ2 factors, the questionnaire was nonetheless seen as a valid and reliable general measure of change over this particular timeframe, as previously advocated by Mitchell et al. (2024). It was hoped that using this measure would allow more credibility to be achieved in the implementation of the current interventions and would also potentially benefit the areas identified in the PCDE approach (MacNamara et al., 2010a, 2010b) with Mitchell et al. (2024) proposing theoretical links between PCDEQ2 factors and their own ‘8-pillars’ (Table 12).

Table 12. Hypothetical links between the psychosocial skills and characteristics (PSCs) identified in the thesis and psychological characteristics of developing excellence questionnaire version 2 (PCDEQ2) factors (Mitchell et al., 2024)

PSCs identified in the thesis	PCDEQ2 factors
Control	Adverse response to failure
Control, concentration, and resilience	Imagery and active preparation
Control, resilience, concentration, confidence, commitment	Self-directed control and management
[Over] commitment	Perfectionistic tendencies
Self-awareness, communication	Seeking and using social support
Control, self-awareness	Active coping

5.3.3.4. Phase 4: conceptualisation

Once technical, tactical and PSC baseline scores were collected, each player’s strengths and areas for improvement were identified and a periodised plan was devised by the lead author to embed psychosocial challenge into co-created sessions alongside coaches using guidelines from Thomas (1990). In the context of the current study these included using player-led games (i.e., with minimal coach input), creating scenarios in training where players were working under fatigue and strategic stress (e.g., in underloaded games or giving deliberately poor refereeing decisions in training games), playing for the year above, or out of position, or being a substitute coming on or going off. For example, in week 1, a full back and central midfielder were the ‘bullseye’ players (see Table 14 for specific examples used in this study). It also emphasised that players should be supported through this process which was achieved by briefing and de-briefing them individually and collectively when required (Collins & MacNamara, 2017a).

This aligns with part 3 of Moran et al.’s (2024, p. 10) new curriculum to provide appropriately periodised strategies as part of a “spiral curriculum”. This involves revisiting

aims and objectives at a more challenging level when previous ones have been achieved to further enhance super strengths (Ludlam et al., 2015) or areas for development, or indeed to set new goals where appropriate. This can follow formative assessment at the end of each period of intervention and also fits with the cyclical nature of Thomas' (1990) seven-phase model. Expertise can initially be provided here by the lead author with a view to upskilling coaches for them to eventually have autonomy over planning and integration of PSC development (Moran et al., 2024). It was also noted by Moran et al. (2024) that parents/guardians should also be involved in the process to provide transparency and the opportunity to reinforce principles to their child/charge.

Table 13. Timeline for delivery of psychosocial skills and characteristics (PSCs)

PSC	Timepoint	Topic/overview of content
Concentration	B1 W4 S2	Workshop 1 (10 players, 5 parents) on goal setting/concentration/self-awareness. Distinguish between long/medium/short term and outcome/performance/process goals. Played goal setting 'points game' on pitch.
Self-awareness/ autonomy	B1 W5 S1	Workshop 2 on flipped learning i.e., player-led (autonomy). Players (8) planned sessions based on ILPs then delivered on pitch. Group session but BPs in same ILP group and monitored/supported by coach B.
Communication/ autonomy/leadership	Cat 3 game (3-2W)	BPs led warm-up and BP1 made captain to improve communication/leadership. Also, both BPs led feedback during break periods and at end of game. Responsible for ensuring all kit neat after game & changing rooms tidy/clean.
Commitment/ concentration	B1 W6 S2	Pitch session based on ILPs to demo to coaches with emphasis on concentration/commitment. Did 2 x Coerver practices (box & recovering defender) focusing on BPs. Man marking game at the end (concentration).
Resilience	B2 W1 S2	Pitch session based on ILPs. Defender on side warm-up, practice with BP1 receiving a long pass then playing into BP2 (1 v 1 defender behind to score). Individual constraints in game at end BP2 could only pass forward, BP1 could only pass long (30+ yards).
Control/teamwork/ leadership	B2 W2 S1 indoor	Workshop 3 on self-talk/emotional control followed by indoor session (capture the flag & 4-ball). Players to explore how positive/negative thinking can affect performance and how negative thoughts can be restructured. 4-ball also for development of awareness skills and communication (verbal/eye contact). BPs team captains.
Communication/ autonomy/resilience/ leadership/teamwork	Festival (H)	Player-led from start to finish. Players picked teams & tactics for four group games. BP1 & BP2 took turns to be captain/spokesperson. Lots of different challenges (winning, losing, penalty shootout).

Communication/ autonomy/leadership/ teamwork	B2 W4 S1 indoor	Players planned ILP session. BPs worked on confidence, 1 v1 attacking & shooting. Lots of positive reinforcement, reference to goal in festival and technical feedback. Coach B engaged really well and led this superbly.
Control/resilience	B2 W5 S1	2 BPs worked on emotional control. Both given constraints throughout (weak foot only, underloaded team, bad ref). Both debriefed after.
Confidence/resilience/ control	B2 W6 S1 indoor	Workshop 4 on confidence & imagery. How different forms of visualisation used to improve performance. 3Fs to correct mistakes. Gathered feedback sheets from players and verbal recordings from coaches. BP1 worked on confidence (1 v 1 defender in front situations with lots of success, lots of positive reinforcement); BP2 worked on resilience (played in underloaded team).
Confidence/ communication/ resilience/leadership	Cat 3 game (1-6L)	Did imagery before the game to music. BP1 worked on confidence (played whole game in preferred position, given lots of positive reinforcement throughout game); BP2 made captain (communication/leadership) & played out of position for one period (resilience).
Control/resilience/ autonomy/leadership/ teamwork	B3 W2 S2 indoor	Workshop 5 on emotional control. Players learned about fear of failure & choking. Concept of “mistakes are brilliant”. Also, how to cope with stressful situations such as injury (relaxation techniques, thought restructuring). Awareness of arousal levels & psyching up/down strategies. Used footage from weekend away game to demonstrate good progress followed by player led ILP session indoors. Coach B led an excellent session with both BPs on scanning, passing/receiving & finishing (confidence/awareness).
Communication/ teamwork/autonomy/ leadership	B3 W4 S1 indoor	Workshop 6 on communication and teamwork. Players identified types of communication (verbal, non-verbal, listening) & when/why each are important. Also, what is teamwork & why important? Then, played silent/blindfold soccer to relate this to game specific situations and to demonstrate importance of verbal communication/scanning. Both BPs made captain/spokesperson for each team and led de-briefs.

B = block; BP = bullseye player; ILP = individual learning plan; S = session; W = week

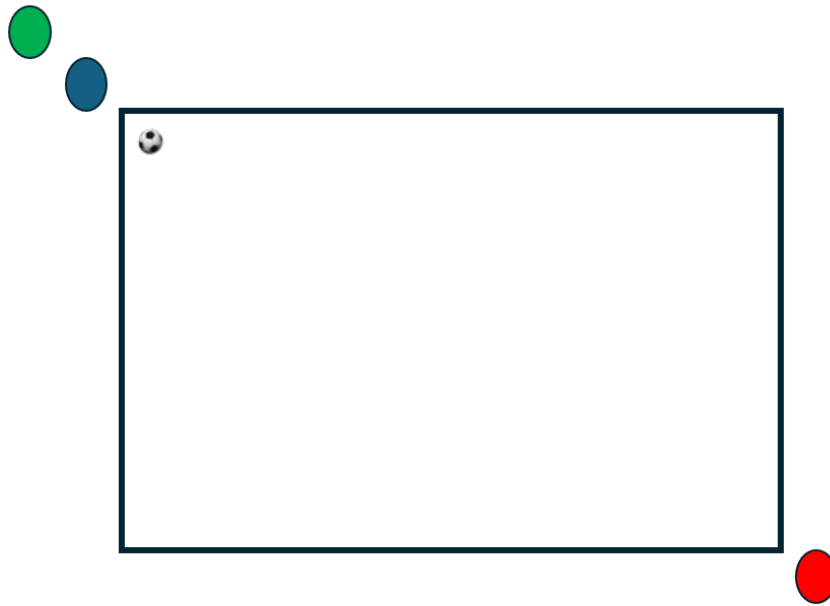
Table 14. Example of individual player psychosocial challenges planned across a six-week block of the curriculum

Name	Super strength	Areas for improvement	Position	Bullseye Week	Training/match day challenges
	Enjoy challenge (PS)	Long passing, tackling (TT), Communication (PS)	FB	1	Captain, lead team talk/warm-up Long passing, driven, lofted, whipped
	Confidence (PS)	Non-dominant foot, turning, 1 v 1 defender behind (TT)	CM	1	Turning unopposed, semi-opposed, opposed (defender behind)
	Enjoy challenge, commitment, resilience (PS), turning, pressing, playing forward (TT)	Short passing, finishing, counter-press, (TT), communication, awareness (PS)	CM	2	Captain, lead team talk/warm-up Shooting/pressing practice Checking shoulder (4-ball)
	Emotional control, teamwork, enjoy challenge, commitment (PS), Short passing, tackling (TT)	Long passing, turning (TT), leadership, communication (PS)	CB	2	Captain, lead team talk/warm-up Short/long passing both feet, driven, lofted, whipped Turning unopposed, semi-opposed, opposed (defender behind) 4-ball
	Commitment, resilience, emotional control (PS), first touch (TT)	Enjoy challenge, communication (PS), switching play (TT)	GK	3	Captain, lead team talk/warm-up Shooting practice Passing & receiving
	Finishing, dribbling, cross/cutback, 1 v 1 defender in front (TT), teamwork, good learn, concentration, enjoy challenge (PS)	Non-dominant foot, tackling (TT) confidence, leadership, communication (PS)	WM	3	Captain, lead team talk/warm-up 1 v 1 to finish, defender in front for confidence
	Dribbling, finishing, pressing (TT), enjoy challenge, commitment, confidence, leadership (PS)	Short passing, tackling (TT), emotional control, resilience (PS)	WM	4	Play underloaded, bad referee, Rock-Paper-Scissors game, short passing/tackling
	Short passing (TT), commitment, concentration (PS)	Finishing, 1 v 1 defending, movement to create space (TT), emotional control, communication, good learner, enjoy challenge (PS)	ST	5	Captain, lead team talk/warm-up play underloaded, bad referee, Rock-Paper-Scissors game
	Commitment, emotional control, enjoy challenge (PS)	First touch, tackling, counter press, playing forward (TT), resilience, communication (PS)	CM	5	Captain, lead team talk/warm-up play underloaded, bad referee, Rock-Paper-Scissors game

Psychosocial (PS); Technical/Tactical (TT): Full-back (FB); Central midfielder (CM); Centre back (CB); Goalkeeper (GK); Wide midfielder (WM); Striker (ST)

5.3.3.5. Phase 5: psychosocial skills training

Workshops are thought to be useful due to their interactive nature giving coaches a chance to provide input, which should hopefully improve the chances of them buying in to the process (Mitchell et al., 2024). Accordingly, coach education workshops were used to disseminate information around integration of psychosocial factors into training sessions and matches as recommended by Harwood (2008). During pre-season, a continuous professional development (CPD) session was delivered aimed at all coaches in the foundation and youth development phases discussing why PSCs are important and how they could be developed. The session consisted of 45 minutes in a seminar setting overseen by the lead author with input encouraged from coaches (Appendix 7). Coaches were provided with a background to sport psychology and what this might look like at academy level, along with an overview of performance profiling and observable behaviours. Coaches were then given the opportunity to reflect on how they currently work on PSCs in their practice, followed by some examples by provided by lead author. The coaches were then put into groups according to phase in order to plan their own PSC-based sessions, with support from lead author. This was followed by a 45-minute practical session on the pitch with the U-13 age group, initially facilitated by the lead author, demonstrating how PSCs could be developed using games (see example Figure 7). For the final 30 minutes of the practical session the academy coaches delivered their planned sessions to demonstrate their understanding of the subject. This was followed by a debrief with players and coaches for feedback on how the players thought they were developing PSCs, what went well, and what could be improved.



How to play (10 x 10 yard square):

- Blue player passes to red and presses quickly, then puts the brakes on
- The red player can either try to beat the blue player and stop the ball next to the blue player's starting cone for 10 points or go to either side of the square for 5 points
- If red loses the ball, blue can counter-attack and reach the red player's starting cone for 10 points or the side cones for 5 points
- The turn stops if a player scores or if the ball goes out of play
- Rotation: the red player goes to the opposite end and rests; blue goes to the opposite end to be the attacker; green becomes the server/defender
- You can use a promotion/relegation format if you set a number of squares up next to each other. At the end of a pre-determined time (e.g., three minutes), the player with most points can move up and the player with least points can move down (i.e., are promoted or relegated)
- This also helps differentiate opponents on ability level providing more or less challenge to players in order to develop confidence (easier opponent), commitment and resilience (harder opponent)

Figure 7. Example session used in staff continuous professional development to assess and develop player confidence, commitment and resilience

A resource pack (Appendix 7) was produced and sent to the U-13 age-group coaches and phase lead via e-mail. The lead author was available via telephone, text or e-mail for any queries as well as setting up a What's App group for the same purpose to encourage dialogue.

Six additional classroom workshops were conducted with players throughout the programme duration to explain the importance of psychosocial skills (e.g., goal setting, self-talk and imagery), and how they might be deployed to enhance psychosocial characteristics related to each pillar (i.e., concentration, self-awareness, autonomy, communication, leadership, commitment, resilience, control, teamwork, and confidence) following previous work by Mitchell et al. (2022 & 2024). As the season progressed, the squad trained in the indoor sports hall once every two weeks. It was decided to align the classroom workshops with these sessions so that players only had to walk a matter of metres to begin training and the information would still hopefully be fresh in their minds. This also had the added benefit of being able to use whiteboards in the sports hall area. These workshops were spread across the programme (see Table 13) where general principles were delivered en masse to the group and individualised to players during these sessions through activities (e.g., completing goal-setting or self-talk exercises) to tie in with the curricular requirements. Parents were also encouraged to attend to be aware of the concepts under discussion. Some parents did attend but some felt uncomfortable doing so with an interesting comment from one that they thought their presence would make their son feel uncomfortable, which is perhaps a valid point to consider when working with adolescent boys. Coaches were also encouraged to attend and offer their own experiential insights as well as gaining a further opportunity to engage with the psychosocial content and support players.

5.3.3.6. Phase 6: implementation

Key psychosocial areas were identified by the lead author, and development needs were prioritised for development on the pitch in training and games in agreement with the appropriate players. In line with previous research by Mitchell et al. (2022) coaching staff were also consulted at this stage to co-create sessions with input from a coaching perspective which then fed into session design. Following guidelines by Skyrme (2020) a plan was produced to ‘bullseye’ players within the periodised curriculum (i.e., training and games), whereby two to three players were selected for each week and targeted in one-to-one or small group sessions (Gearing & Bridge, 2024) and through use of individual constraints during squad sessions and the games programme (Renshaw et al., 2019). This was periodised into the academy curriculum in the form of individual learning plans (ILPs) that were disseminated by the Spond application and agreed with players before the start of the first block (mesocycle) of work (Table 13). ILPs were then used by players to plan their own development sessions with ‘bullseye’ players (BPs) always in the same group for ease of support. Flipped sessions where players planned and delivered their own ideas were repeated throughout the programme with five of these in total.

A ‘super strengths’ approach has been suggested by Ludlam et al. (2015) whereby athletes’ strengths are the main focus of development with weaknesses only being addressed if they present a barrier to progression. However, Ludlam et al. (2015) also noted that at lower levels of performance (e.g., Category 3 academies), there may indeed be more of a focus on weaknesses. Regardless of which of these becomes the focus, the environment should be designed to challenge players at the optimum level (Papastaikoudis et al., 2024). This could be achieved by exposing players to a variety of periodised highs and lows, allowing them to experience contrasting emotions, alongside appropriate support from staff and reflection from players (Moodie et al., 2023), supporting Williams and MacNamara’s (2022) view that differentiation is essential in planning. The lead author initially delivered sessions on the pitch

to demonstrate to the two age-group coaches what was required in terms of embedding PSC development into practical sessions. From there, the lead author encouraged the two coaches to work together in planning technical and tactical sessions that also had PSC elements embedded in them. Additional guidance was provided by lead author with suggestions for improvement when needed.

To promote autonomy in players (Barraclough et al., 2024 – Chapter 4; Deci & Ryan, 1985; Moran et al., 2024) and to improve inclusivity during games, the substitutes were asked to observe the performance of individuals and the wider team (either in possession or out of possession). They then provided feedback and suggestions at half- and full-time in collaboration with the players who had been performing, one of whom was also designated captain and commented on what he had experienced in terms of ‘what went well’ and ‘even better if...’. This also had the knock-on effect of developing player communication and leadership skills. For the inter-academy festival (Table 13), players were given complete ownership from start to finish including picking the starting eleven, deciding team tactics and ensuring that everyone got at least half the game time throughout the competition. Lots of different challenges emerged from this scenario with a combination of winning and losing group games and being involved in a penalty shootout at the knockout stage, which the team won, despite a few missed spot kicks. Again, this afforded an opportunity for players to develop PSCs with minimal interference from coaching staff (Moran et al., 2024). Another method to encourage self-regulation was to allow players to plan and implement their own small-group sessions. The second workshop session in block 1 week 5 (Table 12) involved explaining the concept of ‘flipped learning’ to the players i.e., where they took ownership of their development. this was achieved by showing them the rationale behind this.

5.3.3.7. Phase 7: evaluation

Evaluation is thought to be a highly subjective and imprecise process, more judgmental than metric (Moran et al., 2024). With that in mind, there is no set guidelines as to what should be evaluated and how, leaving it up to the discretion of practitioners to deploy a range of tools. Accordingly, pre-and post-intervention measures were taken using the PCDEQ2 and performance profiles.

It was also deemed important by Moran et al. (2024) for practitioners to not only evaluate their participants, but also themselves in order to ensure effective application. To collect data from a reflective perspective, McNiff and Whitehead (2005) suggest a number of methods including field notes, personal logs/diaries, interviews and video recordings. Accordingly, for the current study, coaches were observed at training once a week and informal reflective conversations followed between them and the lead researcher based around “psychosocial session objectives, practice design, participant engagement, and coach behaviours” (Mitchell et al., 2022, p16). Additionally, the effectiveness of the programme was assessed at the end of each of the three curriculum blocks (i.e., weeks 6, 12 and 18) through feedback from coaches and self-reflection by the first researcher using a template (Appendix 7) devised using guidelines from Anderson et al. (2004). Responses were recorded using the memo function on the first researcher’s iPhone which was later deleted after being transcribed and securely stored. The individualised challenge could then be adjusted for the next stage using the “teach-test-tweak” approach recommended by Collins and MacNamara (2017a, p4). An example of how this informed practice in the next cycle came from Coach A in his feedback from block 1:

“For example, with communication, instead of just throwing them in charge of the whole group, hand pick certain players so they can then target those players to communicate with them and then adding more players to start with: two, three, four... put them in positions where it's required for them to communicate a bit more”

The first researcher also attended four home games and a festival to see how well the PSC principles transferred to game situations. Again, informal discussions were held with coaches after each game along with reflective notes also made by the lead researcher after every training session and game. Differences between pre- and post-programme PCDEQ2 and performance profile were analysed at the end of the final cycle (i.e., the end of block 3).

5.3.4. Trustworthiness

When discussing validity, Burns (2017) suggest that this is not an appropriate term to address the highly dynamic nature of the process. Instead, trustworthiness or credibility which both roughly translate to whether the end product is a true and believable representation of the research process. With this in mind, Burns (2017) suggests a number of approaches that can enhance credibility. Triangulation involves multiple data collection methods. In the current study questionnaires, performance profiles and coach/researcher observations were used. Member checking requires participants/stakeholders to verify data for accuracy (cognitive biases notwithstanding), which was done by obtaining secondary scores on the performance profiles from coaches and also via short interview with them at the end of each block using the self-reflective diary template as a guide. Cyclical iteration concerns data from each cycle (in this case pre-season and three blocks of the curriculum) being compared to that of previous cycles which may help reduce researcher bias. This was achieved by the lead author completing a reflective diary after every interaction with staff and players both pre- and in-season. The

same format was used to audio record age-group coach feedback at the end of each six-week block.

5.4. Data analysis

All statistical analysis was conducted using Statistical Package for Social Sciences (SPSS, Version 29). Descriptive statistics were calculated for each factor on the PCDEQ-2 and for performance profiles scores at pre- and post-intervention. Tests of normality (Shapiro-Wilk) showed normal distribution as all scores above 0.05 except “perfectionistic tendencies” which was 0.044 on the PCDEQ2 and “enjoying challenge” for the performance profile. This is thought to not be an issue as the sample was homogenous (Pallant, 2016). Paired sample *t*-tests were used to explore any changes in PCDEQ-2 factors and performance profile scores from pre- to post-intervention period. The level of significance was set at $p < .05$. Cohen’s *d* was calculated by transformation of partial eta squared to obtain the magnitude of differences through the effect size calculator for parametric tests and interpreted using the scale from Cohen as: trivial (0–0.2), small (0.2-0.5), moderate (0.5-0.8), and large (> 0.8) (Lenhard & Lenhard, 2022).

5.5. Results

5.5.1. Psychological characteristics of developing excellence questionnaire 2 (PCDEQ2) pre- to post-intervention changes

Table 15 illustrates PCDEQ2 scores from pre- to post-intervention period. The only significant difference between pre- and post-intervention scores was for perfectionistic tendencies with a decrease in scores ($p = 0.05$, $d = -0.43$). The PCDE factors self-directed control and management ($p = 0.11$, $d = 0.31$) and active coping ($p = 0.17$, $d = 0.27$) had small positive effect size changes meaning increases in scores. Imagery and active preparation ($p = 0.18$, $d = -0.42$) and seeking and using social support ($p = 0.27$, $d = -0.22$) all demonstrated small

negative effects i.e., scores went down. Figure 8 illustrates PCDEQ2 and individual change scores between pre- and post-intervention.

Table 15. Pre-to post-intervention psychological characteristics of developing excellence questionnaire 2 (PCDEQ2) scores

Factor	Pre mean (SD)	Post mean (SD)	<i>t</i>	<i>df</i>	<i>p</i>	Cohen's <i>d</i>
Adverse response to failure	3.06 (1.14)	3.2 (0.96)	-0.51	8	.31	0.13 (T)
Imagery and active preparation	3.91 (0.48)	3.73 (0.38)	0.99	8	.18	-0.42 (S)
Self-directed control and management	4.33 (0.70)	4.52 (0.50)	-1.33	8	.11	0.31 (S)
Perfectionistic tendencies	3.22 (0.80)	2.88 (0.78)	1.83	8	.05*	-0.43 (S)
Seeking and using social support	4.37 (0.52)	4.26 (0.46)	0.64	8	.27	-0.22 (S)
Active coping	4.42 (0.43)	4.54 (0.47)	-1.01	8	.17	0.27 (S)
Clinical indicators	2.20 (0.57)	2.28 (0.60)	-0.62	8	.27	0.14 (T)

* Significant change from pre to post intervention ($p = \leq 0.05$)
 S = small effect size, T = trivial effect size

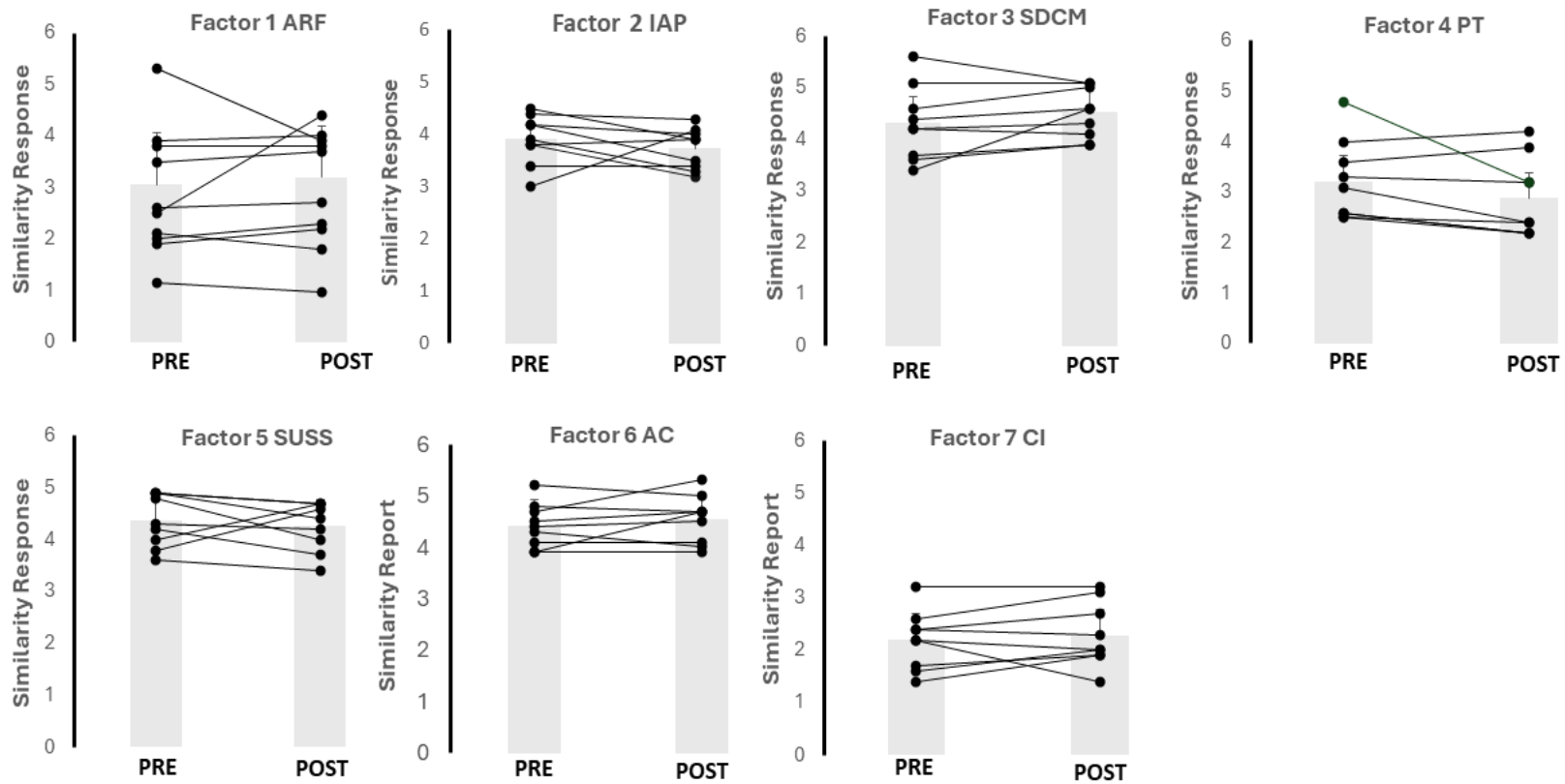


Figure 8. Group and individual change scores for each psychological characteristics of developing excellence (PCDEQ2) factor from pre- to post-intervention. ARF = adverse response to failure, IAP = imagery and active preparation, SDCM = self-directed control and management, PT = perfectionistic tendencies, SUSS = seeking and using social support, AC = active coping, CI = clinical issues.

Table 16. Pre- to post-intervention performance profile scores

PSC factor	Pre-mean (SD)	Post-mean (SD)	<i>t</i>	<i>df</i>	<i>p</i>	Cohen's <i>d</i>
Commitment	8.35 (0.58)	7.96 (0.80)	2.06	9	.035*	-0.56 (M)
Resilience	7.40 (1.02)	7.55 (1.07)	-0.64	9	.271	0.14 (T)
Confidence	7.35 (1.25)	7.55 (1.57)	-0.94	9	.187	0.14 (T)
Emotional control	7.15 (0.63)	7.75 (0.92)	-1.86	9	.048*	0.76 (M)
Teamwork	8 (0.62)	8 (0.62)	0.00	9	.500	0 (T)
Leadership	6.85 (0.88)	7 (0.67)	-0.36	9	.365	0.19 (T)
Communication	6.3 (0.68)	6.3 (0.98)	0.00	9	.500	0 (T)
Concentration	7.8 (0.63)	7.25 (0.75)	2.28	9	.024*	-0.79 (M)
Presence	7.5 (1.35)	7.65 (1.29)	-1.41	9	.097	0.11 (T)
Self-awareness	7.1 (1.54)	7.8 (1.14)	-3.50	9	.003*	0.52 (M)
Good learner	7.55 (0.9)	8 (1.03)	-2.59	9	.015*	0.47 (M)
Enjoy challenge	7.95 (0.83)	8.1 (0.74)	-0.76	9	.234	0.19 (T)

* Significant change from pre to post intervention ($p \leq 0.05$)

M = moderate effect size, T = trivial effect size

Table 16 illustrates the performance profile scores from pre- to post-intervention period. Significant moderate positive effect sizes between pre- and post-intervention scores were identified for emotional control ($p = 0.048$, $d = 0.76$), self-awareness ($p = 0.003$, $d = 0.52$) and good learner ($p = 0.015$, $d = 0.47$). However, it should be noted that commitment ($p = 0.035$, $d = -0.56$), and concentration ($p = 0.024$, $d = -0.79$) were also significant but negative effects were noted meaning these player self-reported scores decreased across the intervention period. All other effect sizes were trivial. Figure 9 shows scores for performance profile scores and intra-individual differences in scores between pre- and post-intervention.

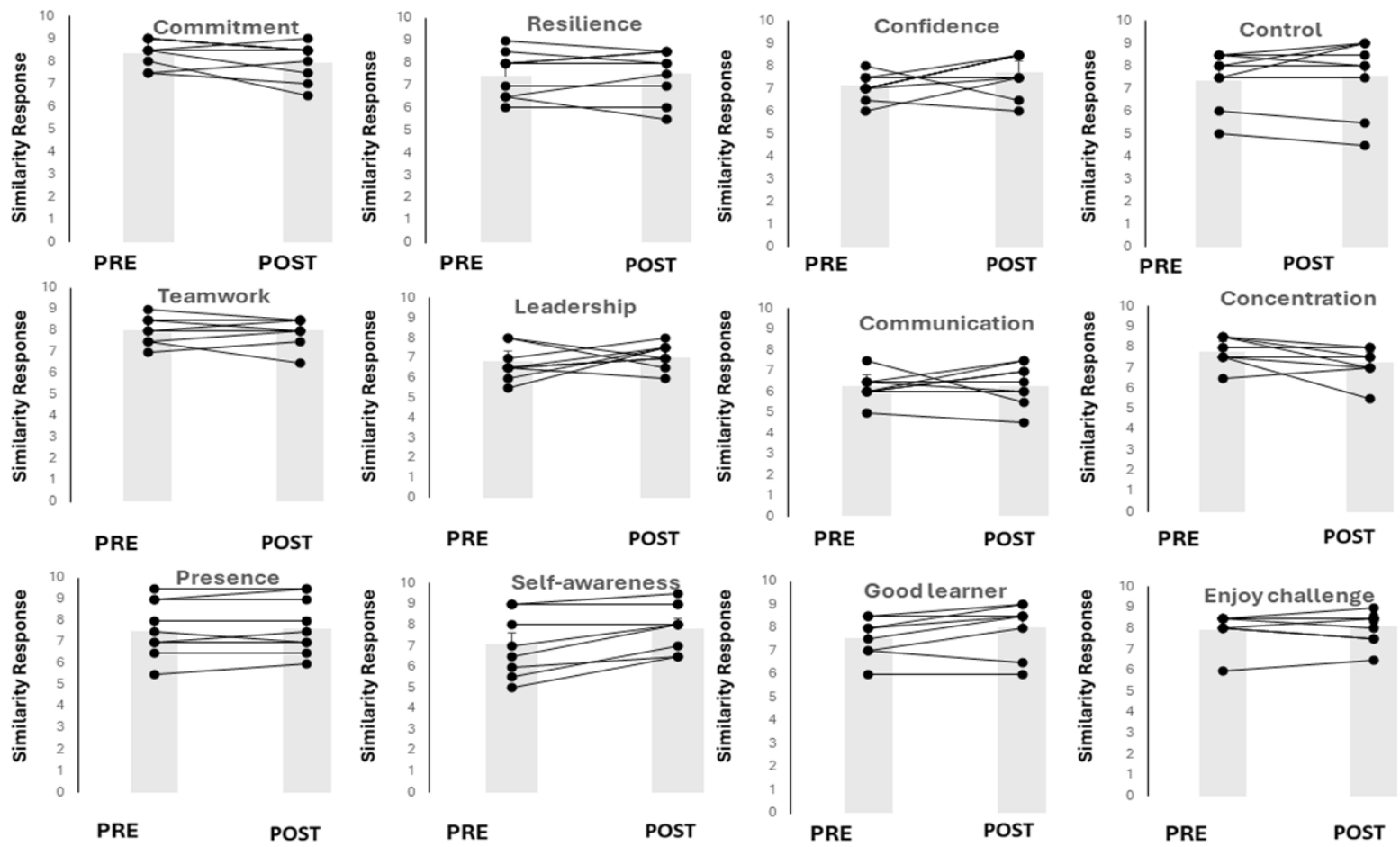


Figure 9. Group and individual change scores for each performance profile factor pre- and post-intervention.

5.5.2. Player and coach feedback

Table 17 shows feedback from the players following the intervention programme in the form of Likert ratings out of 10 for how useful they found each of classroom sessions and how they transferred to training and games. Means scores out of 10 were as follows: imagery 6.78, goal setting 7.78, self-talk 7.67, emotional control 7.44 and communication & cohesion 7.44. They were also asked to comment on how useful the programme was overall (with a mean rating of 6.89 out of 10) and provide any suggestions for improvement.

Transcripts from the final feedback from both coaches (using a template based on Anderson et al., 2004) are available in Appendix 8 with some selected comments and perceptions noted in Table 18. Between them, coaches A and B most salient comments were around setting of individual challenges for players, the need for constant reinforcement and the long-term nature of PSC development, the effectiveness of the PSC intervention programme, planning, potential barriers and suggested improvements for future practice.

5.5.3 Researcher self-reflection

Appendix 9 shows an example of a self-reflection diary from the lead author (based on recommendations from Anderson et al., 2004) following a classroom workshop session followed by indoor training during block 3, week 2, session 2. For this particular session, the coaches engaged well in ILP session with players and the first 10 mins of classroom session went well with the players enjoying the video clips. What could be improved was to have a shorter overall classroom session with less slides. The action plan was to have better transfer of the classroom content onto the pitch.

Table 17. Player feedback at the end of the PSC intervention programme

Player	Imagery	Goal-setting	Self-talk	Emotional control	Communication & cohesion	Most useful	Least useful	How useful was the programme?	Suggestions to improve
1	9	9	9	9	9	Relaxation	Don't know	8	Make effective so that it can be used in a game
2	6	9	8	9	8	Not answered	Not answered	8	Not answered
3	6	6	7	8	7	Lewandowski mind thing before a game or training [imagery]	Lesson on positive and negative [self-talk]	6	None
4	7	8	9	9	8	Self-talk	Imagery	7	None
5	6	7	7	6	7	Self-talk	Imagery	8	No
6	8	7	7	6	6	Imagery	Emotional control techniques	7	I think it was good as it was
7	7	7	7	5	7	Being aggressive	Deep breaths	6	Not answered
8	5	9	7	7	7	Self-talk	None	6	Don't remember much about it
9	7	8	8	8	8	Self-talk	Emotional control	6	No
Mean rating	6.78	7.78	7.67	7.44	7.44			6.89	

Table 18. Coach feedback at the end of the PSC Intervention Programme

Coach comments	Relates to
<p>When it's sent across the information, what I tend to look at is when I'm planning session in into the coaching points, how they have an impact on the session layout. And how do they have impact on those players and as well as the players around them. It's worked out a little bit better and actually the points that they've put down do actually help out, and using the four corner model and as well as the coaching points that I require for the session as well [coach A]</p> <p>What I tend to look at is when I'm planning session in into the coaching points, how they have an impact on the session layout. And how do they have impact on those players and as well as the players around them. It's worked out a little bit better and actually the points that they've put down do actually help out, and using the four corner model [coach B]</p>	Planning
<p>Each player been given individual challenges in training. What we've done is we've seen some of them overcome them, so some just excel with them and there's been some that've struggled and seem not to have found a different way to adapt and how to execute them... They've given a chance to work on individual learning plans and as well as the fact that you can put them in there and they're willing to go and try something [coach B]</p>	Individual challenges
<p>In the games, we've put it in their objectives... for example, players being given captaincy or being in charge of certain things on or off the pitch... in charge of warm up, equipment, setting up or packing away, those little challenges and putting them under extraneous pressure by putting them in positions that they wouldn't really play... Now we've when we stepped away from for a week or so, he's reverted back to himself. So I think one thing that we could do with players like that, just pushing constant reminders and putting them under the same objectives and some players it's not worked. They've taken it on board but they've just thought I'd do it because it's an objective for me, and not really accepted that yeah, this is for my benefit [coach B]</p>	Need for constant reinforcement/long-term nature of PSC development
<p>I think it's good to have. I think for the group of players as well that because of COVID and everything, they kind of missed out on the key early years. So under nines, U 10s. So I think that it's really good they're getting that now as well. I think me and coach B could do with a lot of improving ourselves and making sure the players are hitting it more often. But yeah, I like it. And what we've done so far, I think it's good and we could only improve ourselves and improve the players more... I think for the players it's really good, especially because they're getting constant support and they get their classroom sessions as well. So even though it's not their ILP weeks they still have that little bit where they're still working on it [coach A]</p> <p>I think its very effective to the point that we've started to see certain players come out of their shell a little bit more on the pitch and are willing to engage with players because the confidence is starting to pick up because of the work... when we set the objectives, especially being an indoor session, I think that's worked because they've started to adapt to it and they just they've got on with it very well and even when we've put them in the training sessions, especially when we put them in the Friday session, which has been a lot of phase of play, they seem to have coped very well.</p>	Effectiveness of the PSC intervention programme

<p>I start work at 12:00, so I planned mine this morning. The way we work it is Coach B plans the ILPs and I plan the group academy programme so if it was to be perfect me and Coach B would be sat together planning it together, but it's really hard to do because we both live in different parts of _____. It's kind of hard to integrate it more naturally... it's difficult because when I could do my session plans, Coach B's busy at his job... the only problem with some of the game stuff is like we're supposed to do [Player 1] and [Player 2] was there at the game but [Player 3] didn't turn up and like this week we're supposed to have [Player 4] and he hasn't turned up. So it's one of them if the player isn't in all the time it kind of kills itself, but as long as there's that pattern and consistency it works out [coach A]</p> <p>What's not gone well is things that can't be helped like attendance in training. So I feel like it's not they're not a full chance to experience of having the three sessions a week. They'll only get two and then the next thing being thrown into a game and not had enough time to practice it even more so they can actually try and integrate it so they don't have to think about it, its just automatic [coach B]</p>	<p>Potential barriers</p>
<p>Maybe this is even something where me and Coach B whilst we're at the game can start talking about next week's sessions... for the next block I'd plan it better with Coach B. And especially when I'm leading and Coach B's doing the ILP stuff. Get the session to him so he can fit his ILPs in it and he's done it good with me, so I'm probably letting the team down. Coach B's done it where he focuses on the players and he tries getting it into his sessions, so it's just being more consistent [coach A]</p> <p>I think what I could do is and always with the focus on those players per week I think is give those players that would pick as primary and then on the second week put them on the secondary so he can have a little bit longer than one week. Whatever the two players or three players I've picked on the first week, on the second week, they're now the secondary players and you're focusing on the next lot of players. So there's slight overlap with them so they're getting a bit of extended time [coach B]</p>	<p>Action plan (future improvements)</p>

5.6. Discussion

The aim of this investigation was to explore the effectiveness of an individualised PSCs intervention programme in a male Category 3 soccer academy. This was the first study to deploy individualised methods of assessing players' current PSC levels followed by a follow-up at the end of the intervention period. The key findings of this study were that across a 21-week PSC programme both small-to-moderate positive and negative effects on player PSC were observed. For PCDEQ2 scores, small positive effects were noted for self-directed control and management and active coping whilst imagery and active preparation, perfectionistic tendencies and seeking and using social support all showed small negative effects. For the performance profile scores, moderate positive effects were observed for emotional control, self-awareness, and being a good learner whereas moderate negative effects were observed on commitment and concentration. These findings highlight the potential positive changes that can be made on player PSCs following a carefully designed PSC programme with negative changes highlighting the importance of regular monitoring of individual PSCs throughout the season.

5.6.1. Changes in psychosocial skills and characteristics (PSCs)

The 21-week PSC intervention programme used in the current study demonstrated **the potential** to have positive changes on a number of PSCs deemed to be important for successful player development (Hill et al., 2019) and for transitioning out of soccer into other careers (Lavalley, 2018; Stambulova et al., 2021). These included self-directed control and management ($p = 0.11$, $d = 0.31$) which involves strategies such as metacognition and deliberate practice (Hill et al., 2019). There was also a positive increase in active coping ($p = 0.17$, $d = 0.27$) defined as proactively deploying coping mechanisms and the ability to learn from challenging situations (Hill et al., 2019). To the authors' knowledge, only two studies

have previously explored PCDEQ2 scores on a repeated basis (Laureys et al., 2023; Mitchell et al., 2024). The only study in EPPP academy soccer by Mitchell et al. (2024) also found increases in self-directed control and management ($p = 0.15$, $d = 0.27$) and active coping ($p < 0.01$, $d = 0.89$). In contrast, Laureys et al. (2023) measured PCDEQ2 scores in gymnasts and discovered that the majority of participants displayed steady state profiles (12 out of 14 for both self-directed control and management and active coping) when tested 12 months apart. Mitchell et al. (2024) suggested that increases in active coping occurred as this is skill related and more easily teachable than the other factors.

In the current study, increases in self-directed control and management could have been down to the nature of how challenges were set to players in training and games such as increased emphasis on autonomy supportive coaching (Gledhill et al., 2017) where players were encouraged to take ownership of their individual learning plans and to lead briefings, debriefings and even an entire tournament. Setting individual challenges in the form of constraints for players (Renshaw et al., 2019) and the use of isolated or small-sided practices (Gearing & Bridge, 2024) may also have been instrumental. The structure of these practices was based on player ‘super strengths’ and developmental areas (Ludlam et al., 2015) gleaned from the profiling process (Mitchell et al., 2022). Furthermore, the metacognitive nature of this self-assessment could be associated with the increases in active coping (Hemmings & Holder, 2009). Early work by Deci and Ryan (1985) has posited the positive impact of autonomy on intrinsic motivation, with more recent studies (Gledhill et al., 2017; Mitchell et al., 2024; Toering & Jordet, 2015) also advocating its merit in academy soccer settings to develop skills to aid progression on the pathway and transition off it.

Significant positive changes in PSCs were also observed from performance profiles for emotional control ($p = 0.015$, $d = 0.76$), self-awareness ($p < 0.01$, $d = 0.52$) and being a good learner ($p = 0.02$, $d = 0.47$). For emotional control, this may have been associated with the

constraints imposed on players in training and games (playing underloaded, ‘bad ref’ and playing out of position) and the subsequent support from coaches. Increases in self-awareness and being a good learner may have been linked to the nature of asking performers to self-reflect, which is thought to be an intervention in itself (Hemmings & Holder, 2009). Using a different self-report measure Mitchell et al. (2024) noted a large effect increase in emotional control ($p < 0.01$, $d = 0.19$) and medium effect in self-awareness ($p = 0.02$, $d = 0.13$) over five time points across their 36-week programme. No previous study has deployed performance profiles in this context, so no comparative data is available for being a good learner as this is novel to the current study based on recommendations from academy managers (Chapter 4). However, the score changes are encouraging and potential links to active coping and self-directed control and management may warrant further investigation. Interestingly, Mitchell et al. (2024) proposed hypothetical links between PCDE factors and those on their 8-pillars programme. They suggested that active coping may have aligned with emotional control and self-awareness which would be supported by the results from the current study. It was also suggested that self-directed control and management was linked to control, self-awareness, and concentration. However, these links were only partly supported in the current study with self-directed control and management showing increases along with control and self-awareness, with a negative change in concentration. Interestingly, there was little correspondence between the PCDEQ2 factors and their hypothetically linked ‘8-pillars’ as proposed by Mitchell et al. (2024 – Table 12), although small sample size and limited timeframe of the study should be taken into account here.

5.6.2. Negative effects on psychosocial skills and characteristics (PSCs)

The PCDE factors of imagery and active preparation ($d = -0.42$), perfectionistic tendencies ($d = -0.43$) and seeking and using social support ($d = -0.22$) all demonstrated small negative effects. Previous research by Mitchell et al. (2024) also noted small decreases in perfectionistic

tendencies ($p = 0.41$, $d = -0.18$), although large and moderate effect increases were noted in seeking and using social support ($p < 0.01$, $d = 0.86$), and imagery and active preparation ($p < 0.01$, $d = 0.72$), respectively. A decrease in perfectionistic tendencies scores could be associated with this particular factor not yet being active in U-13 players at Category 3 level. Previous research by Barraclough et al. (2022 - Chapter 3) suggests that perfectionistic tendencies may develop later on the pathway and be more prevalent in higher category academy players. It should also be taken into account that the participants were going through adolescence and experiencing the associated trials and tribulations of various competing pressures at athletic, psychological, psychosocial and academic levels (Wylleman & Lavallee, 2004). The patterns in imagery and active preparation scores in the current study may be linked with a lack of understanding by players and a lack of emphasis of the importance of this skill by coaches. In addition, the workshop on imagery and active preparation was delivered two days after the players had been heavily defeated in a game so their focus levels may not have been optimum. This highlights the importance of careful consideration of timing of when workshops are delivered.

Decreases in seeking and using social support may be associated with players taking more ownership of their learning through the autonomy-supportive approach (Gledhill et al., 2017), whereby they attempted to solve problems themselves before seeking support from significant others. This could also be supported by increased scores in self-directed control and management and self-awareness.

Further negative changes in PSCs were also noted in the current study for commitment ($p = 0.035$, $d = -0.56$) and concentration ($p = 0.024$, $d = -0.79$). In contrast, Mitchell et al. (2024) reported positive linear increases across the five measurement points with commitment ($p = 0.04$, $d = 0.11$) and concentration ($p = 0.03$, $d = 0.12$). Hypothetical links between imagery and active preparation, control and concentration were suggested by Mitchell et al. (2024).

Findings of the current study, however, would suggest further research is necessary to establish these links.

5.7. Potential reasons for the outcomes

5.7.1. Player feedback

Data from participants (players) demonstrated that there was a mixed impact with both positive (“I think it was good as it was”) and less positive (“don’t remember much about it”) feedback. Mean ratings for classroom-based interventions (i.e., taught skills) were 6.78, 7.78, 7.67, 7.44 and 7.44 for imagery, goal-setting, self-talk, emotional control, and communication and cohesion respectively, with an overall mean rating for the programme of 6.89 out of 10. Comments such as “make effective so that it can be used in a game” and “more practical stuff” suggest a disconnect between the classroom and practical sessions, although it may just have been necessary to make more of an explicit link between the two – what Moran et al. (2024) describe as a blend between implicit and explicit curricula. Explicit in this sense would be what they are taught in the classroom, and implicit more “hidden curriculum” (Moran et al., 2024, p. 6), which is delivered through practical sessions, even though this has not necessarily been explained to them first. The use of constraints in training and games would be one such example, whereby players find their own solutions to problems when faced with certain individual, environmental and/or task restrictions (e.g., limited number of touches). Although they are still learning implicitly, this would be more of an unconscious act removed from the more explicit method of command style coaching (Richardson et al., 2023). Interviewing a sample of players following the programme may have yielded more insight and should be noted as a limitation and an area for improvement in future studies.

5.7.2. Coach feedback

Both coaches were able to successfully plan and embed PSC challenge into training and games for individual players for the most part. This was done by having a more dedicated focus to the psychosocial part of the four-corner model (Simmons, 2004), whereas previously they may have concentrated more on technical and/or tactical elements. However, one key finding was that although players were responsive during their particular ‘bullseye’ week, they often reverted back to previous behaviours shortly after. This is hardly surprising due to the short-term and novel nature of the programme, with acquisition of PSCs being more of a long-term project (Collins & MacNamara, 2017a) and possibly subject to epigenetic influences where a latent PSC may become switched on by the environment – in this case hopefully from the intervention programme - over an extended period of time (Simonton, 2005). One suggestion from the coaches was to continue bullseyeing the same players over a two-week period where two sets of players would overlap on the same week.

Another potential professional barrier for both coaches was the lack of time they had in preparation with both having more than one job. This also meant that there was occasionally lack of joined-up thinking between the two coaches as they had limited time to compare ideas before sessions and games. This is in keeping with previous findings from Barraclough et al. (2024 – Chapter 4), where a lack of time personally and in terms of contact with players has previously been identified as a potential obstacle in PSC development. A suggestion to remedy this from coach A was for the two coaches to discuss the following week’s sessions with each other following the game on Sundays. With the advent of online meeting platforms such as Zoom and Microsoft Teams, this could even be done from the comfort of their own homes – time permitting of course. A further issue centred around player attendance when on a number of occasions the coaches had planned to work with particular player only for them not to attend. Having a contingency plan may be useful here i.e., plan for an additional player or two within

the scheduled week and if the intended player does not attend then use the back-up player instead, ensuring of course that the original recipient of support is catered for in another session.

There exists some stigma around use of the word ‘psychology’ as being focused on issues rather than being a more proactive term to develop individuals holistically (Pain & Harwood, 2004). This could also be explained in terms of learning frameworks such as the transtheoretical model (TTM - Prochaska & DiClemente, 1982), the health belief model (HBM - Becker, 1974) and social learning theory (SLT - Bandura, 1977). These frameworks all suggest that an individual’s beliefs around changing depend on a powerful initial stimulus that makes them pay attention to their own current behaviour and want to adjust it. For the TTM and HBM, this is in the form of some form of shock that forces them to take action – in health terms this could be a health scare such as a heart attack making them reconsider their lifestyle choices. For SLT, it is the presence of a high-status model who displays certain behaviours in a novel and attractive manner that the observer then wants to imitate, provided that this behaviour is rewarded in some way. In PSC terms, perhaps these conditions can be exploited to facilitate learning in academy players. Providing some form of impetus for acquiring PSCs as a matter of extreme importance, as per the TTM and HBM, would be beneficial in achieving buy-in from players and coaches alike. Applying one of the central principles of SLT could be useful to this end i.e., the use of high-status models such as ex-players to sell the message to academy players. Another example would be the video of Robert Lewandowski used to explain imagery - rated as most useful by player 3 in Table 17. If first team players from the club that the academies are attached too could also do this on a live basis, this could be equally if not more impactful.

Overall, coach feedback was positive with coach A pointing out that the programme could in fact counteract some of the negative psychosocial effects of lockdown during the Covid pandemic. Coach A also enjoyed the CPD element of the process and becoming upskilled

in an area they were previously less aware of compared to other parts of the four-corner model. Coach B stated that the programme was very effective and was making some of the players more confident and allowing them to cope well with the challenges they were being set.

5.8 Researcher self-reflection

Self-reflection from the researcher(s) is seen as vital by Moran et al. (2024). In this instance, a reflective log was completed after every training session and game by the lead author based on a template created from recommendations from Anderson et al. (2004). Data collected from these logs can be used to inform later iterations of research into PSC assessment and development. One of the main findings from this source that was more needs to be done to link classroom sessions to the pitch, which is a theme that was also present in player and coach feedback. As previously discussed, developing more of a link between explicit and implicit learning (Moran et al., 2024) may be helpful, again perhaps post-intervention through interviewing participants. The process of building rapport with coaches and wider staff members was also vital, in this case aided by the lead author's background as an academy coach, but future researchers should note this as being paramount for success co-working (Mitchell et al., 2022, 2024). It was a pleasing part of the process to see player autonomy blossom over the 21-week period which would hopefully have long-term positive impact on the player's intrinsic motivation, increased engagement, and general enhancements of PSCs (Deci & Ryan, 1985). A major step-forward in this process was the player-led tournament and allowing the players to deliver pre-game, half-time and post-game team talks on a rota basis – a solid suggestion for practitioners to follow.

5.9 Limitations and Future Research

Although the current study was novel and innovative in nature, a limitation was the absence of a control group, or any comparative data from similar studies, meaning that there was no

secondary group that data could be compared to. Only a small sample size was used, in a single club meaning less opportunity to generalise results to other academies operating in different contexts, although the bespoke design of assessment and interventions renders this arguably less important (MacNamara, 2011). A further potential limitation which has also been highlighted in previous studies (Crawley, 2021 and Champ et al., 2020) are potential issues with coach buy-in to integrating PSC programmes meaning a lack of acceptance to their importance. Coach buy-in is a must as are new and more effective ways to achieve this through coach education such as improved integration into national governing body qualifications and academy CPD.

Measurement of PSCs also needs improvement in terms of the validity and interaction of the various methods, including more effective assessment of both explicit (e.g., classroom) and implicit (e.g., constraints) teaching methods. With this in mind, more qualitative data could be obtained post-intervention (e.g., interviews with players and parents) in future studies to provide more depth to what worked and what did not, and why. Measuring the effectiveness of a programme to develop long-term PSCs after a 21-week intervention may also be problematic and future studies would benefit from taking a more longitudinal approach.

Overcoming organisational challenges (e.g., lack of staff and contact time) should also be addressed, possibly with the help of appropriate external agencies such as universities or charities. Despite the best of intentions to implement a holistic approach (Simmons, 2004) at an academy-wide level, when it comes to educating coaches at phase and age-groups levels, this is often overlooked in favour of technical and physical components (Champ et al., 2020). PSCs have often been seen as unimportant by some coaches both on the pitch and for preparing players for life beyond soccer (Crawley, 2021).

Future research should explore best practice as to how and when to embed PSC development into coach education. This could be considered through national governing body courses or in-house academy CPD sessions, although some quality control would be needed with the latter to ensure that it was not merely a box-ticking exercise. Refining observable behaviour checklists, performance profiles and suitable questionnaires would all be interesting lines of inquiry to pursue, as would exploring other potential methods of assessing programme effectiveness, such as interviewing a sample of participants. It would also be interesting to explore the impact of player care officers since their introduction across Categories 1 to 3 in the 2022/23 season (Premier League, n.d.). To the author's knowledge only one paper has so far been produced on this subject as an undergraduate dissertation (Holmes, 2024).

5.11. Conclusion

The aim of this chapter was to explore the effectiveness of a bespoke, individualised PSCs development programme in a EPPP Category 3 soccer academy setting. The main findings were that a 21-week PSC programme had both small-to-moderate positive and negative effects on player PSCs. Self-directed control and management (small effect size), active coping (small), emotional control (medium), self-awareness (medium) and good learner (medium) showed positive increases in mean scores pre- to post-intervention. Imagery and active preparation, seeking and using social support, perfectionistic tendencies, commitment, and concentration all showed small to moderate decreases in mean scores. Feedback from players, coaches and the lead author would suggest that the programme was successful but would benefit from further linkage between more explicit learning methods (e.g., classroom sessions) and implicit (e.g., constraints). The study highlights the potential positive changes that can be made on player PSCs following a carefully designed PSC programme with negative changes highlighting the importance of regular monitoring of individual PSCs throughout the season (Figure 10).

Chapter 6 examines recommendations for implementing a PSC programme in academy soccer distilling findings from studies 1 and 3 (Chapters 3 and 4 respectively) into an applied setting to explore how this data can be operationalised ‘on the pitch’.

EFFECTIVENESS OF AN EMBEDDED PSC PROGRAMME IN AN ENGLISH SOCCER ACADEMY

Barracough, Mitchell, Grecic & Harper



AIM

Evaluate a bespoke 21-week PSC development programme in a Cat 3 EPPP academy u13 age group



METHODS

Participants: 9 players (mean age = 12.63 ± 0.18 years); 2 part-time age-group coaches
Design: intervention programme where lead researcher co-created on-pitch PSC activities with coaches
Measured using PCDEQ2, performance profiles/coach observations (quantitative & qualitative)



INTERVENTION

Intervention: 7-phase framework with embedded challenges; 6 classroom workshops on core PSC themes
Weekly 1:1/small-group "bullseye" sessions targeting individual development needs



STATS RESULTS

PCDEQ2 +ve small effects
SDCM, AC; -ve small effects in IAP, PT, SUSS
Performance profile +ve medium effects emotional control, self-awareness, good learner; -ve medium effects: • commitment, concentration



PLAYER & COACH FEEDBACK

Player feedback showed mixed impact with + & -ve comments with need for better transfer of classroom sessions to pitch
Coach feedback generally +ve but need for longer with each player & time constraints existed for planning, issues when players not attending



LIMITATIONS

Small single age sample, no control group, short time period, needs better range of assessment methods



IMPLICATIONS

potential +ve changes can be facilitated on player PSCs following PSC intervention programme, -ve changes highlight importance of regular monitoring of individuals throughout season



Figure 10. Infographic summary of Chapter 5

Chapter 6

Chapter 6: Recommendations for Implementing a Psychosocial Skills and Characteristics (PSCs) Programme in Academy Soccer

6.1 Introduction to the chapter

This chapter will focus on how the research from this thesis has culminated in the development of a PSC programme suitable for deployment in academy soccer, and other youth development sports and performance domains. As a whole, the thesis has focused on identifying key PSCs that might help academy soccer players negotiate the youth development pathway, including transitions during this period and ultimately when a player's time in soccer comes to an end at whatever age that might be. The initial study (Chapter 3) identified which PCDEs might be more prevalent in older and higher category players. The next study (Chapter 4) examined academy managers' experiences of identifying and developing psychosocial skills and characteristics in youth academy soccer players, noting the PSC outcomes that they wanted to see from players and challenges associated with trying to achieve these goals. Informed by the findings of the previous chapters, study three (Chapter 5) detailed the implementation of a 21-week programme in a Category 3 academy U-13 age group working with coaches to deliver a player-centred PSC assessment and development syllabus.

The importance of assessing and developing PSCs has been noted in a plethora of studies (Green et al., 2020, Hardy et al., 2017, Hill et al., 2023, Mitchell et al., 2022, Mitchell et al., 2024, Taylor & Collins., 2021a, Williams et al., 2020, Wixey et al., 2023) alongside the realisation that not enough attention is currently paid to these factors in soccer academies (Barraclough et al., 2024 - Chapter 4). Issues exist around academics' inability to provide clear and concise definitions of what it is they are actually trying to measure and influence (Dohme et al., 2016), which in turn may lead to a lack of buy-in from key academy stakeholders (Barraclough et al., 2024 - Chapter 4; Nesti & Sulley, 2015, Wixey et al., 2023). This is in addition to psychological profiling only being mandatory at Category 1 academies, with work

at lower categories conducted at the discretion of individual academy managers (Barracough et al., 2024 - Chapter 4).

There have been some attempts to address this gap in practice (Danish, 1996; Horn et al., 2011; MacNamara, et al., 2010a, 2010b) but these well-intentioned programmes often struggle to simplify theory into practice effectively and are not always specific to academy soccer (Mitchell et al., 2022 & 2024). Other more ecologically valid approaches exist where PSC training had been embedded into academy curricula and delivered by age-group coaches (Diment, 2014, Harwood & Anderson, 2015, Mitchell et al., 2022, 2024). Although the latter approaches take theory from the classroom ‘onto the grass’, one potential drawback is their programme-centred approach whereby all the players receive identical content prescribed by the coaching staff, with the assumption that ‘one size fits all’ rather than adopting and individualised, player-centred approach (Wixey et al., 2023).

A final aim of this thesis was to develop a set of guidelines and education materials for coaches, sport psychologists and other key stakeholders to effectively embed the assessment and development of PSCs into soccer club academies. There has also been an emphasis on trying to achieve this in a player-centred manner. This requires starting with assessing each individual’s PSCs and planning PSC sessions and interventions around their own personal needs. Additionally, the intention has been to upskill coaches in session design and delivery to sufficiently challenge players in order for them to deploy their psychosocial skills, to subsequently enhance their psychosocial characteristics. Within the previous study (Chapter 5) the primary researcher conducted the initial and ongoing PSC testing of the players, whilst also mentoring the coaches in their session planning and delivery. The next sections will discuss some of the main theoretical and practical implications and recommendations that emerged from this research project.

6.2. Psychosocial attributes to develop in academy soccer players

There is still a great deal of uncertainty around which PSCs are most important for players to develop, mainly due to variability in methods of data collection and interpretation from previous research (Dohme et al., 2019). Although there has been a move away from overly simplistic singular concepts such as grit (Duckworth et al., 2007), this may have served to further complicate matters (Moodie et al., 2023). In a recent systematic review, Gledhill et al. (2017) discovered 22 internal psychological factors which were related to, and interacted with 21 external social factors, which in turn resulted in five observable player-level behaviours. In contrast, in their systematic review, Dohme et al. (2019) identified 92 PSCs condensed further into eight skills and 11 characteristics. Unsurprisingly, a great deal of confusion may still exist as to what it is that should actually be developed in young players (Dohme et al., 2016, Wixey, 2023). This thesis has attempted to distil these skills somewhat using what existing knowledge and combining this with primary research. This included exploring differences between older and higher category academy players, examining academy manager's experiences of what seems to be facilitative of progress, and finally attempting to put the above into action through an intervention programme.

The initial study (Chapter 3) deployed the PCDEQ2 (Hill et al., 2019) which was analysed using the Kruskal-Wallis *H test*. It was identified that players who remained in the system longer (i.e., older players) and those at higher category academies tended to possess higher perfectionistic traits ($d = 0.57, p = <0.01$) and had a more adverse response to failure ($d = 0.49, p = <0.01$), did more self-directed practice ($d = 34.60, p < 0.001$) and used more imagery and active preparation ($d = 0.48, p < 0.001$) (Tables 4 to 7). Youth team and Category 1 players also demonstrated the highest scores on use of active coping strategies ($d = 0.27, p = 0.024$) and presentation of clinical indicators ($d = 0.41, p = 0.001$).

The second study (Chapter 4) revealed what AMs thought to be ideal PSCs they felt their players needed to develop including: social support seeking, realistic self-evaluation, resilience, hard-work ethic, interpersonal competencies, and independence. AMs also discussed some current good practice to develop player PSCs including use of appropriate challenge and encouraging autonomy (Table 10). In addition, they also considered some of the challenges they faced such as a need to upskill staff, implementing more formalised assessment of PSCs, and a lack of specialist psychological support staff especially at lower categories. Other extraneous factors affecting successful implementation of a PSC programme (and knock-on effects on players) included the impact of transitions, lack of coaching staff and turnover, and financial and temporal constraints (Table 11).

6.3. Assessing psychosocial skills and characteristics (PSCs) in academy soccer players

Whilst there is currently no measurement tool that directly assesses some of the PSCs identified to be important for academy soccer players in this thesis, there is potential hypothetical links to some of the factors on the PCDEQ2 (Hill et al., 2019), as also previously noted by Mitchell et al. (2024) (Table 16). With this in mind, Mitchell et al. (2024, p. 6) also suggested that the “bespoke field-based instruments [such as those deployed in their work and this thesis] may not fully align with validated scales” such as the more generic PCDEQ2.

Being over reliant on psychometric testing (e.g., questionnaires) may cause friction between academics and academy coaching staff (Nesti & Sulley, 2015) whereas involving coaches in the assessment process may be of benefit as they spend the most time with the players. It may, therefore, be prudent to explore methods that remain valid yet are more soccer-specific and simple enough to be deployed by coaches such as observation of PSC behaviours that can be observed in training, matches and other social events (Chapter 5; Mitchell et al., 2022, 2024).

There may be an argument that testing methods may take up too much valuable time, but this can be countered by the fact that players are already physically and anthropometrically tested at regular points throughout the season when they are often sat around waiting for their turn. This may be a perfect opportunity for them to also complete questionnaires and performance profiles delivered by appropriately trained support staff, especially if PSC development is to be taken seriously in academy settings. Observable behaviours can be integrated into a coach's current observation checklist, as they would when looking at tactical elements of the game, and particularly if there are two co-coaches working together where they can split roles where one focuses on technical and tactical, and the other on PSCs. Thus, the supporting role of sport psychologists (or other appropriate staff) would be to help with assessment and producing the player 'bullseye' plan that fits in with the periodised academy curriculum. They would then support coaches in session design particularly about which types of constraints and conditions they could use in training and in games (see example session Figure 7) and how best to individualise these to achieve a genuine player-centred approach. The data collected from the performance profiles also has the benefit of encouraging a holistic approach whereby players may develop their self-evaluation skills, which in itself is a vital psychosocial skill (Barraclough et al., 2024 - Chapter 4; Dohme et al., 2019, MacNamara et al., 2010a). It would also allow for more inter-disciplinary working between departments on how each corner of performance can be developed simultaneously on the pitch through use of astute session design (Rothwell et al., 2020). Support staff could produce resource packs and make themselves available in person or via electronic devices to help further as per guidelines by Mitchell et al. (2022, 2024).

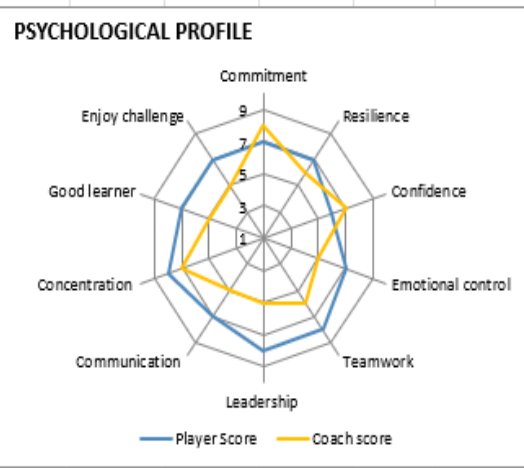
6.3.4. Use of psychosocial skills and characteristics (PSCs) data

When PSC data has been collected from the players it is necessary to decide how to translate that information into something useful for session design. In Chapter 5 a 'super strengths'

approach (Ludlam et al., 2015) was used which recognises that a player's strengths are what got them into the academy initially and weaknesses only need to be addressed if they threaten to derail the player from the pathway. However, Ludlam et al. (2015) also acknowledged that at lower Category academies players may possess more of these developmental areas which would thus become more of a priority to develop over strengths. Therefore, the approach used in Chapter 5 involved evaluating the data from performance profiles, PCDEQ2 and feedback from coaches to create a list of PSC priorities for each player with a mix of strengths and weaknesses. Player super strengths and areas for improvement were then periodised into each six-week block, which alongside the classroom sessions were designed to challenge the players accordingly (see Table 13) (Barracough et al., 2022, 2024 - Chapters 3 and 4). Figure 11 displays an example of a player's psychosocial performance profile taken from the four corners model with super strengths of commitment and concentration and areas for improvement of emotional control, communication, being a good learner, and enjoying challenge.

ACADEMY PLAYER PROFILE				
Current Position: CDM				
PLAYER NAME		AGE GROUP	U13	D-O-B
DOMINANT FOOT: R				

PSYCHOLOGICAL PROFILE	Player Score	Coach score
Commitment	7	8
Resilience	7	6
Confidence	6	7
Emotional control	7	5
Teamwork	8	6
Leadership	8	5
Communication	7	5
Concentration	8	7
Good learner	7	5
Enjoy challenge	7	5



SOCIAL PROFILE	
Birth date/quarter	November 2011 Q2
Where do you live now?	
High school	
Number/gender of siblings & birth order	1 younger brother, 1 younger sister
Favourite team	Man Utd
Favourite player and why	Roy kean because I like his tackles
Non-sporting hero & why	Jlm carrey because he's funny
Favourite (non-PE) subject	Art
Other activities	Go to the gym or play fifa or drawing and photography.
What is one unique thing about you?	I where glasses and contact lenses

Figure 11. An example of a completed player performance profile for psychosocial components

6.4. Development of psychosocial skills and characteristics (PSCs): the upskilling and supporting role of coaches

Despite there being wide agreement that PSCs are the key drivers for player development, there is still a huge gap between what is required in delivery and what actually occurs (Barracough et al., 2024 - Chapter 4). A lack of investment of resources (i.e., time and money) by key academy stakeholders does little to help the situation (Nesti & Sulley, 2015) and neither does an over obsession with physical, technical and tactical parameters (Bergkamp et al., 2019). This is despite many studies indicating that PSCs are in fact more important over the long-term for realisation of potential and for dealing with transitions within and outside of the pathway (Green et al., 2020, Gullich & Emrich, 2014, Hardy et al., 2017, Hill et al., 2023, Mitchell et al., 2022, 2024, Taylor & Collins., 2021a, Williams et al., 2020, Wixey et al., 2023). The role of coaches in developing PSCs in players has become more popular in recent times, with the rationale that they are best placed as they have most contact time with the players (Diment, 2014; Harwood & Anderson, 2015; Mitchell et al., 2022, 2024; Wixey et al., 2023).

The PSC programme developed in Chapter 5 incorporated a CPD workshop delivered in pre-season to foundation and youth development phase coaches to provide information around how to integrate PSCs into training sessions and games following recommendations from Harwood (2008). This was an interactive session where an initial 45-minute seminar on the importance of PSCs was delivered that involved asking coaches to provide their own definitions of PSCs and to compare them to academic versions, in addition to identifying what was important in *their* academy. This session was followed by 45-minute session on the pitch working with the U-13 age group to demonstrate some PSC-related games (see Figure 7 for an example). The remaining 30 minutes of the practical session was delivered by the academy coaches to demonstrate their understanding (see section 5.3.3.5 and Appendix 7). These types of session can be applied universally in academy settings to disseminate important information

in CPD sessions throughout the season around the vital need for PSC assessment and development. They can also be used as an opportunity to gauge and encourage coach buy-in provided that they are delivered effectively i.e., are not full of academic jargon and overly complex terms (Diment, 2014), which is really at the mercy of the presenter's skills.

Following the CPD session, a resource pack (see appendix 7 for example content) was sent to the U-13 age-group coaches and phase lead via e-mail emphasising availability via telephone, text or e-mail for any follow-up questions as well as setting up a What's App group for the same purpose. Training sessions were subsequently attended once a week along with home games on Sundays. Some sample sessions were delivered for the coaches and assist with any area that they might struggle with as well as planning the six-week mesocycles that integrated player PSC development. Classroom workshops were delivered on a fortnightly basis as this coincided with when the group trained indoors. This allowed a quick transition from classroom to pitch and also granted easier use of whiteboards and other learning aids (e.g., iPad, laptop). During the games, my initial role was to manage player constraints and supervise coaches during warm-ups, and team talks at half- and full-time to demonstrate to coaches what was required from them. As the season went on this was gradually devolved to the coaches with diminishing input from myself. Reflective conversations were conducted with both age-group coaches informally at the end of each observed session and game, and more formally through an audio recording at the end of each block using recommendations from Anderson et al. (2004). Coach comments and my own personal observations were fed into the next six-week block if necessary. At the end of the intervention period scores from a post-intervention PCDEQ2 and performance profiles were taken alongside the coach and researcher reflections.

It was found that quantitative measures such as the PCDEQ2 and performance profiles were of limited use over such a short time span and small cohort. However, this was a promising pilot for later large scale, longitudinal studies. Some of the qualitative data revealed

a mixed reception from players with some embracing the programme and others having less engagement with it (Table 17). The two age-group coaches also gave mixed feedback, with some success in embedding PSC development into their sessions and games following an initial struggle with the concept. They cited a lack of time and interaction with each other as potential barriers to success (Table 18 and Appendix 8). Self-reflection from the lead author (Appendix 9) noted a need to more closely link classroom sessions to the pitch, also present in player and coach feedback. Building rapport with coaches and wider staff members was also paramount for this study and indeed any inter-disciplinary project (Cruickshank & Collins, 2012). A particularly pleasing part of the programme was the enhancement of player autonomy, hopefully leading to long-term improvements on players' PSCs and chances of progression wither within or outside of football (Deci & Ryan, 1985).

6.5 Developing coach education to help implement psychosocial skill development

6.5.1 The plan, approach, coach, environment, and review (PACER) framework for implementing psychosocial skills

Drawing on the above findings of this thesis (summarised above in this chapter), it is necessary to create a framework that is simplistic and uses “soccer language” (Diment, 2014, p. 24) whilst avoiding academic jargon to prevent alienating practitioners (Dohme et al., 2019). Previously, to help coaches integrate PSC assessment and development effectively into their session planning Harwood and Anderson (2015) developed a ‘PROGRESS’ approach that was part of the 5Cs programme. The acronym includes the following:

- P = ‘Promote the C’
- R = ‘Role model the C’
- O = ‘Ownership of their learning’
- G = ‘Grow the C’

- R = ‘Reinforce the C’
- E = ‘Empower peer support’
- S = ‘Support the supporter’
- S = ‘Self-review and responsiveness’

One of the limitations of the PROGRESS approach is it is quite a lot to remember for coaches during sessions. Consequently, a framework was developed using the recommendations from this thesis called the PACER framework (Figure 12). It evolved particularly from the implementation of intervention stage of the thesis (Chapter 5) and in collaboration with other practitioners who have had experience of implementing PSC programmes in academy soccer environments (Mitchell et al., 2022, 2024). The model fulfils the four criteria of new curricula set out by Moran et al. (2024) to identify the purpose of the programme; decide on how to achieve your aims, who will deliver the programme and how it will be evaluated.

PACER stands for plan, approach, coach, environment, and review. The PACER framework is intended to allow a broader approach to planning for integration of PSCs on a session-by-session basis which can then be slotted into wider curricula. An advantage of this approach is that it offers a choice between individualised assessment and development, or a programme-centred approach. The former allows for bespoke and holistic PSC development for every player but may become diluted across an academy season. The individualised pathway of PACER also advocates the use of a ‘multiple eyes, multiple times’ approach (Barney, 2015) alongside deploying multiple (rather than singular) methods of assessment to triangulate the process as much as possible, thereby reducing certain types of cognitive bias (Collins et al., 2018) when using the individualised pathway.

Conversely, following the programme-centred arm of the model is more ‘one size fits all’ where all players receive the same intervention simultaneously with no differentiation. However, this method may be more beneficial in PSC enhancement en masse when there are time and resource constraints (Chapter 4).

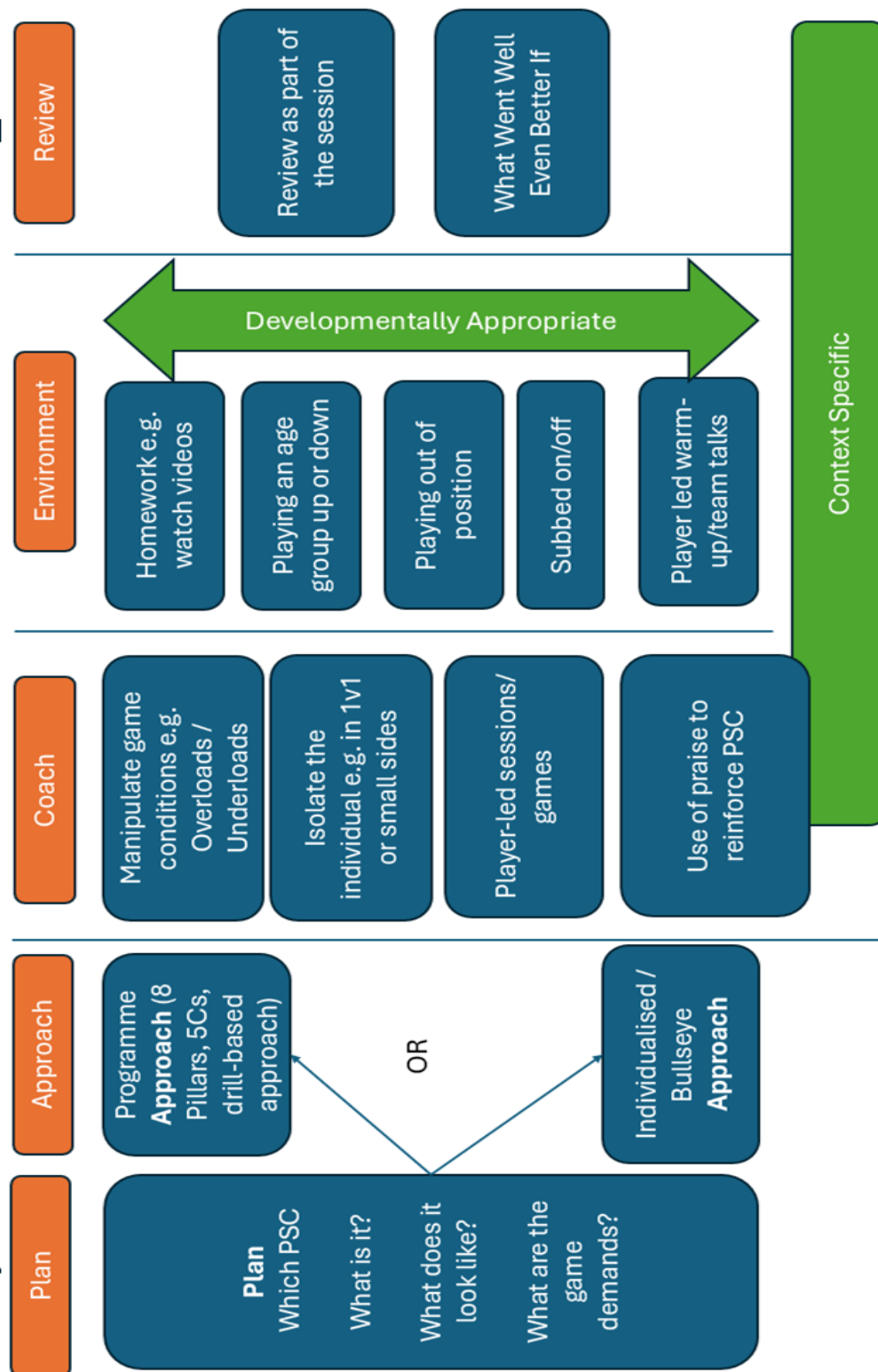


Figure 12. The PACER framework. PSC = psychological skills and characteristics; PCDE = psychological characteristics of developing excellence; 5Cs = commitment, confidence, communication, [emotional] control, concentration.

The ‘Planning’ phase involves the coaches (and support staff if appropriate) being aware of which PSCs are important in a soccer context (Chapters 3, 4 and 5), which PSCs they are then looking to assess and develop, how they will clearly defining and measure them, and then identifying what it looks like at the relevant age and stage of development (Moran et al., 2024). ‘Approach’ involves deciding if a programme-centred (e.g., the drill-based approach – Diment, 2014; the 5Cs - Harwood & Anderson, 2015; the ‘8-pillars’ - Mitchell et al., 2022, 2024) or a more bespoke individual-centred approach (Chapter 5) will be utilised. If the latter approach is used, then individual assessment also needs to be factored in such as using questionnaires, performance profiles and coach observation (Mitchell et al., 2024), followed by conceptualisation of that data into player super strengths and areas for improvement (Ludlam et al., 2015). ‘Coach’ considers how the coach will then design their sessions to facilitate PSC development as outlined in Chapter 5. ‘Environment’ requires considering age- and stage-appropriate challenges that can be integrated during training and games (e.g., player-led games or individuals playing under specific constraints – Chapter 5). Finally, ‘review’ is an essential part of the process to evaluate the impact of the intervention curriculum (Moran et al., 2024) and involves reflection of ‘what went well’ and ‘even better if...’ and is vital to retaining the effective parts of the programme and amending those that did not work initially (Chapter 5; McNiff & Whitehead, 2005).

6.5.2 Developing a coach education workshop to help facilitate integration of psychosocial skills and characteristics (PSCs) into coaching sessions

Coach education workshops can be an effective way to disseminate information to staff and assist them in co-creating session content, in this instance, to help facilitate the integration of PSCs into coaching sessions (Mitchell et al. 2024). Such a workshop was developed in collaboration with Dr Tom Mitchell, with a combination of the organisers’ experiences with the available evidence base. The workshop was titled ‘Integrating Psych/Social Development

into Coaching Sessions: The What, Why and How’ and was designed to be delivered through an online webinar that could be accessible to coaches from a variety of sports. An example, of this online workshop can be viewed at the following link: <https://www.youtube.com/watch?v=cjofnsMC-Jw> (Appendix 11). The workshop has three main sections. The initial ‘what’ section sought to clarify some of the jargon and mystique around terminology used in defining PSCs, including an infographic based on the work of Dohme et al. (2019). Coaches are provided with a description of the term psychosocial and what the distinctions are between psychosocial characteristics (i.e., what you have) and skills (i.e., what you use). Examples are provided based on previous research and those outlined in Chapter 5 including psychological factors of commitment, concentration, good learner, resilience, emotional control, and social factors of leadership, communication and teamwork. Subsequently, coaches were asked to comment on which of these factors they perceive to be most important to their context. In the example online workshop delivered above confidence, resilience and emotional control (or variants of these) were thought to be the most important to player development with 21 responses from attendees.

The second section of the workshop covers the ‘why’ behind integrating PSCs into curricula. This focuses on two elements being performance and duty of care. The performance element highlights the marginal differences between winning and losing in sport and how PSCs (such as confidence and concentration) on competition day could be the deciding factors where the technical, tactical and physical corners were equal. For the duty of care element, it is important to illustrate that only a tiny fraction of boys (less than five percent – Nesti & Sulley, 2015) in academy soccer would go on to be professional, so there should be a responsibility for academies to develop every single player as much possible and not just the ones deemed good enough to progress. Ultimately, the aim here is to empower the players with PSCs that could help them cope effectively with transitions within and outside of soccer (Stambulova et

al., 2021). With this in mind, the workshop covers different types of cognitive bias and how that might influence the decision-making of key stakeholders in academies, especially when maturation and relative age effect were also part of this equation (Cumming et al., 2018). A suggested way to mitigate biased observations of players is to use the ‘multiple eyes/multiples times’ method advocated by Barney (2015) where different people watched players on a number of occasions and compared notes, rather than it being a single person/single occasion approach.

The ‘how’ section of the workshop covered practical applications related to the integration of PSCs into session design by coaches, using the PACER model (Figure 12). The model suggests either a programme-centred approach whereby all the players get the same session at the same time, similar to Harwood and Anderson’s (2015) 5Cs approach, or a more individualised approach where player strengths and weaknesses can be developed in a more bespoke fashion. This depends on time and resources available to the coach and organisation. If the latter approach was taken it would be necessary for some form of assessment to be conducted initially perhaps using multiple mixed methods for triangulation (Collins et al., 2018). As discussed previously this could include performance profiles (Butler & Hardy, 1992), coach observation based on a validated checklist (Mitchell et al., 2022, 2024), and/or questionnaires such as the PCDEQ2 (Hill et al., 2019). Post-assessment data would then inform player ‘super strengths’ (Ludlam et al., 2015) and allow the coach to ‘bullseye’ players development accordingly in their session design (Skyrme, 2020). This could also be periodised into the curriculum alongside classroom workshops and reassessed at regular periods, again depending on time and resources (see Tables 13 and 14). As with all good practice, the entire process should also be subject to scrutiny in the form of evaluation and reflection. This could include reflection by the coaches, for example using guidelines set out by Anderson et al. (2004) incorporating self-awareness of types of cognitive bias, interpersonal skills, and

professional limitations. A specialist member of staff, such as sport psychologist and/or head of coaching, could discuss the achievement of PSC session aims and objectives around design, engagement by players and overall effectiveness with coaches. Just as importantly, opinions of players could be sought in questionnaires at regular intervals (e.g., the end of each ‘block of work’) to see what is and what is not useful for them, along with reassessments (performance profiles, questionnaires, observations) to compare to baseline data.

In further developing coach education, future work should look to develop a face-to-face CPD session whereby examples of how PSCs can be taken out of the classroom and onto the pitch can be shown (similar to examples in appendices 8 and 9). It is also important in the future to evaluate the effectiveness of these coach education workshops. This could be through post-workshop questionnaires and ongoing longitudinal consultation with attendees to assess their experiences in application i.e., what has worked well and what needs to be amended. This could again be in the form of questionnaires and also interviewing a portion of this sample to gain deeper insight.

Further testing of the PACER model is required, but it has the potential to be of value in a number of contexts such as education, the corporate world and in other performance domains such as the performing arts. It could be adapted for the individual needs of these environments and offer a useful method of enhancing performance with the option of either a programme-centred or person-centred approach depending on the resources (time, staff and budget) available to the users. It may be limited in terms of requiring specialist assistance initially, but with practice could become an effective model across domains.

6.6 Summary of recommendations for implementing psychosocial skills and characteristics (PSCs) assessment and development

Below is a summary of recommendations when considering the assessment and development of PSCs in an academy soccer setting:

- Conduct academy-wide (FP, YDP and PDP) CPD sessions with coaches to help define what PSCs are, why they are important and how to assess and develop them. The PACER model could be piloted and further tested in these scenarios.
- Collaborate with coaches to co-create sessions following the initial CPD session. This could be achieved by providing examples of PSC games and constraints within training and games, including practical demonstrations. In addition, coaches could be provided with feedback on their own ideas, both at the planning and delivery stages.
- Video record CPD and practical sessions for refresher and reflection sessions.
- Conduct in-season refresher sessions to assess understanding and adherence.
- Engage parents in the process so that they can help in reinforcing the same information as coaches. This would include invitations to any classroom sessions for transparency into the process and where they would have opportunity to ask questions.
- Use social media platforms (e.g., Teams, WhatsApp or Spond) to disseminate information throughout the season to players, parents and coaches.
- Have a bank of resources readily available on a platform such as Microsoft Teams. This could include a bank of training sessions and ideas on match days from both the sport psychology and coaching staff.
- When assessing players using observation, use different members of staff on more than one occasion (i.e., multiple eyes, multiple times).
- Questionnaires and performance profiles can be completed during rest periods when conducting EPPP physical and anthropometric testing throughout the season.

6.7. Conclusion

The aim of this chapter was to develop a set of guidelines and education materials for coaches, sport psychologists and other key stakeholders (including scouts perhaps) to effectively embed

the assessment and development of PSCs into soccer club academies. An online coach education workshop~~s~~ was developed to enable coaches to have a better understanding of PSCs, their importance and how to integrate them into classroom and practical sessions. The PACER model is an evidence-based framework that practitioners may use to help guide the planning of the assessment and development of PSCs in academy soccer. However, at this point its application and effectiveness is relatively unvalidated and will benefit from further testing and refinement in ‘real-life’ settings such as academy football and other performance domains. The intention is also to engage sport psychology staff in delivering CPD activities that empower coaches to be confident and competent in enhancing player PSCs, as it is coaches who will have the majority of contact time with the players. This provides a framework around individual organisation’s contexts and resources in order to best fit their needs. This could be on a universal programme-centred approach, or with sufficient resource and motivation, a more bespoke player-centred approach. The hope here is to maximise PSC development in every player, giving them more of a chance of successfully coping with everything that life and soccer will throw at them.

A further hope is to remove some of the stigma around sport psychology as just being focused on dealing with issues, with particular resistance coming in soccer. Perhaps developing alternative titles for sport psychology support staff could be an improvement. For example, in Chapter 5, one of the Category 1 AMs stated that: “we’ve rebranded that department to the wellbeing team”. More than that, it is hoped that this model can be successfully adapted to any other sporting environment and indeed any performance context such as dance, music, business and education. Future research could explore how this adaptation process can be achieved in specific spheres.

Chapter 7

Chapter 7: Summary of Findings, Practical Implications and Future Research Directions

The overall purpose of this thesis was to investigate assessment and development of PSCs in male English academy soccer. Accordingly, the objectives of this thesis were:

1. Conduct a critical narrative review of current literature on the assessment and development of psychosocial skills and characteristics on the male youth soccer academy development pathway
2. To identify differences in PCDE profiles of male English youth soccer players across ages and performance levels
3. Explore academy managers' experiences of identifying and developing psychosocial skills and characteristics in youth academy soccer players
4. Design, deploy and evaluate the effectiveness of a PSC development training programme embedded into the curriculum of an academy soccer club.
5. Develop a set of guidelines and education materials for coaches, sport psychologists and other key stakeholders to effectively embed the assessment and development of PSCs into soccer club academies.

The next sections (and Figure 13) will provide a summary of key findings.

7.1. Summary of key findings

7.1.1 Chapter 2: A narrative literature review on the assessment and development of psychosocial skills and characteristics (PSCs) in male youth academy soccer players

The aims of the narrative literature review were to: 1) identify which PSCs have been identified as important, 2) evaluate current approaches used to assess and develop PSCs, 3) discuss factors that affect development of PSCs within academies, and 4) propose areas for future research into effective PSC assessment and development in academy soccer. Despite PSCs

being widely acknowledged as vital for progression within and when transitioning out of academy soccer, there is still a dearth of quality applied research. The key findings of the review were:

- 1) Provision between academies is very diverse with psychological profiling only being mandatory at Category 1.
- 2) Friction exists between academics and practitioners, with the former often being unable to translate complex academic terms into something simple enough for coaches to use and the latter perhaps clinging to traditional hyper-masculine attitudes and being resistant to change from those perhaps perceived as outsiders.
- 3) An obsession with current performance, particularly of a technical and physical nature are unhelpful and coaches should be educated into the pitfalls of such an instant gratification viewpoint.
- 4) Confusion still exists among sport psychologists and academics as to how best define many psychosocial terms and indeed which PSCs are most important for development, which does little to help the situation.
- 5) Assessment methods are still quite rudimentary with an over-reliance on lengthy deductive measures which require specialist interpretation whereas the use of other measures such as performance profiles and coach observations would seem like a sensible way forward.
- 6) Only a few studies have attempted to move PSC development out of the classroom and on to the pitch, and thus far these have followed a programme-centred approach where all players have received the same content with no differentiation for individual needs.
- 7) There should be a call for more player-centred strategies which are bottom-up and less prescriptive than current methods and where planning and delivery are as efficient as possible in time-poor academies.

7.1.2 Chapter 3: Differences in psychological characteristics of developing excellence (PCDEs) profiles of male English youth soccer players: Differences across ages and performance levels

Chapter 3 investigated differences in PCDEs across different age groups (U13, U14, U15, U16 and youth team) and categories of participation (academy Categories 1, 2 and 3 and grassroots) in male English youth soccer players (N = 375). The key findings of this study were:

- 1) Data gathered using the PCDE questionnaire version 2 (PCDEQ2) indicated that highest differences existed in perfectionistic tendencies and adverse response to failure, with older (youth team) players reporting the highest scores.
- 2) Across categories of participation highest differences in PCDEs were observed in perfectionistic tendencies, self-directed control and management and adverse response to failure with highest scores reported from Category 1 players.
- 3) Youth team and Category 1 players also demonstrated the highest scores in use of imagery and active preparation (IAP), with Category 1 players also demonstrating the highest and lowest score on use of active coping strategies and presentation of clinical indicators, respectively.

What this means is that players who remain in the system all the way to youth team level and reach higher category level are more perfectionistic, suggesting that they set themselves higher standards than those players who have been de-selected. Adverse response to failure (fear of – and maladaptive response to failure) is thought to be very closely correlated with perfectionistic tendencies, so youth team players having high scores on both factors is unsurprising. Elevated self-directed control and management scores among Category 1 players suggests that to get to this level players need high levels of self-discipline and autonomy, so in other words have done more themselves outside of academy hours to improve, again this could

well be linked to perfectionism. More effective use of imagery and the ability to control competitive arousal levels also seem to distinguish higher performers.

For the PCDE factor of active coping the highest score was observed in Category 1 players, however when comparing to other categories no significant differences were noted which would suggest that players across all categories of participation seek to deploy active coping mechanisms i.e., deploy approach rather than avoidance behaviours when faced with challenge. Category 1 demonstrated lowest scores for clinical indicators which *could* indicate that they are more mentally healthy than their lower category counterparts although previous research (Sothorn & O’Gorman, 2021) reported that Category 1 players tended to play through pain and injury due to the fear of de-selection, worried that parents and coaches would react negatively otherwise. It could be that Category 1 players have simply learned how to become better at hiding their issues and avoiding discussion about their thoughts or feelings for fear of appearing mentally weak. Moving away from a traditional hyper-masculine culture (Ong et al., 2018) where mental wellbeing is not discussed would be beneficial (Noon et al, 2015).

There are some important implications from this study for key stakeholders in academy soccer, namely carefully considering the assessment and development of players’ psychosocial characteristics to ensure positive nurturing throughout their journey. Accordingly, the next study (Chapter 4) looked at what is currently being done, what challenges are faced and what can be improved from the perspective of academy managers.

7.1.3 Chapter 4: academy managers’ experiences of identifying and developing psychosocial skills and characteristics (PSCs) in youth academy soccer players

The key stakeholder with overall control over PSC assessment and development is the academy manager. Chapter 4 explored academy managers’ experiences of PSC identification and development and also challenges that they faced in the process. Nine academy managers were interviewed (Category 1; n = 3, Category 2; n = 3 and Category 3; n = 3) with an average

coaching experience of 20.4 ± 7.4 years and 5.2 years ± 3.2 years in the role. The key findings were:

- 1) Reflexive thematic analysis revealed consensus among academy managers that PSCs are the key drivers of progression and that embedding them into the pathway was critical to facilitating development.
- 2) Ideal PSCs that they thought to be important were realistic self-evaluation from players, resilience, hard work ethic, interpersonal competencies, independence (autonomy) and seeking social support.
- 3) Challenges that were identified in PSC development included the effects of various transitions that players would experience (athletic, non-athletic, and dual career transitions), issues in recruiting, training and retaining staff, other organisational constraints (especially time and money).
- 4) Academy managers identified additional support mechanisms that could help facilitate PSC development such as using external partners (e.g., universities, private sector partners and charities) as well as more help from the bodies that support academy soccer players (the Professional Footballers' Association, the Football Association, the English Premier League, and the English Football League).
- 5) Holistic development of players was also seen as essential as most would not go on to play professionally.
- 6) Improving assessment methods to include both objective and subjective valid measures was seen as important, including player self-assessments and coach observations.
- 7) There was some agreement between academy managers that embedding challenge ("strategic stress") within academy curricula was an effective way of developing players' PSCs.

- 8) Another crucial improvement would be to upskill coaches through appropriately trained support staff to attempt to overcome some of the challenges outlined (i.e., time constraints and staffing issues), especially for those at lower categories. Accordingly, academies should deliberately and carefully design, implement and evaluate player PSC assessment and development into their curricula.

7.1.4 Chapter 5: Embedding psychosocial skill development into an English soccer academy

The aim of Chapter 5 was to investigate the effectiveness of a bespoke 21-week PSC programme embedded into a male Category 3 soccer academy, working with the U-13 age group in the youth development phase with nine players (age 12.63 ± 0.18 years) volunteering to participate. The lead researcher was embedded within the academy to plan, implement, and review the PSC development programme in accordance with academy coaches ($n = 2$) as part of an intervention programme methodology. The study built on previous recent research that advocated delivery of PSCs through the coach, as they were the ones with most contact time with the players.

The PCDEQ2 and performance profiles were used to gather pre- and post-PSC intervention data. Changes in player PSCs were analysed using paired samples *t*-tests with Cohen's *d* effect size used to determine change. The key findings of this study were:

- 1) For the PCDEQ2 factors, small positive effects were noted for self-directed control and management and active coping. Imagery and active preparation, perfectionistic tendencies and seeking and using social support showed negative small effects.
- 2) For the performance profile scores, moderate positive effects were observed on emotional control, self-awareness, and being a good learner. Moderate negative effects were observed for commitment, and concentration.

- 3) A carefully designed PSC programme can have positive effects on player PSCs, which in turn could boost player's performance in the academy programme and aid them in their eventual transition out of soccer.

7.2. Strengths and limitations

Upon review of the thesis, the following section will outline the perceived strengths and limitations.

7.2.1 Strengths

It is hoped that the outcome of this professional doctorate has been to make a significant contribution to the existing body of knowledge and inform good practice in academy soccer with regards to assessing and developing PSCs, especially at lower category levels where resources are tighter. The work in this thesis builds upon previous research by MacNamara and colleagues (2010a, 2010b) by exploring PCDE profiles in academy players, what AMs think of the situation and applying these findings in an intervention programme approach. The research undertaken in Chapter 3 was the first study to examine PCDEs across different ages and categories of participation in male English youth academy soccer players. A benefit of using a questionnaire (i.e., PCDEQ2) was to collect and apply quantitative analysis to a large cross-sectional data set. Such a large sample size makes the findings less likely to be affected by anomalous scores, thereby providing greater external population validity. This in turn allows the data to be generalised to the larger population.

Chapter 4 was the first study to explore academy managers' experiences of how PSCs are identified and developed. It was also novel in allowing a very hard-to-reach sample to have a voice demonstrating current good practice but also to illuminate some of the challenges that they face, which many may have previously been unaware of. It also served to reinforce some important existing ideas – in particular the importance of player autonomy and upskilling

coaches in their PSC knowledge. A strength of using a semi-structured interview and thematic analysis approach in this instance was the depth of response, providing more of the ‘why’ to the ‘what’ that was discovered in Chapter 3.

Chapter 5, A notable strength of the study in Chapter 5 would be the use of a mixed methods approach (i.e., questionnaires, performance profiles and observation) in collecting data. Although each of these methods had its own weaknesses and were still prone to the biases outlined above, the strengths of one method should help balance out the shortcomings of the others. For example, the high ecological validity of using observation could counterbalance the potential for self-report bias in questionnaires. In addition, working with and through coaches to deliver PSC programmes on the pitch should be seen as an ideal scenario as they are the ones that spend the most time with players. This was also novel research being the first to conduct an individualised PSC assessment and development programme within an EPPP football academy setting.

7.2.2. Limitations

It is important to address limitations of the research methodologies used in this thesis. The study in chapter 3 had different sample sizes for each group, potentially leading to increased risk of outliers (Field, 2018). Secondly, certain drawbacks are evident in the use of questionnaires, such as possible self-report bias e.g., demand characteristics and social desirability (Horn & Smith, 2019). A specific drawback of the PCDEQ2 is its inability to distinguish between the more facilitative perfectionistic strivings and the more debilitating counterparts – perfectionistic concerns. Being able to differentiate between them is important as it may affect how players are coping with the stresses of academy life (Sagar & Stoeber, 2009). In addition, this questionnaire is particularly lengthy at 88 items which may lead participants to not filling it in with a level of attention.

A limitation of the study in Chapter 4 was the small sample size of nine academy managers, representing only roughly 10% of all AMs. However, this is inevitable with qualitative research and using a purposive sample that is hard to reach, although such an approach did allow for detailed insight into existing good practice and the identification of areas to further refine the assessment and development of PSCs in players. This means that the findings of this study may not be completely generalisable to this population. Furthermore, semi-structured interviews are prone to some inherent weaknesses including self-report bias, recall bias, social desirability and demand characteristics (Horne, 2022).

Limitations of the study in Chapter 5 include the absence of a control group meaning that there was no secondary group to compare the data to meaning it is difficult to fully attribute the findings to the expected outcomes. Also, implementing a holistic programme across an academy is challenging as technical, tactical and physical components of performance often take precedence, leading to a lack of buy-in from coaches (Champ et al., 2020, Crawley, 2021). Performance profiles were an excellent method of identifying player super strengths and areas to develop holistically but may lack the precision to monitor changes effectively over time. Use of performance analysis to more accurately and objectively assess observable behaviours that relate to the factors on the profile may be a useful future line of inquiry to pursue. The lack of many significant results may be seen as negative in this study, but consideration should be taken to the relatively short time span (21 weeks) and that the approach used was novel and therefore could be refined in future studies.

7.3 Implications for the professional domain

Despite the best of intentions, it should be remembered that sometimes human nature gets in the way of even the best laid plans. Even the most experienced practitioners may fall foul of organisational micropolitics - the dark side of coaching (Gibson & Groom, 2019, Potrac &

Jones, 2009). Coaches *may* possess characteristics that are more conducive to their own progression than that of the players, such as sub-clinical levels of psychopathy, narcissism and Machiavellianism (Furnham et al., 2013). Consequently, their working relationships may be competitive, calculating, and often uncaring and they may often experience negative emotions such as jealousy and anger (Potrac et al., 2012). These are topics that are not generally covered on coaching or university courses, meaning that new practitioners may unwittingly be on the receiving end (Gibson & Groom, 2019). It is hardly surprising that such behaviours exist in the cutthroat world of elite sport. However, Gibson and Groom (2019) describe ways of achieving micropolitical literacy by being aware of who key influencers are in the organisation, how they judge you, and how to influence them to benefit yourself.

Achieving coach buy-in to integrating PSCs into session design may be complicated by micropolitical wrangling where individuals could be more driven by self-interest - and an unwillingness to take on additional tasks - than they are with player development (Gibson & Groom, 2019). Some studies have reported positive outcomes when working with coaches (Mitchell et al., 2022, 2024), whereas another (Diment, 2014) had a mixed reception, and some reported mainly negative attitudes (Champ et al., 2020, Crawley, 2021). The latter was attributed to the hyper-masculine and anti-intellectual beliefs still prevalent in academy soccer. Also, at lower category academies with less coaches less knowledgeable about PSCs, a more hostile working environment may exist (Nesti & Sulley, 2015). Accordingly, the key practical implication here to upskill coaches would be to implement PSC training into coach education courses from the lowest level to hopefully desensitise coaches towards their importance. Secondly, it may also be useful to educate neophyte sport psychologists about the environments that they are likely to encounter so that they have contingency plans for when they have negative experiences (Gibson & Groom, 2019).

Conversely, it could also be argued that psychosocial support needs to improve, with a tendency to use overcomplicated language and confusion over even basic definitions such as what ‘mental toughness’ actually is (Dohme et al., 2016). An overreliance on psychometric testing by sport psychologists which may alienate practitioners (Nesti & Sulley, 2015), rather than more user-friendly methods (such as observable behaviours and performance profiling) may also be impeding progress (Wixey et al., 2023). This forms a vicious circle i.e., how can PSC delivery be improved if it is not tested in academies? Conversely, how can it be tried and tested in academies until it is fully fit for purpose?

Certainly, all sides could do better but an improvement in coach education both at national governing body level and through in-house academy professional development sessions would be an important step forward (Barracough et al., 2024 - Chapter 4). For me, the most important tool for anyone involved in academy soccer, be they players, coaches, academy managers, parents or sport psychologists is an open mind and avoiding the worst saying in any organisation: “this is the way we’ve always done it”.

A lack of time has been frequently cited by all stakeholders as being an issue in delivering PSC development programmes, although this is somewhat contradicted by the same people stating that it is the most important area for progression. This creates something of a paradox, where something is apparently highly valued in theory, but not when it comes to allocating resources and moving away from a more traditional focus on physical and technical factors. Using external agencies (e.g., charities and universities) may be one potential solution, although with the caveat that any staff from outside an organisation must be carefully vetted and fit for purpose.

Politics and human nature aside, it is hoped that this model could be successfully adapted to any other sporting environment (grassroots to professional, youth development to

open age, individual to team sports) and indeed any performance context such as dance, music, business and education. All these areas may benefit from developing the individual in a way that enhances not only their success within that domain, but also in life in general.

7.4 Recommendations for future research

Following the research undertaken within this thesis a number of recommendations for future research can be provided:

- 1) It would be useful for future researchers to explore how best to embed PSC development into coach education to upskill age-group staff. National governing body coaching courses or in-house academy CPD sessions would be ideal vehicles, although input from appropriately qualified and experienced staff would be paramount to ensure quality. Developing relationships with external organisations could help ease the financial and temporal burdens for all academies, but especially those at a lower level.
- 2) The work presented in this thesis could be of further utility in other countries with further testing. Although not currently generalisable due to cultural differences, further investigation in academies settings away from EPPP settings may allow commonalities for good practice to emerge, as well as potential pitfalls to be avoided.
- 3) Investigating the impact of player care officers since their inception in 2022 would be interesting with only one paper so far being produced to the author's knowledge (Holmes, 2024).
- 4) Further enhancement of measurement tools is important to improve validity, reliability and usability, but this can only be achieved with full open-minded co-operation between academies and practitioners.

5) Exploring how to adapt the assessment and development of PSCs in other performance domains such as music, dance, education and business. Some of the content of this thesis is universal across domains and some is context specific. Further investigation could explore how this would look and how PSC assessment and development could be operationalised effectively. Presumably, as the latter stages of this thesis have focused more on educating and empowering coaches to integrate PSCs into their daily work alongside specialist staff as inter-disciplinarians, similar research could be devised elsewhere. As an example, to assess and develop resilience in education you could ascertain who the key stakeholders would be (e.g., teachers working with heads of department, and perhaps parents), and just how this could be embedded into school curricula. In PSC terms, this could be through deployment of a ‘flipped’ classroom social constructivist approach where pupils are encouraged into their “zones of proximal development” (Vygotsky, 1978, p. 76) to improve autonomy, competence and relatedness (Ryan & Deci, 2000) and in turn resilience. Future lines of inquiry could examine which PSCs are important in each of these domains, who is responsible for their assessment and development, and how this would occur.

7.5 Personal Reflections on the Research Journey and Findings

My Professional Doctorate journey began after years of frustration working in the academy football system, where seemingly capable young athletes were being removed from the system based on the opinions of individuals with no real rationale presented. The emphasis always seemed to be the same – current physical and technical performance – with no account for potential or considering the importance of developing the whole person’s potential to help them to cope better with the rigours of life within and without football. I was as guilty of anyone of this earlier in my coaching career for some of the reasons outlined above – not wanting to

rock the boat and wanting to hang on to my job by not voicing alternative opinions to those in power. It was personal tragedy that was the eventual catalyst for me taking steps into doing something proactive and undertaking this doctorate – and a considerable amount of post-traumatic growth has occurred because of this, in my opinion.

There were considerable challenges along the way, gaining access to footballing environments and trying to persuade people to the value of PSCs were two major ones. My experiences and contacts developed through 10 years of coaching in academy football helped considerably, but trying to deal with egos and long held preconceptions proved frustrating at many points. There were many positives along the way though. I have met with some fantastic practitioners in the world of academy football who genuinely and passionately care about their young charges as people and not just commodities. I hope to be viewed in the same light and that the work in this thesis can be instrumental in influencing the landscape on how PSCs should be seen as more vital than technical and physical attributes, and how they can be taken out of the classroom and onto the pitch with coaches as their main vehicle of delivery. This has evolved over the course of the doctorate, heavily influenced by my own dual-career experience as coach and academic and in the latter stages by Dr Tom Mitchell and his work in this area.

I always believed that I was a good writer academically but now feel that this has gone up several levels with the expert guidance of my supervisors along the way. I have also gained more confidence in disseminating my ideas to others through conferences, podcasts and webinars – something I would scarcely have believed to have been capable of six years ago – although there is still more work to do in developing these skills! I now need to anticipate where this difficult but hugely rewarding journey will take me next.

My overriding reflections on the key findings of this thesis are that it can be very difficult to influence people, which is the ultimate aim of trying to achieve best practice in

talent identification and development settings. This does not mean that this should not be attempted, and as mentioned above there are many, many fantastic people working in this domain who always put the needs of the young people above their own. My ongoing challenge is how to achieve this in a way that does not sound preachy or patronising.

I would like to end this thesis with a quotation that began it from legendary golfer Arnold Palmer:

“The most rewarding things you do in life are often the ones that look like they cannot be done”

7.6 Key final conclusions

With the extremely high levels of attrition in academy soccer, it is essential that those released from the system are not viewed merely as collateral damage. It should be remembered at all times that these are it is children that are in football academies, and there should be a corresponding duty of care to ensure that they are not damaged by the experience in the long term. One such method may to assess and develop PSCs in ALL academy players in order for them to have a better chance of successfully navigating the various transitions that exist within and without the pathway. It is hoped that the model presented in this thesis can also aid with these transitions and when players exit the system, at whatever point that might be, by creating an easy-to-follow framework with simple steps for key stakeholders (coaches and sport psychology staff in particular).

In addition, it is hoped that the universality of these principles will allow their application in a number of other performance settings such as dance, music, business and education for example.

THESIS TIMELINE

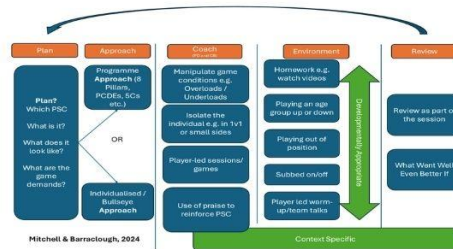
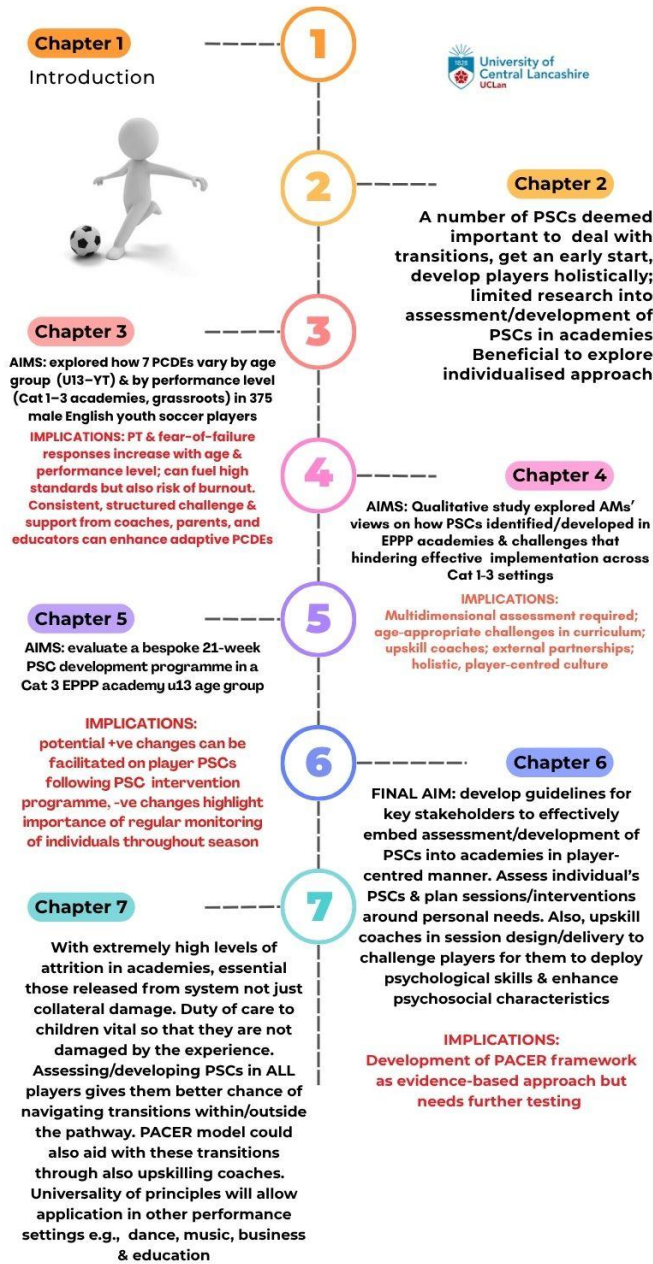


Figure 13. Infographic summary of thesis

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Appendices

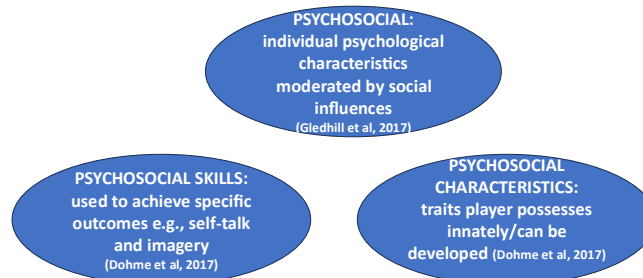
Appendix 1: British Association of Sport and Exercise Science (BASES) conference presentation 2023

Football Academy Managers' Perceptions of How Psychological Skills and Characteristics are Identified and Developed in Players

James Barraclough, J., Grecic, D., and Harper, D.



Psychosocial Skills & Characteristics (PSCs) Definitior



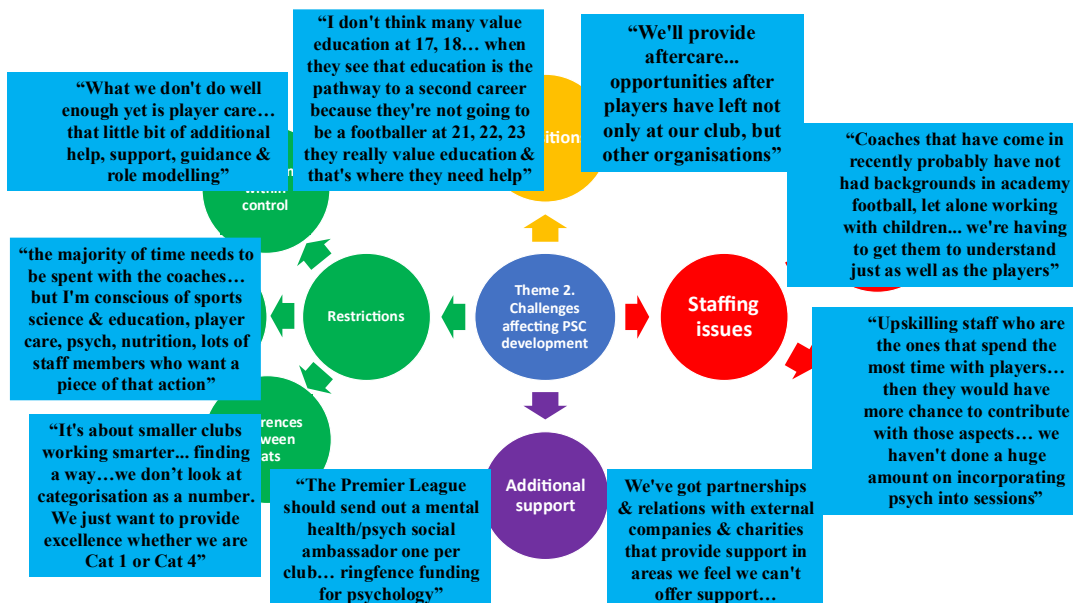
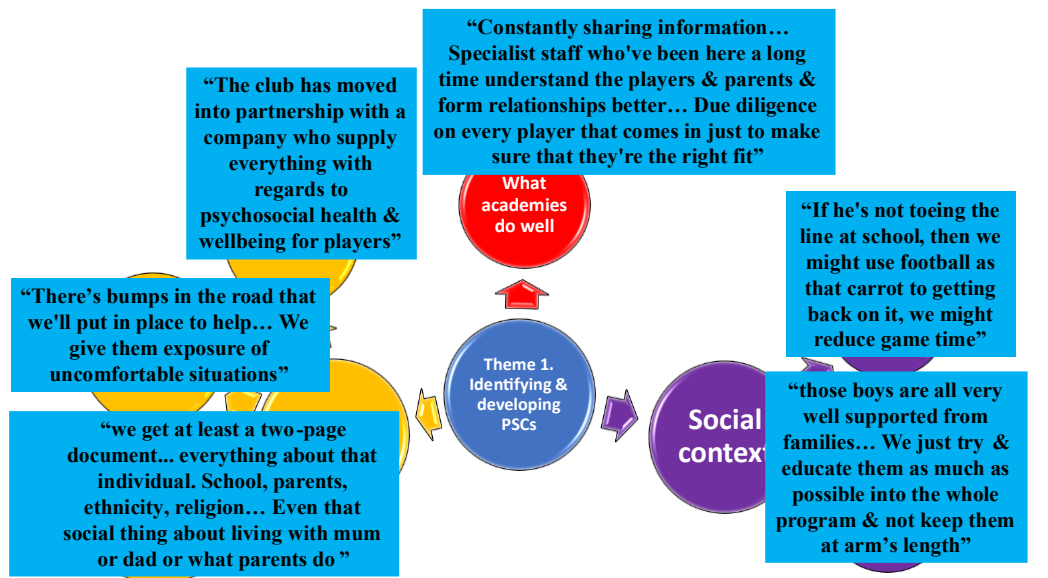
Background

- Main differences in PCDEs between Cats 1-3 & GR, and age groups u13-u18 were perfectionism, self-directed control/management & adverse response to failure (Barraclough, Grecic & Harper, 2022)
- Overemphasis on physical, technical & tactical (Koopman et al, 2020; Till & Baker, 2020)
- Contrasts growing body of research suggesting PSCs most important for development (Larsen et al, 2020; Mitchell et al, 2022; Moodie et al, 2022; Ryom et al, 2020)
- PSCs vital for development in system but also transitioning out (Stambulova et al, 2021)

AIM: explore AMs' experiences of how psychosocial factors identified & developed in academy players across different category levels

Methods

- 9 Academy Managers (3 each from Categories 1 - 3)
- Semi-structured interviews
- Six-phase analysis (Braun et al, 2019)
 - Phase one: familiarisation with data
 - Phase two: generated codes using NVivo
 - Phase three: constructed themes (codes with similar patterns)
 - Phase four: themes collated in table & reviewed by 2nd & 3rd authors
 - Phase five: refined themes into subthemes relevant to RQ
 - Phase six: wrote report
- Trustworthiness: critical friends (2nd & 3rd authors), pilot interviews & self-reflection from 1st author (Jones et al, 2012)



Implications/Novel Contribution

- Giving voice to important stakeholders who rarely get heard
- Less 'academy bashing' – look at good practice not just bad
- Lower cats with budget/time constraints develop innovative procedures/partnerships with external agencies (e.g., charities/universities)
- 'British Legion' of football by PFA
- Evaluate **WHOLE** person **NOT** just footballer (life outside football/transitions) i.e., ALL 4 corners, multiple times/eyes/methods
- Upskill staff with practice design to enhance PSCs (CLA; bullseye players; 'strategic stress'; player soft skills (ON/OFF THE GRASS))



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Effectiveness of a psychosocial skills and characteristics (PSCs) development programme in an English male soccer academy

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INTRODUCTION

- Psychosocial Skills and Characteristics (PSCs) vital for progression along academy soccer pathway (e.g. Moodie et al., 2023)
- Psychological characteristics are innate traits (e.g., resilience, motivation) or ones that can be developed through using psychological skills (e.g. goal-setting and imagery) (Dohme et al., 2016)
- Frameworks exist to implement PSC development (Collins et al., 2018) but often struggle to operationalise theory into practice (Mitchell et al., 2022 & 2024)
- Some attempts to embed PSCs into academy curricula through coaching staff (Diment, 2014, Harwood & Anderson, 2015, Mitchell et al., 2022, 2024)
- More individualised, player-centred assessment and development is required
- Little research investigating how PSCs effectively assessed/developed in academies

AIMS

Implement and evaluate the effectiveness of an individualised PSC assessment and development programme in a male Category 3 soccer academy with youth development phase

METHODS

- Action research approach
- Pre-season continuing professional development (CPD) sessions were conducted with all academy coaches on importance of PSCs and how to embed into session design
- Coaches were supported by lead author using Thomas' (1990) seven-phase model (Fig. 1)
- Resource pack produced and sent to age-group coaches with lead author available via telephone, text or e-mail for support as well What's App group
- 12 academy players (age 12.63 ± 0.18 years) from U13s YDP phase volunteered
- Baseline measures were taken (PCDEQ2 and performance profiles) in pre-season



Fig 1. Thomas' (1990) seven-phase model



Scan to see clip of PSC game used to develop commitment, concentration, confidence, resilience, also anticipation, decision-making

RESULTS

- Across 21-week PSC programme small-to-moderate positive and negative effect sizes (ES) were observed
- Significant difference pre- and post-intervention for perfectionistic tendencies PT ($p = 0.05$, $d = -0.43$)
- Self-directed control and management SDCM ($p = 0.11$, $d = 0.31$) and active coping ($p = 0.17$, $d = 0.27$) positive ES changes
- Imagery and active preparation IAP ($p = 0.18$, $d = -0.42$), seeking and using social support SUSS ($p = 0.27$, $d = -0.22$) all demonstrated small negative ES
- Performance profile scores pre- to post-intervention period showed significant moderate positive ES pre- and post-intervention for emotional control ($p = 0.048$, $d = 0.76$), self-awareness ($p = 0.003$, $d = 0.52$) and good learner ($p = 0.015$, $d = 0.47$)
- Commitment ($p = 0.035$, $d = -0.56$) and concentration ($p = 0.024$, $d = -0.79$) also significant but negative ES meaning these player self-reported scores decreased across intervention period

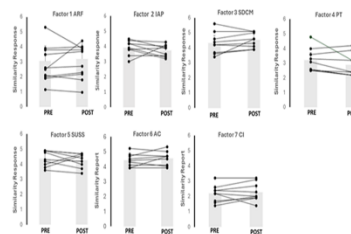


Fig 2. Group and individual change scores for each PCDEQ2 factor from pre- to post-intervention. ARF = adverse response to failure, IAP = imagery and active preparation, SDCM = self-directed control and management, PT = perfectionistic tendencies, SUSS = seeking and using social support, AC = active coping, CI = clinical issues

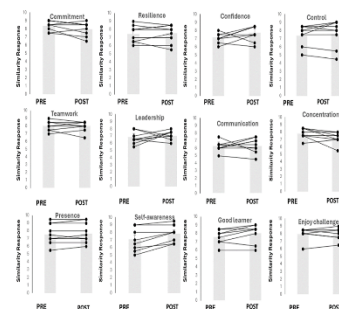


Fig 3. Group and individual change scores for each performance profile factor pre- and post-intervention.

DISCUSSION

- Findings highlight positive changes on PSCs (PT, SDCM, AC, emotional control, self-awareness, good learner) following carefully designed player-centred programme
- Negative changes highlight importance of regular monitoring of individual PSCs throughout season
- Increases in SDCM possibly down to nature of challenges set to players e.g. increased autonomy-supportive coaching (Gledhill et al., 2017)
- Individual challenges (e.g. constraints) (Renshaw et al., 2019) and isolated or small-sided practices (Gearing & Bridge, 2024) may also have been instrumental
- Increases in emotional control may be due to constraints use (e.g. playing underloaded, 'bad ref' and playing out of position) and subsequent support from coaches
- Increases in self-awareness/being a good learner may have occurred through asking performers to self-reflect, thought to be an intervention in itself (Hemmings & Holder, 2009)

PRACTICAL APPLICATIONS

- A carefully planned PSC programme can have benefits for holistic player development
- Developing psychosocial skills to enhance psychosocial characteristics can be helpful for players to negotiate transitions within and out of academy soccer
- Overcoming organisational constraints (e.g., lack of contact time, coach buy-in) should be addressed, possibly with external agencies (e.g. universities or charities)

REFERENCES



Appendix 3: Podcast episode: Football Fitness Federation episode 256 September 2023



Appendix 4: Podcast episode the Sport Psych Show episode 296 August 2024



26 AUG · EPISODE 296 · 51 MIN

#296 James Barraclough - How to Identify and Develop Psychosocial Skills and Characteristics The Sport Psych Show



I'm delighted to speak with UEFA football coach and lecturer, James Barraclough this week.

James has worked as a football coach for over 20 years. He has coached extensively in academies and holds both the UEFA B and FA Advanced Youth Awards.

James has an MSc in Sport Psychology and has consulted with athletes and teams from grassroots up to world champions. He is currently undertaking a Professional Doctorate in Elite Performance examining psychosocial skills in academy football.

James teaches Sports Coaching and Sport Science at UCEN Manchester. He is also a sport performance consultant supporting a number of mixed martial artists, athletes and football teams.

In this episode James and I discuss a paper he led along with Prof David Grecic and Dr Damian Harper which looked at academy managers' experiences of how psychosocial skills and characteristics are identified and developed in youth academy soccer players.

Appendix 5: Podcast episode the Coaching Union episode 4 March 2025



Appendix 6: Podcast episode the Mind Room January 2025



16 JAN · 30 MIN

Why coaches should be thinking about 'psycho-social' skills and characteristics

The Mind Room



Appendix 7: Coaches' resource pack for Study 3 (Chapter 5)

Initial pre-season CPD session selected slides:

Activity

- Define sport psychology
- Why is it important?
- What does it look like at academy level?
- What are most important areas of psych?
- Give definitions of each

10 minutes

What is Sport Psychology?

How would you define it?

Psychology:

- Psych = the mind
- Ology = the study of...

Psy·chol·o·gy

(n.) The science that tells you what you already know, using words you cannot understand.

= 'the study of the mind' in sport NOT witchcraft

In 2 Words: **Improving Performance & Wellbeing**
or **COMMON SENSE!!!**
Psych is always present

At Academy Level?

- How many player become pros? What about VAST majority that don't? Moral responsibility dealing with **CHILDREN**
- 'Player centred' development over winning: **WHOLE** player not just technical/physical
- Tech/tac, physical, **psychosocial... 'boy' before 'the player'**
- **Don't release too early (performance vs potential)**

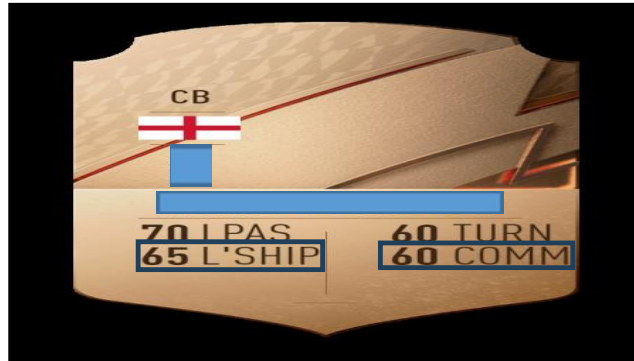
Psych Learning Objectives:

- Player profiling for coaching individuals & what to look for
- Make players aware of PSCs & effects on performance/learning
- Players use mistakes to learn without fear of failure (Growth Mindset)
- **BUT don't make life too easy!** Stretch & challenge

As coaches which of these can we Influence?

- Commitment/motivation/self-discipline (doing extras)
- Responsible for own development – Growth Mindset/goal-setting/Super Strengths vs AFIs (balance)
- Belief/confidence – **seeking out support/always try to get on the ball**
- Quality/quantity of practice & rest (growth)
- Coping with pressure (strategic stress)
- Emotional control (psych techniques)
- Social/communication skills – interactions with team & staff
- Imagery: Skill development; Match prep; Confidence; Reviewing training
- **Awareness/Anticipation skills (scanning/triggers)**
- **Mental Health**
- **Social background (family members; home postcode; birth month/RAE; other activities; CRITICAL MOMENTS/TRANSITIONS)**

PLAYER PROFILE		PSYCHOLOGICAL PROFILE	PSYCHOLOGICAL PROFILE
Current Position: CB		Commitment	
PLAYER NAME	AGE GROUP	Resilience	
TECHNICAL PROFILE		Confidence	
TACTICAL PROFILE		Control	
PHYSICAL PROFILE		Concentration	<p>COMB COMMENTS</p>
TECHNICAL PROFILE		Communication	
TACTICAL PROFILE		Leadership	
PHYSICAL PROFILE		Teamwork	



Breakout Activity

- Tech/tac/phys factors easy to assess as visible/measurable
- What about psych factors? How do we assess these?
- 'Observable behaviours' e.g. for resilience at FP: Sticks at challenging task/after mistakes
- For your phase (FP/YDP/PDP) what behaviours would you expect to observe for:
 - Communication
 - Control
 - Commitment
 - Confidence
 - Concentration
 - Resilience
 - Humility
 - Leadership & teamwork
 - Relishing being out of their comfort zone
 - Being good learner

	Foundation Development Phase	Youth Development Phase	Professional Development Phase
Communication	Asking questions to the coach – seeking clarification, talking to each other about the game / training – offer some ideas to each other, can easily make friends and converse	Listen to teammates / coaches with respect, support and encourage, positive, constructive criticism to teammates if e.g., a move has broken down, body language always positive and purposeful (coaches need to model and agree what this looks like?)	Encourage and raise the intensity of the team, manage frustration by encouraging what the team can do next, body language always positive and purposeful
Control	Attention (if practice design is aligned), don't get bogged down after errors, keep trying	Responding quickly and positively after success OR error, quick mental preparation at set pieces or corners, very little arguing with e.g., a ref if decisions are not correct.	Knowing when to speed up or slow the game, quick mental preparation at set pieces or corners, slowly getting up after a foul to help own team to organise, look to raise energy levels of the team.
Commitment	Arrives early, Eagerness to engage in learning, effortful in all aspects of training and competition.	Staying involved in the play, looking to create opportunities in training and games, showing for teammates	Play through pain / fatigue, chasing a bad pass down to ensure they receive it, never give up
Confidence	Volunteering to e.g., demonstrate, wanting to answer questions, plays, and moves with purpose, tries new skills before others.	Spring in step throughout the session, wanting the ball when losing, plays with a sense of urgency, try passes or skills without fear	Demanding the ball, want to receive under pressure, try passes, shots, or skills without fear consistently
Concentration	Respond quickly to instructions, show understanding quickly, don't need to be told new information many times.	Adapting correct positions in open play, stay focused when tired, anticipate movements of opponents, quickly refocus after a break in play	Communicate information to others, win in high % of personal battles in games, accurately recognises a range of cues and triggers.
Resilience	Sticks at a task they find hard or challenging, keeps 'going' when errors are made	A deep seeded self-belief that they can do something, keeping level-headed in games if losing or receiving incorrect decisions.	Stability in the face of challenge, associated with learning to be a professional. Coping with playing U18's one week then U23's another week then back to U18's, seek support if they have a problem / challenge.
Presence	Eye contact, funny / engaging, good manners / respectful, positive body language, always on toes in games Tries to help others	Self-motivated to extras, not afraid to ask a question Willingly and authentically helpful, only need telling once, tries to help others	Add value to the session Influence others to support the team 'X factor' – Something in the eyes Take every session as an opportunity to impress. Look like they are grabbing the opportunity every session.
Self-Awareness	Can articulate own strengths and weaknesses with some support, can reflect on performances and development with support, these players appear driven and internally motivated	Takes personal responsibility, can independently reflect on performances and development, can set own goals, these players appear driven and internally.	Can identify own development needs, can drive own development needs, doesn't need lots of feedback, calm, cool, collected, has perspective on a range of situation, these players appear driven and internally motivated.

Activity

- What do you currently do around psychosocial corner?
- What else *could* you do? Come up with at least one activity per group e.g. anticipation skills:

<https://www.youtube.com/watch?v=uY5K7aCpuaQ&t=69s>

10 minutes

'Warm-ups'

- Training: mix it up & link to topic/theme (if you have one)
- Match Day: Standardised routines exactly same (as much as poss) for every game & make it game-like (ball work if poss)
- Signal from players' bodies to brains – time to play! e.g.:
 - 'Specific movements' can use ball (5 mins) low to medium intensity
 - Anticipation (from earlier) to prime brain circuits & also trains over course of season (5 mins) - high intensity
 - Possession with transition (e.g. 4 v 4 + 4) & use GKs to make directional if available – high/match intensity
 - Long passing – low intensity
 - Re-energise x 3 – high/match intensity

As a Club: Developing Psychosocial Qualities

- Classroom-workshops e.g.:
<https://padlet.com/jbarracloough2/lmvuefmy377t>
- Put 'bumps in the Rocky Road' – stretch/challenge out of comfort zone (Paul McGuinness development environment as 'lab')
 - Play up/down an age group/out of position/under & overloads
 - Strategic stress (but not 'distress') AND support i.e. how to cope – mental skills
 - Avoid 'A B & C' players & full game time: leave 'A' players out & sub them occasionally
 - Psych factors more important than physical from YDP; physically smaller = better problem solvers & greater motivation/resilience
 - Curriculum design bullseye/FIFA cards: integrate (constraints/scenarios), isolate (1 v 1/small group sessions), homework
 - Player-led workshops/training/games (flip sessions)
 - Mixed age games

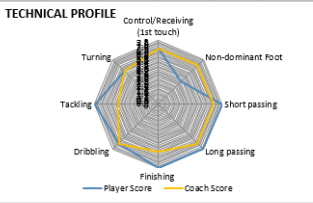
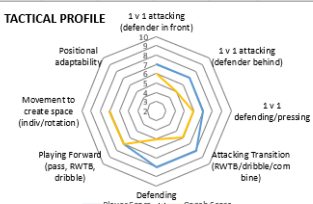
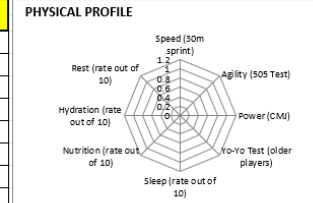
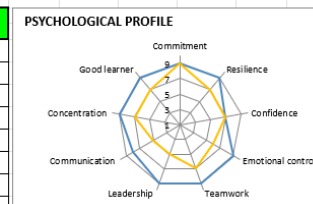
As a Coach

- Performance (development) over result (winning is by-product)
- Encourage mistakes BUT advise on how to improve
- Differentiate (what makes each player tick?) – be human!
- Enjoyment BUT with high standards of behaviour & work ethic
- Encourage use of psychosocial skills (include as KFs in planning)
- Practice design bullseye/FIFA cards: integrate (constraints/scenarios), isolate (1 v 1/small group sessions), homework
 - Provide competition/intensity/anticipation – highlight triggers/cues;
TRANSITIONS/POINTS/DIRECTIONAL/PROMO & RELEG – work back from game
- Impact of developmental issues (e.g. teenage brain, early/late & RAE)
- Aware of own/others unconscious biases
- Effects of parents on development (positive & negative)
- Keep open mind: try things out - Evidence vs experience!
- John McDermott: "balance between art & science"



Foundation Development Phase	
Communication	Asking questions to the coach – seeking clarification, talking to each other about the game / training – offer some ideas to each other, can easily make friends and converse
Control	Attention (if practice design is aligned), don't get bogged down after errors, keep trying
Commitment	Arrives early, Eagerness to engage in learning, effortful in all aspects of training and competition.
Confidence	Volunteering to e.g., demonstrate, wanting to answer questions, plays, and moves with purpose, tries new skills before others.
Concentration	Respond quickly to instructions, show understanding quickly, don't need to be told new information many times.
Resilience	Sticks at a task they find hard or challenging, keeps 'going' when errors are made
Presence	Eye contact, funny / engaging, good manners / respectful, positive body language, always on toes in games Tries to help others
Self-Awareness	Can articulate own strength and weakness with some support, can reflect on performances and development with support, these players appear driven and internally motivated

Sample player profile:

PLAYER PROFILE					
Current Position:					
PLAYER NAME	AGE GROUP	U13	D-O-B	24/1/2010	ADDITIONAL QUALITATIVE INFO (PMA)
DOMINANT FOOT: R					
TECHNICAL PROFILE		Player Score	Coach Score	 <p>SS = ; AFI =</p>	
Control/Receiving (1st touch)	7	7			
Non-dominant Foot	4	7			
Short passing	8	7			
Long passing	8	7			
Finishing	8	6			
Dribbling	7	7			
Tackling	8	5			
Turning	6	6			
Average	7	7			
TACTICAL PROFILE		Player Score	Coach Score	 <p>SS = ; AFI =</p>	
1 v 1 attacking (defender in front)	7	6			
1 v 1 attacking (defender behind)	7	5			
1 v 1 defending/pressing	7	6			
Attacking Transition (RWTB/dribble/combine)	8	6			
Defending Transition (prevent/recover)	8	5			
Playing Forward (pass, RWTB, dribble)	7	7			
Movement to create space (indiv/rotation)	7	7			
Positional adaptability	7	6			
Average	7	6			
PHYSICAL PROFILE		Player Score	Coach Score	 <p>SS = ; AFI =</p>	
Speed (30m sprint)					
Agility (505 Test)					
Power (CMJ)					
Yo-Yo Test (older players)					
Sleep (rate out of 10)					
Nutrition (rate out of 10)					
Hydration (rate out of 10)					
Rest (rate out of 10)					
Average					
PSYCHOLOGICAL PROFILE		Player Score	Coach score	 <p>SS = ; AFI =</p>	
Commitment	9	9			
Resilience	9	7			
Confidence	7	7			
Emotional control	9	6			
Teamwork	9	7			
Leadership	9	5			
Communication	8	5			
Concentration	9	7			
Good learner	9	7			
Enjoy challenge	8	6			
Average	8.7	6.6			
SOCIAL PROFILE					
Birth date/quarter	24/1/10 Q1				
Where do you live now?					
High school					
Number/gender of siblings & birth order	1 older sister				
Favourite team	Man Utd				
Favourite player and why	Rashford because he is quick on the ball and he knows what he is doing on the ball.				
Non-sporting hero & why	My Dad because he gets me too training and he is always on my side and by my side.				
Favourite (non-PE) subject	Science				
Other activities	Training at home				
What is one unique thing about you?	Speak 2 languages				
Have or are any of your family members been involved in professional sports?	No				

Periodised super strengths and areas for improvement plan:

Name	Super strength	AFI	Position	Bullseye Wk	Training/match day constraints
	Enjoy challenge	Long passing, tackling, communication	FB	1	Captain, lead team talk/warm-up Long passing both feet, driven, lofted, whipped
	Confidence	NDF, turning, 1 v 1 def behind	CM	1	Turning unopposed, semi-opposed, opposed (def beh)
	Enjoy challenge, NDF, turning, pressing, playing forward, commitment, resilience	Short passing, finishing, communication, counter - press, AWARENESS (JB OBS)	CM	2	Captain, lead team talk/warm-up Shooting/pressing practice Checking shoulder (4-ball)
	Short passing, tackling, commitment, emotional control, teamwork, enjoy challenge	Long passing, turning, leadership, communication	CB	2	Captain, lead team talk/warm-up Short/long passing both feet, driven, lofted, whipped Turning unopposed, semi-opposed, opposed (def beh) 4-ball
	First touch, NDF, commitment, resilience, emotional control	Enjoy challenge, switching play, communication	GK	3	Captain, lead team talk/warm-up Shooting practice Passing & receiving
	Finishing, dribbling, cross/cutback, 1 v 1 def in front, teamwork, good learn, concentration, enj challenge	NDF, tackling, confidence, leadership, communication	WM	3	Captain, lead team talk/warm-up 1 v 1 to finish, def in front for confidence
	Long passing, finishing, dribbling, 1 v 1 def in front, 1 v 1 press, commit, confid, leadership	NDF, def trans, emot cont	CAM	4	1 v 1 to finish, def in front for confidence Play underloaded Bad ref RPS
	Dribbling, finishing, enjoy challenge, pressing, commitment, confidence, leadership	(Needs PCDEQ2) Short passing, tackling, emotional control, resilience	WM	4	Play underloaded Bad ref RPS Short passing/tackling
	Short passing, commitment, concentration	Finishing, 1 v 1 def beh, 1 v 1 def, movement to create space, emotional control, communication, good learner, enjoy challenge		5	Captain, lead team talk/warm-up Play underloaded Bad ref RPS
	Commitment, emotional control, enjoy challenge	1 st touch, NDF, tackling, counter press, playing forward, resilience, communication		5	Captain, lead team talk/warm-up Play underloaded Bad ref RPS

Sample weekly plan for 'bullseye' players:

Name	Super strength	AFI	Position	Bullseye Wk	Training/match day constraints
	Enjoy challenge	Long passing, tackling, communication	FB	1	Captain, lead team talk/warm-up Long passing both feet, driven, lofted, whipped
	Confidence	NDF, turning, 1 v 1 def behind	CM	1	Turning unopposed, semi-opposed, opposed (def beh)

PSC games

	Foundation Development Phase	Youth Development Phase	Professional Development Phase
Communication	Asking questions to the coach – seeking clarification, talking to each other about the game / training – offer some ideas to each other, can easily make friends and converse	Listen to teammates – listen with respect, support and encourage, positive, constructive criticism to teammates if e.g., a move has broken down, body language always positive and purposeful (coaches need to model and agree what this looks like?)	Encourage and raise the intensity of the team, manage frustration by encouraging what the team can do next, body language always positive and purposeful
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Concentration	Respond quickly to instructions, show understanding quickly, don't need to be told new information many times.	Adapting correct positions in open play, stay focussed when tired, anticipate movements of opponents, quickly refocus after a break in play	Communicate information to others, win in high % of personal battles in games, accurately recognises a range of cues and triggers.
Resilience	Sticks at a task they find hard or challenging, keeps 'going' when errors are made	A deep seeded self-belief that they can do something, keeping level-headed in games if losing or receiving incorrect decisions.	Stability in the face of challenge, associated with learning to be a professional. Coping with playing U18's one week then U23's another week then back to U18's, seek support if they have a problem / challenge.
Presence	Eye contact, funny / engaging, good manners / respectful, positive body language, always on toes in games Tries to help others	Self-motivated to extras, not afraid to ask a question Willingly and authentically helpful, only need telling once, tries to help others	Add value to the session Influence others to support the team X factor – Something in the eyes Take every session as an opportunity to impress. Look like they are grabbing the opportunity every session.
Self-Awareness	Can articulate own strength and weakness with some support, can reflect on performances and development with support, these players appear driven and internally motivated	Takes personal responsibility, can independently reflect on performances and development, can set own goals, these players appear driven and internally.	Can identify own development needs, can drive own development needs, doesn't need lots of feedback, calm, cool, collected, has perspective on a range of situation, these players appear driven and internally motivated.

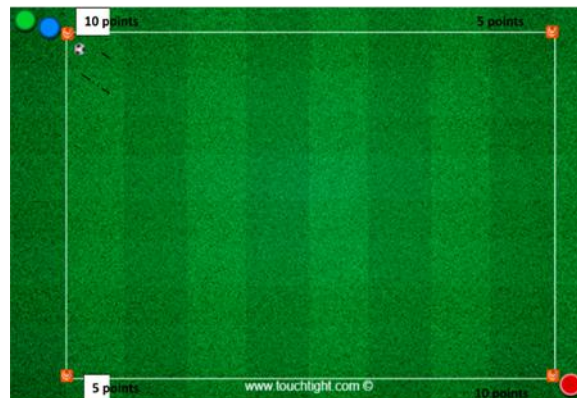
List of potential PSC games for coaches to consider/adapt:

Game	PSC focus
Capture the flag	Leadership, communication, teamwork, decision-making/tactics
Ball mastery & shot on goal	Communication, commitment
Rock, paper, scissors	Anticipation, resilience, commitment
Timed dribble	Focus/concentration
Bad ref	Emotional control/concentration
Blindfold/silent football	Communication
Under/overloads	Resilience, commitment, decision-making
Counter-attacking game (0 v 1; 1 v 2; 2 v 3)	Concentration, commitment, communication
Coerver 1 v 1 box*	Confidence, decision-making, anticipation, commitment
Coerver 1 v 1 recovering defender	Commitment
Man marking game	Concentration, awareness, commitment
Triangle passing (fingers)	Awareness
Soton pass & press	Anticipation
Transition (4 v 4 + 4) with captain progression	Commitment, communication, leadership
In-game triggers (transitions especially defensive)	Anticipation, commitment, teamwork
Pre-performance match routines	Focus, teamwork
Pre-performance set-piece routines	Focus, teamwork
Strategic stress play up/down, out of position, sub on/off	Commitment, emotional control, resilience
Player led games/training sessions	Autonomy/IM, communication, leadership
Rotate captains	Leadership
Mixed age groups	Autonomy/intrinsic motivation, communication, leadership

Scenarios (game specific)	Problem solving, decision making, communication, leadership
Constraints/small group/1 on 1s (bullseye players)	Super strengths/ AFIs
4 ball	Awareness, commitment, decision-making
3 v 3 tight pitch	Awareness, decision-making, anticipation
5 dice game	Anticipation, decision-making, commitment

Sample game idea* disseminated to coaches:

1 v 1 attack/defend



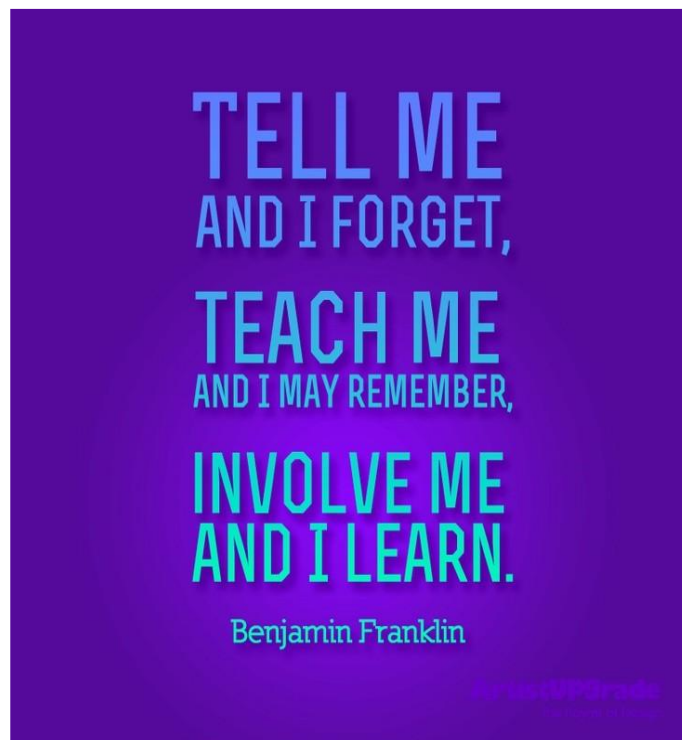
How to play (10 x 10 square):

- Blue player passes to red and presses quickly, then puts the brakes on.
- The red players can either try to beat the blue player and stop the ball next to their cone to score 10 points or go to either of the side cones for 5 points.
- If red loses the ball, then blue can counteract and reach red's cone for 10 points or the side cones for 5 points.
- The turn stops when a player scores points or if the ball goes out of the square.
- Rotation: red player goes to the opposite end to rest, blue goes to the opposite end to be the attacker, green becomes the server/defender.
- You can make the challenge easier/harder by selecting opponents that you know might be an uneven match (but change this after a while to avoid frustration).
- You can use promotion/relegation with this game – whoever has the most points moves up, and the least points down.

Selected slides from 'flipped' session:

What & Why?

- What was psych skill beginning with A we mentioned last week?
- **Autonomy**
- What does it mean?
- Ability to make choices for yourself & not having them made for you by other people
- Why?
- Gives players 'ownership' to improve problem-solving skills & learning



Your Task...

- Plan session focusing on ILPs from FIFA cards/bullseye sheet
- Can be **SUPER STRENGTHS** or **AREAS FOR IMPROVEMENT**
- If you're not sure of what you can work on ask coaches
- Work in 2s/3s where ILPs fit together e.g. 1 v 1 attacking & 1 v 1 defending work together
- Think about how you can include psychosocial (next slide)?
- How can points game we did last week fit with this? **+1 for success -1 for non-success**

Reflective log template for coaches:

	Technical (performance goals achieved)
Description What happened?	
How did you think and feel about it?	
What went well? Even better if?	
Conclusion What have you learnt? How effective was PSC training?	
Action plan What would you do differently next time?	

Appendix 8: Coach A Feedback Transcript January 2022

Researcher: For the last block then in terms of psych stuff, can you describe what we've done? What's happened?

Coach A: Yeah so the same as block one, picking out more on the psychosocial skills rather than the actual techniques. So in the first block we focused a lot more on maybe receiving, where this block is more on the actual psychological stuff. So how they react to losing or that type of thing. A lot more mentally where block one was a lot more can they work on their techniques.

Researcher: OK, so how do you think and feel about it?

Coach A: I think it's good to have. I think for the group of players as well that because of COVID and everything, they kind of missed out on the key early years. So under nines, under 10s. So I think that it's really good they're getting that now as well. I think me and [coach B] could do with a lot of improving ourselves and making sure the players are hitting it more often. But yeah, I like it. And what we've done so far, I think it's good and we could only improve ourselves and improve the players more.

Researcher: OK, So what do you think's gone well, and even better if?

Coach A: So the way we've got into individuals, I think planning it a lot more with like this focus on these two this week and it's been a lot better because in block one it was still fresh to us because both me and [Coach B] probably had never done anything like this before and we were still learning as coaches, but it's gone a lot smoother since. I think that's because we've had your support as well.

Researcher: OK, so would you say there are any barriers to not including it in your planning and when you do your planning for this session, so for tonight's session when did you plan it?

Coach A: So the way my work goes, I start work at 12:00, so I planned mine this morning. The way we work it is [Coach B] plans the ILPs and I plan the group academy programme so if it was to be perfect me and [Coach B] would be sat together planning it together, but it's really hard to do because we both live different parts of [_____]. It's kind of hard to integrate it more naturally.

Researcher: So do you share your session plans?

Coach A: Not that often.

Researcher: Do you think that's something you could do like on WhatsApp or Teams?

Coach A: Yeah, but at the same time, it's difficult because when I could do my session plans, [Coach B]'s busy at his job, and when he does his session plans, it's finding that time and that balance. So maybe that's where me and [Coach B] will have to plan it earlier, especially me, because I planned it this morning. Maybe this is even something where me and [Coach B] whilst we're at the game can start talking about next week's sessions.

Researcher: So across these blocks what have you learned?

Coach A: How to integrate the psych stuff. Not just about the psych stuff about the technique, but the actual psych stuff where that resilience, how to build it kind of thing and away from this I have been doing a lot of research on my own. I've gone on different FA websites and YouTube and seeing how different sessions have been planned on it, and I think sometimes looking at those sessions they're a bit unrealistic because obviously they're built for a coaching session. So it's kind of hard to see it. I need to go out and watch someone do it kind of in their natural session environment, because even though I get the rough idea, I kind of

find it difficult to see how it works when they're not stopping, talking to coaches and then going again.

I think for the players it's really good, especially because they're getting constant support and they get their classroom sessions as well. So even though it's not their ILP weeks they still have that little bit where they're still working on it.

Researcher: So last question then, action plan. What would you do differently next time?

Coach A: So for the next block I'd plan it better with [Coach B]. And especially when I'm leading and [Coach B]'s doing the ILP stuff. Get the session to him so he can fit his ILPs in it and he's done it good with me, so I'm probably letting the team down. [Coach B]'s done it where he focuses on the players and he tries getting it into his sessions, so it's just being more consistent.

Researcher: Yeah. So remember we using that model with ILPs, integrating into the game which you think you've done really well and then into the match day.

Coach A: Yeah, the only problem with some of the game stuff is like we're supposed to do [Player 1] and [Player 2] was there at the game but [Player 3] didn't turn up and like this week we're supposed to have [Player 4] and he hasn't turned up.

Researcher: And [Player 5] is obviously goalkeeper training in a different group.

Coach A: Yeah. So it's one of them if the player isn't in all the time it kind of kills itself, but as long as there's that pattern and consistency it works out.

Coach B Feedback Transcript January 2022

Researcher: can you describe what's happened in terms of the psych stuff?

Coach: so each player been given individual challenges in training. What we've done is we've seen some of them overcome them, so some just excel with them and there's been some that've struggled and seem not to have found a different way to adapt and how to execute them. So that's one thing that we've noticed over the previous block.

Researcher: OK. What about in games as well. How have embedded them?

Coach: in the games, we've put it in their objectives or individually speaking to the players so they can actually push through. So for example, players being given captaincy or being in charge of certain things on or off the pitch. So I think that's one thing that we've tried to give them and tried to implement it into a game. So things like being captain, in charge of warm up, equipment, setting up or packing away those little challenges and putting them under extraneous pressure by putting them in positions that they wouldn't really play.

Researcher: OK, how do you think and feel about how it's gone?

Coach: with certain players, I feel like it's worked, certain players have come out of their shell a little bit. One example could be [Player 1] when we put challenges in for him, he took them on board. He was given the task of having a bit of leadership and communication which boosted his confidence from the first session where he was very quiet with his instructions before and then in the sessions and matches he gave short, concise instructions which was what we wanted and it just showed that things like him leading the warm up, organising kit and equipment boosted up his confidence level. Now we've when we stepped away from for a week or so, he's reverted back to himself. So I think one thing that we could do with players like that, just pushing constant reminders and putting them under the same objectives and some players it's

not worked. They've taken it on board but they've just thought I'd do it because it's an objective for me, and not really accepted that yeah, this is for my benefit.

Researcher: what went well, even better if.

Coach: what went well is when we set the objectives, especially being an indoor session, I think that's worked because they've started to adapt to it and they just they've got on with it very well and even when we've put them in the training sessions, especially when we put them in the Friday session, which has been a lot of phase of play, they seem to have coped very well. What's not gone well is certain players, especially things that can't be helped like attendance in training. So I feel like it's not they're not a full chance to experience of having the three sessions a week. They'll only get two and then the next thing being thrown into a game and had not had enough time to practice it even more so they can actually try and integrate it so they don't have to think about it, its just automatic.

Researcher: OK, So what have you learnt?

Coach: how to sort of implement such strategies and objectives for the players, and obviously how to incorporate them into sessions and match days and obviously how to understand certain players and how to challenge them and stretch them a little bit more.

Researcher: OK, so how effective do you think the psychosocial skills training has been?

Coach: I think its very effective to the point that we've started to see certain players come out of their shell a little bit more on the pitch and are willing to engage with players because the confidence is starting to pick up because of the work they've given a chance to work on individual learning plans and as well as the fact that you can put them in there and they're willing to go and try something and see if they can pass it off to the other players.

Researcher: yeah. OK. Last question in terms of an action plan, what would you do differently next time? I know you mentioned that sometimes they'll do it because they're under the microscope and then they'll stop doing it. Anything around that or anything you'd do differently or could be done better?

Coach: I think what I could do is and always with the focus on those players per week I think is give those players that would pick as primary and then on the second week put them on the secondary so he can have a little bit longer than one week. Whatever the two players or three players I've picked on the first week, on the second week, they're now the secondary players and you're focusing on the next lot of players. So there's slight overlap with them so they're getting a bit of extended time.

Researcher: OK. So in terms of your planning when I send the ILPs through, how do you account for that in your session planning? So when do you kind of sit down and plan your session?

Coach: when it's sent across the information, what I tend to look at is when I'm planning session in into the coaching points, how they have an impact on the session layout. And how do they have impact on those players and as well as the players around them. It's worked out a little bit better and actually the points that they've put down do actually help out, and using the four corner model and as well as the coaching points that I require for the session as well.

Researcher: yeah. So when would you do that and relation to your normal planning obviously if you're doing a technical session when would you think about the psych stuff?

Coach: if we're putting them under a lot of pressure, if we think it's going to be an overload. How to overcome that. For example, at last week's session we made sure when the players that were working in the emotional control, can they be underloaded and unsure to see how we can

actually have a bit of an influence or sort of control? So what do we have under control and as well by making sure that everything's not going in their direction.

Appendix 9: Example of self-reflection by lead author

B3 W2 S2 (indoors) 28/11/23

	Technical (performance goals achieved)	Practical (evidence base used)	Critical reflection (socio-cultural, ideological factors)
Description What happened?	Classroom session on emotional control, followed by ILP session indoors.	PP research & Mitchell Integrate, isolate & homework with 2 bullseye players (LUFC & Lee Skyrme)	Good to have both coaches and phase lead HOC on board
How did you think and feel?	Much better after last week. Coaches turned up to classroom session but could engage more	Reflection lit	Awareness of politics
What went well? Even better if?	Coaches turned up and engaged well in ILP session with players. First 10 mins of classroom session went well. Players enjoyed video clips. Classroom session shorter and less slides. Went on too long. How can I take classroom session onto the pitch – centering, 3Fs.	Reflection lit	Coaches & phase lead on board
Conclusion What have you learnt?	Keep it shorter, video clips were good. ILPs were good with coaches.	Reflection lit	
Action plan What would you do differently next time?	As above for classroom session – less slides/talking.	Kolb cycle Test-tweak-repeat (Collins & Mac, 2017 making champs & superchamps)	Awareness of macro & micropolitics

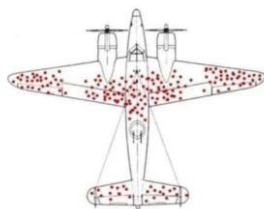
Appendix 10: CPD webinar for Notts County Football Club pre-academy coaches

Psych/social: The Missing Corner?



James Barraclough

This is a picture tracking bullet holes on Allied planes that encountered Nazi anti-aircraft fire in WW2.



Talent ID in Football

- VAST majority (95-99%) won't become pro
- Current performance over potential mainly using coaches' eye with emphasis on phys/tech BUT...
- Psych/social helps transform potential into ability in LT
- Physically less developed players = better problem solvers & possibly greater resilience (struggle more = learn more?)
- 'Player centred': develop **WHOLE** player not just tech/tac/phys but also **psych/social...** 'Boy before player'
- **How?** Embed PS training into sessions
- **PSYCH IS ALWAYS PRESENT**

What's your approach to Individual development?

A Separate approach?

Or an integrated Approach?
Using the game?

Definitions

What are psych skills?

Internal tools to improve wellbeing & performance

What are social skills?

External tools to communicate/interact with others

Why are they important?

Drive everything else & vital for development

Definitions

- **Commitment:** staying involved, looking to create opportunities, showing for teammates
- **Resilience:** dealing with & bouncing back from setbacks
- **Confidence:** belief you can execute skills to desired level
- **Emotional control:** regulate own thoughts & emotions
- **Teamwork:** contributing to efficiency of whole team; unselfish
- **Leadership:** ability to influence & guide others
- **Communication:** 2-way ability to share info effectively with others
- **Concentration:** focus on specific task & avoid distraction
- **Good learner:** coachable – asks questions & takes feedback well
- **Enjoy challenge:** approach challenges instead of avoiding (stretch self)
- Any others?

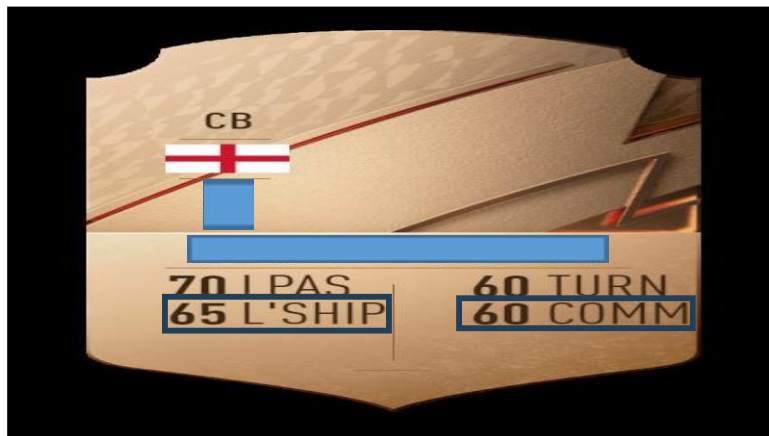
How do we measure psych/social?

'Observable behaviours' e.g. resilience: sticks at challenging task after mistakes
For pre-academy what behaviours would you expect to observe for:

- Commitment
- Resilience
- Confidence
- Emotional control
- Teamwork
- Leadership
- Communication
- Concentration
- Good learner
- Enjoy challenge
- Any others?

Foundation Development Phase	
Communication	Asking questions to the coach – seeking clarification, talking to each other about the game / training – offer some ideas to each other, can easily make friends and converse
Control	Attention (if practice design is aligned), don't get bogged down after errors, keep trying
Commitment	Arrives early, Eagerness to engage in learning, effortful in all aspects of training and competition.
Confidence	Volunteering to e.g., demonstrate, wanting to answer questions, plays, and moves with purpose, tries new skills before others.
Concentration	Respond quickly to instructions, show understanding quickly, don't need to be told new information many times.
Resilience	Sticks at a task they find hard or challenging, keeps 'going' when errors are made
Presence	Eye contact, funny / engaging, good manners / respectful, positive body language, always on toes in games Tries to help others
Self-Awareness	Can articulate own strength and weakness with some support, can reflect on performances and development with support, these players appear driven and internally motivated

PLAYER PROFILE		PSYCHOLOGICAL PROFILE		Player Score	Coach Score
Current Position: CB		Commitment			
Resilience		Confidence			
Functional control		Teamwork			
Leadership		Communication			
Concentration		Good starter			
Eager challenge		Player Score			
Coach Score		Social Profile			
Birth date (yyyy-mm-dd)		What do you like most?			
High school		Number gender of siblings & birth order			
Favourite team		Favourite player and why			
Non-sporting hero & why		Favourite (non-PE) subject			
Other activities		What is one unique thing about you?			
Have or are any of your family members been involved in professional sports?		COACH COMMENTS			



Embedding into Sessions

- Coaches can adopt individual approach & 'Bullseye' players:
 - Integrate (within games/training – conditions e.g. underloads)
 - Isolate (individual, 1 v 1, small-sided work)
 - Flipped sessions (player-led training & games)
 - Homework
- Stretch & challenge (strategic stress)
- Encourage mistakes to learn: no fear of failure (Growth Mindset)

Name	Super strength	AFI	Position	Bullseye Wk	Training/match day constraints
	Enjoy challenge	Long passing, tackling, communication	FB	1	Captain, lead team talk/warm -up Long passing both feet, driven, lofted, whipped
	Confidence	NDF, turning, 1 v 1 def behind	CM	1	Turning unopposed, semi -opposed, opposed (def beh)
	Enjoy challenge, NDF, turning, pressing, playing forward, commitment, resilience	Short passing, finishing, communication, counter - press, AWARENESS (JB OBS)	CM	2	Captain, lead team talk/warm -up Shooting/pressing practice Checking shoulder (4 -ball)
	Short passing, tackling, commitment, emotional control, teamwork, enjoy challenge	Long passing, turning, leadership, communication	CB	2	Captain, lead team talk/warm -up Short/long passing both feet, driven, lofted, whipped Turning unopposed, semi -opposed, opposed (def beh) 4-ball
	First touch, NDF, commitment, resilience, emotional control	Enjoy challenge, switching play, communication	GK	3	Captain, lead team talk/warm -up Shooting practice Passing & receiving
	Finishing, dribbling, cross/cutback, 1 v 1 def in front, teamwork, good learn, concentration, enj challenge	NDF, tackling, confidence, leadership, communication	WM	3	Captain, lead team talk/warm -up 1 v 1 to finish, def in front for confidence
	Long passing, finishing, dribbling, 1 v 1 def in front, 1 v 1 press, commit, confid, leadership	NDF, def trans, emot cont (Needs PCDEQ2)	CAM	4	1 v 1 to finish, def in front for confidence Play underloaded Bad ref RPS
	Dribbling, finishing, enjoy challenge, pressing, commitment, confidence, leadership	Short passing, tackling, emotional control, resilience	WM	4	Play underloaded Bad ref RPS Short passing/tackling
	Short passing, commitment, concentration	Finishing, 1 v 1 def beh, 1 v 1 def, movement to create space, emotional control, communication, good learner, enjoy challenge		5	Captain, lead team talk/warm -up Play underloaded Bad ref RPS
	Commitment, emotional control, enjoy challenge	1 st touch, NDF, tackling, counter press, playing forward, resilience, communication		5	Captain, lead team talk/warm -up Play underloaded Bad ref RPS

Appendix 11: follow-up practical session with Notts County Football Club pre-academy staff as a continuing professional development (CPD) session

NCFC pre-academy syllabus

Topics on 2-week cycle:
where possible:

Practice design

Movement
Ball Protection
Receiving skills
Dribbling
Turning
Combination play
Intelligent defending

Intense but FUN
Directional
Points (promotion/relegation)
Transitions
Ownership (give players choice/make captains/spokesperson etc)
Bullseye players – coach the individual within the session
Which psych/social elements are present & how to coach?

Psych/Social

What to coach?	Player behaviours (not complete, just examples)
Determination/commitment: keep going no matter the circumstances (including winning)	Eager to learn, tries hard in all aspects of training and games - staying involved, looking to create opportunities, showing for teammates
Confidence: belief you can perform skills to good levels	Volunteering to demo, asking & wanting to answer questions, plays with purpose, tries new skills before others
Resilience: dealing with & bouncing back from setbacks	Sticks at a task they find hard or challenging, keeps going after mistakes
Emotional self-control: keeping in control of thoughts & feelings	Doesn't get frustrated after mistakes or bad decisions from teammates or officials, body language
Enjoy challenge: stretch self/work on super strengths/weaknesses	Approach challenges instead of avoiding especially if working on things that might not always be fun
Teamwork: contributing to whole team output	Unselfish behaviour, making sacrifices for others, good communication (talking and listening), leadership

How to coach?

Session design (see session plan) then use Psych/Social (PS) key factors alongside tech/tac

Define PS component: what is it? What does it look like? Use good vs bad examples (preferably from recent games/favourite players) - use Q & A instead of just telling players

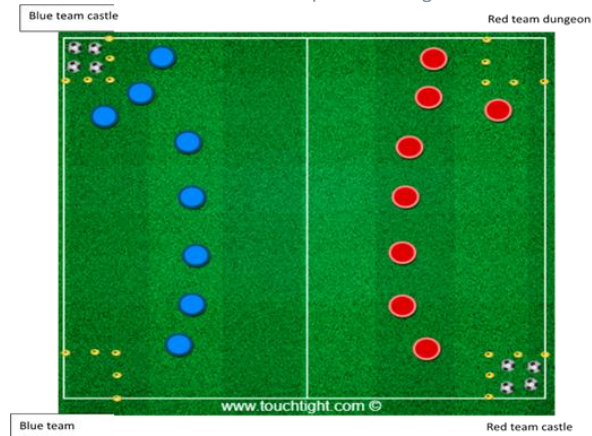
Reinforce PS components: praise players when they show PS behaviours from list above e.g. recovering well after a mistake. Reinforce growth mindset (i.e. “mistakes are brilliant”) and admit when you get things wrong!

Encourage peer support: players can also give positive reinforcement to teammates either during the games or when discussing with coaches (coaches should praise this as well as it shows good teamwork & communication skills)

Review – WWW/EBI – this should be from the players themselves on PS parts of the session but also feedback on session design for coach to show behaviours they want from players

PS element	Game 1	Game 2	Game 3	Game 4	Game 5
Determination/commitment					
Confidence					
Resilience					
Emotional self-control					
Enjoy challenge					
Teamwork					

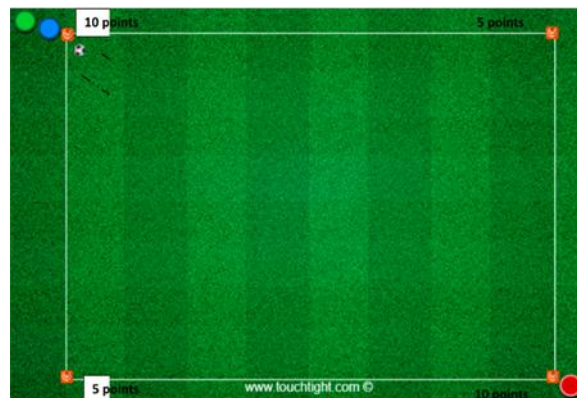
Capture the Flag



How to play:

- The aim of the game is to capture all the other team's balls and return them safely to your own castle without being tagged.
- Once a player crosses the halfway line they cannot return without a ball. If they make it safely into the opponent's castle without being tagged, they are 'safe' and can dribble one ball all the way back to their own castle.
- If they get tagged, they must go to the dungeon on the same side of the area. Once in the dungeon they can only be released by one of their own players tagging them out.
- Once released from the dungeon a player has the choice of getting a ball from the opponent's castle OR returning to their own half. However, the player that releases them MUST get a ball before they return to their own half.
- If a player goes out of bounds in the opponent's half, they automatically go to the dungeon.
- The first team to successfully capture all the other team's balls and return them to their own castle wins.

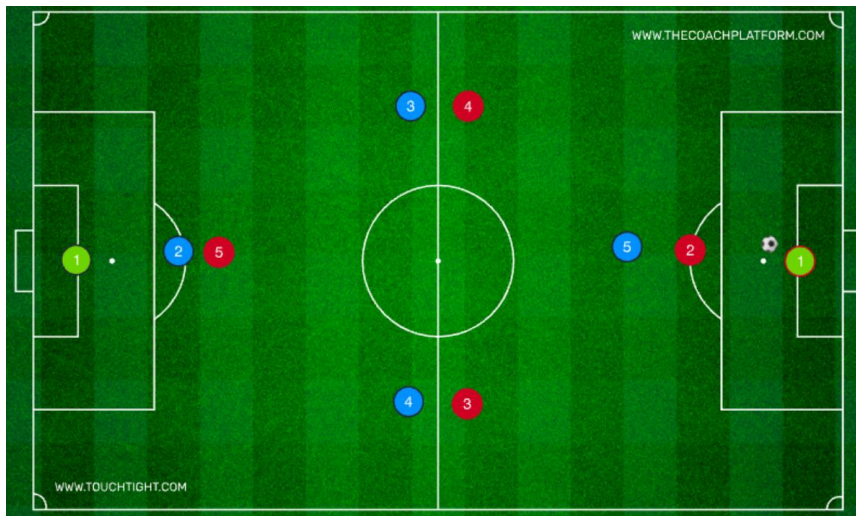
1 v 1 attack/defend



How to play (10 x 10 square):

- Blue player passes to red and presses quickly, then puts the brakes on.
- The red players can either try to beat the blue player and stop the ball next to their cone to score 10 points or go to either of the side cones for 5 points.
- If red loses the ball, then blue can counteract and reach red's cone for 10 points or the side cones for 5 points.
- The turn stops when a player scores points or if the ball goes out of the square.
- Rotation: red player goes to the opposite end to rest, blue goes to the opposite end to be the attacker, green becomes the server/defender.
- You can make the challenge easier/harder by selecting opponents that you know might be an uneven match (but change this after a while to avoid frustration).
- You can use promotion/relegation with this game – whoever has the most points moves up, and the least points down.

Points



How to play:

- Play a normal game
- Individual challenges involve players keeping personal scores
- Every time a player completes an action (e.g. pass) they give themselves a point
- Every time they fail to complete an action (e.g. pass goes to opponent) they lose a point
- Check scores every few minutes and forfeit for players who have not done it

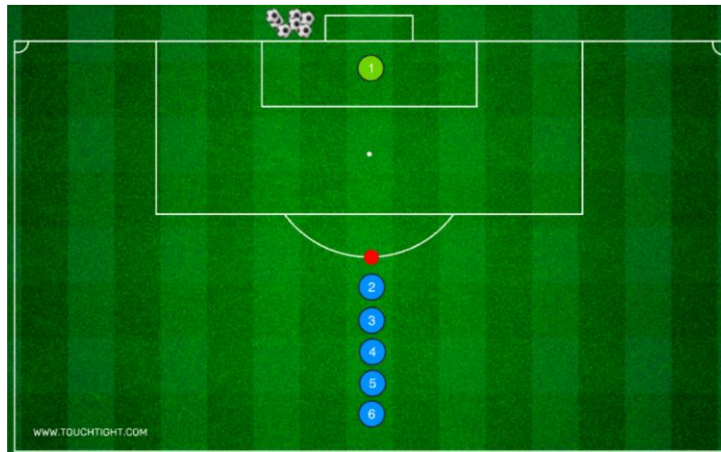
Underload/overload



How to play:

- Play normal game
- Can work as 'round robin' if numbers right e.g. 2 x 5 v 4 and just rotate teams
- One team plays with one or two extra players for set period of time
- Swap players round so other team has overload
- You can ask players on underloaded team if they want conditions
 - Goals count double
 - Other team on 1-touch finish
 - Other team on limited touches

Killer



How to play:

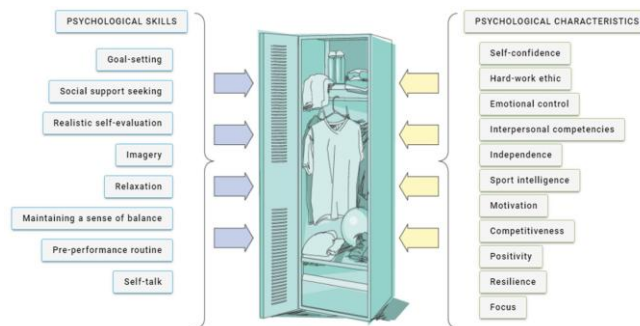
- Balls get served in from behind the goal
- Player at the front of the line gets 1-touch finish then must quickly replace the goalkeeper
- If you score you go through to the next round and after your go in goal, go to the back of the line
- If you miss and the person after you scores you are out (if they miss you stay in)
- Keep going until you have a winner!
- Players who are knocked out can do individual tasks e.g. 1-bounce/kick ups

Appendix 12: webinar delivered to coaches as a continuing professional development (CPD) session entitled “Integrating psych/social development into coaching sessions: the what, why & how” – selection of key slides

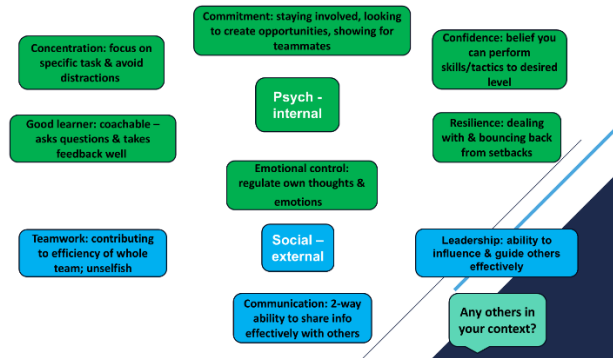


Integrating Psych/Social Development into Coaching Sessions: the What, Why & How

Dr Tom Mitchell & James Barraclough



Dohme, L., Piggott, D., Backhouse, S. H., & Morgan, G. (2019). Psychological Skills and Characteristics Facilitative of Youth Athletes' Development: A Systematic Review. IEEE Transactions on Signal Processing, 33, 261-275.



The 'Why'

Performance	Duty of Care
Tiny percentage between winning & losing at elite level	<5% of boys in academies make pro appearance
Psych/Social most important at elite when tech/tac/phys balance out	Those that don't make it not just 'collateral damage'
Swimming 2016 Olympics: difference between gold & silver 0.72%; bronze & 4th place 0.34%	Vital ALL CHILDREN develop skills to cope with life in & out of sport
Athletics (100m to Marathon): gold & silver 0.66%; bronze & 4th place 0.4%	Important to develop good PS habits from young age

Physical & Psych/Social Maturation Differences

- Early vs late developers
- 3 – 4 years difference in biological age during YDP

Relative Age Effect, Visualized



Physically less developed players better problem solvers & more resilient? (struggle more = learn more)

Physical early developers drop out later – how can we help them?

WYLLEMAN AND LAVALLEE (2004) MODEL OF CAREER TRANSITION

Age	10	15	20	25	30	35
Athletic Level	Initiation	Development	Mastery	Discontinuation		
Psychological Level	Childhood	Adolescence		Adulthood		
Psycho-social Level	Parents Siblings Peers	Peers Coaches Parents		Partner Coach		Family (Coach)
Academic Vocational Level	Primary education	Secondary education	Higher education	Vocational training		Professional occupation

Note: A dotted line indicates that the age at which the transition occurs is an approximation.

Multiple Eyes/Multiple Times (ECB)

https://www.thecricketer.com/topics/features/multiple_eyes_multiple_times_the_process_of_selection.html



	Foundation development phase	Youth development phase	Professional development phase
Communication	Asking questions to the coach—seeking clarification, talking to each other about the game/training—offer some ideas to each other, can easily make friends and converse	Listen to teammates/coaches with respect, support and encourage, positive, constructive criticism to teammates if, e.g., a move has broken down, body language always positive and purposeful (coaches need to model and agree what this looks like?)	Encourage and raise the intensity of the team, manage frustration by encouraging what the team can do next, body language always positive and purposeful
Control	Attention (if practice design is aligned), do not get bogged down after errors, keep trying	Responding quickly and positively after success OR error, quick mental preparation at set pieces or corners, very little arguing with, e.g., a ref if decisions are not correct	Knowing when to speed up or slow the game, quick mental preparation at set pieces or corners, slowly getting up after a foul to help own team to organize, look to raise energy levels of the team.
Commitment	Arrives early, eagerness to engage in learning, effortful in all aspects of training and competition	Staying involved in the play, looking to create opportunities in training and games, showing for teammates	Play through pain/fatigue, chasing a bad pass down to ensure they receive it, never give up
Confidence	Volunteering to, e.g., demonstrate, wanting to answer questions, plays, and moves with purpose, tries new skills before others	Spring in step throughout the session, wanting the ball when losing, plays with a sense of urgency, try passes or skills without fear	Demanding the ball, want to receive under pressure, try passes, shots, or skills without fear consistently
Concentration	Respond quickly to instructions, show understanding quickly, do not need to be told new information many times	Adapting correct positions in open play, stay focused when tired, anticipate movements of opponents, quickly refocus after a break in play	Communicate information to others, win in high percentage of personal battles in games, accurately recognizes a range of cues and triggers
Resilience	Sticks at a task they find hard or challenging, keeps "going" when errors are made	A deep seeded self-belief that they can do something, keeping levelheaded in games if losing or receiving incorrect decisions	Stability in the face of challenge, associated with learning to be a professional, Coping with playing U18's one week then U23's another week then back to U18's, seek support if they have a problem/challenge
Presence	Eye contact, funny/engaging, good manners/respectful, positive body language, always on toes in games, tries to help others	Self-motivated to extras, not afraid to ask a question, willingly and authoritatively helpful, only need telling once, tries to help others	Add value to the session, influence others to support the team X factor—something in the eyes, take every session as an opportunity to improve. Look like they are grabbing the opportunity every session
Self-awareness	Can articulate own strength and weakness with some support, can reflect on performances and development with support, these players appear driven and internally motivated	Takes personal responsibility, can independently reflect on performances and development, can set own goals, these players appear driven and internally motivated	Can identify own development needs, can drive own development needs, does not need lots of feedback, calm, cool, collected, has perspective on a range of situations, these players appear driven and internally motivated

Super strength	Area For Improvement (AFI)	Position	Bullseye	Week	Training/match day conditions
Enjoy challenge	Long passing, tackling, leadership communication	FB	1	1	Captain, lead team talk/warm-up 1 v 1 game (slides 30 & 31), capture the flag
Finishing, dribbling, 1 v 1 def in front, teamwork, concentration	NDF, tackling, confidence	WM	1	1	1 v 1 defender in front to finish, capture the flag, positive reinforcement for confidence
Confidence	Turning, 1 v 1 defender behind, commitment	CM	2	2	1 v 1 game (slides 30 & 31)
Turning, pressing, playing forward, commitment, resilience	Short passing, finishing, communication, counter-press	CM	2	2	Captain, lead team talk/warm-up Shooting/pressing practice
Short passing, tackling, commitment, emotional control, teamwork	Long passing, turning, concentration	CB	3	3	Man-marking game, Rock Paper Scissors, points game, capture the flag
Leadership, teamwork	Concentration	FB	3	3	Man-marking game, Rock Paper Scissors, points game, capture the flag
Commitment	1 st touch, pressing, playing forward, resilience, emotional control	CM	4	4	Play underloaded, bad ref, can only pass forward
Dribbling, pressing, commitment, confidence	Short passing, 1 v 1 defending, emotional control, resilience	WM	4	4	Play underloaded, bad ref, 1 v 1 game (slides 30 & 31)
Short passing, commitment, concentration	Finishing, emotional control, communication, good learner	ST	5	5	Captain, lead team talk/ warm-up; play underloaded, bad ref
1 st touch, commitment, resilience, emotional control	Switching play, communication	OK	5	5	Captain, lead team talk/ warm-up, shooting practice passing & receiving

