An Exploration of an Elite Scottish Football Academy Experience: The Role of Psychological and Environmental Characteristics in Facilitating Success

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Abstract

The nature of the talent development environment, and key psychological attributes of the players themselves (e.g., self-regulated learning) can explain why some players realise their potential and others do not. Therefore, understanding the environmental factors and learning approaches that differentiate between those that 'make it' and those that don't is crucial for the ongoing effectiveness of talent identification and development processes in an elite tier Scottish football academy.

Thesis Objective:

To explore how talent is identified and developed within an elite Scottish football academy, specifically investigating the learning and development experiences of academy players as they navigate the academy talent pathway

Thesis Aims:

To understand the perceived quality of the academy development environment, identifying strengths and areas in need of further development

To understand the degree of which academy football players engage in football orientated self-regulated learning behaviours

To investigate possible variances between the quality of experiences of the talent development environment and the perceived provisions available to players of different levels of perceived future potential and progression.

To investigate the academy players' ability to self-regulate their footballing development; specifically examining the frequency of engagement, behaviours utilised, and the role self-regulation plays in the ability of players to cope with the demands and challenges of the talent pathway.

To investigate the presence and influence of relative age effects on the academy recruitment and evaluation of potential processes

To understand the lived experiences of academy players, with specific attention paid to the nature and influence of challenge, the behavioural approaches taken to overcome pathway challenges and, the pressures and naturally occurring difficulties within the talent pathway.

To examine the competencies and behaviours utilised by academy players in an attempt to successfully navigate the talent development pathway

Methodological Approach:

A mixed methods approach led to the design of four linked studies;

1) The Talent Development Environment Questionnaire and Self-Regulated Learning – Self Report Scale were utilised to examine the players' perceptions of the quality of their development environment and the level of their engagement with self-regulated learning skills

2) A quantitative examination of the nature of player recruitment, coach rated player potential and progression was carried out with regards to relative age, SRL skills and environmental experiences

3) A longitudinal, qualitative study then allowed for a deeper investigation of the nature of player development experiences across a season, from a player perspective

4) An examination of coach perspectives on player development experiences across the season to understand the players' psycho-behavioural approaches adopted during a football season in relation to emerging barriers, challenges and experiences.

Findings:

Aspects of the academy environment was perceived to be of a high quality. High potential players also perceived the development environment to be of a higher quality compared to the perceptions of their peers with less potential. Additionally, high potential players self-regulate learning more frequently than their peers, specifically, significant variances were detected in evaluation behaviours. Qualitative investigations found that academy players felt pressure to stand out from their peers to avoid deselection and receive a professional contract. The academy lifestyle was described as challenging, specifically balancing academic demands with football expectations. From a coach's perspective, 'good developers' were observed as taking responsibility for their own development, embracing opportunities that challenged them and seeking out opportunities to fail and learn from.

Edinburgh Napier University, December 2021

I hereby declare that:

a) I have composed this thesis,

b) This thesis is my own work and,

c) This work has not been submitted for any other degree or professional qualification except as specified

Kieren Andrew Elder

Daisy Elder, John Elder and Greta Mein

This is for you!

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Chapter 1 – Introduction

Football, the national sport, pastime, and identity of many populations across the world. The game of football is now however more than a game, increased globalisation, commercialisation and professionalisation of football has led to the European football market being valued at over £25 billion (Deloitte, 2019a). The increased financial income that football clubs can generate through on and off field opportunities is welcomed however, the need for growth contributes to a heightening of the importance of on pitch success due to the commercial exposure that is associated with winning trophies, entertaining fans and competing in prestigious competitions. This desire to succeed, coupled with increased commercial income has resulted in the skyrocketing of transfer fees and competition for the most talented players. With the value of football players rising significantly and the inability of 'smaller' clubs to compete with the financial giants, the importance of developing talent for both financial and sporting gain has increased in recent years. Football clubs who may have not experienced the same financial growth as the commercial superpowers must find ways to ensure on-field success is achieved at a cost that is affordable. Therefore, the need and ability to develop talented youth players into senior professionals is now more significant than ever for those who wish to compete and succeed at the highest level.

Professionalising Talent Identification and Development: The Rise of Academies

The talent development process in football is understood to be one of the least efficient in all of sport, with less than 1% of youth players 'making it' to the professional level (Green, 2009). Specifically, 2% of amateur youth players experience some form of deliberate development activities within a talent development programme during the childhood and adolescent years (Platvoet et al., 2020). Such statistics would appear to demonstrate the process of identifying, developing and refining talent is an extremely complex and dynamic endeavour that is influenced by a plethora of inter-related and intertwined variables that possess the ability to influence one another directly and indirectly (Simonton, 2001). In recognition of this ineffectiveness and the complexity and potential unpredictability associated with identifying and developing footballing talent into footballing excellence; football clubs sought to create institutions, physical and social environments, that provide *talented* youth athletes with high-quality support and provisions to facilitate sport-specific development. Although complex and dynamic,

the financial and performance benefits associated with an efficient production line of talented, home-grown players is significant enough to entice clubs to professionalise talent development. Thus, initiating the rise of football academies and development centres dedicated to nurturing young, aspiring players into talented, 'home-grown' superstars. However, this desired degree of professionalism requires a significant financial investment from footballing clubs and institutions, such financial contributions and support is however a finite resource which results in the development of a competitive, elitist system that only affords academy opportunities to those identified as *talented*. This places a significant emphasis on the ability of academy talent identifiers and recruiters to seek out and select young children who are believed to possess untapped future potential. The accuracy and success of academy talent identification (TID) process can positively influence senior first team success and yield high financial returns on investment, with efficient TID and development resulting in a high number of players progressing through the academy, into senior teams and possibly bringing in large transfer fees. Considering the ultimate objective of football academies is to develop talents and help players fulfil their footballing potential, it is perhaps surprising that only 10% of academy players are successful in obtaining a professional contract (Dugdale, Sanders, et al., 2021).

Many academics have attempted to define the concept of talent, and what it means and looks like to be talented. Terms such as talent, giftedness, potential and excellence, are interchangeably used within youth development literature, thus emphasising the subjective nature of conceptualising, and defining what precedes sporting expertise. This degree of subjectivity adds to the complexity and practical challenges associated with identifying youth athletes who possess the potential to develop the required sport-specific competencies that facilitate future sporting expertise. Research (Larkin & O'Connor, 2017; Reilly, Williams, et al., 2000) has sought to examine the process of identifying talent in action and attempted to understand the mechanisms and procedures that underpin effective talent identification within academy football. As with defining talent, identifying talent is equally as subjective with research demonstrating that subjective coach and scout assessments can be extremely biased by the viewers' perceptions and experience of talent (Leyhr et al., 2021). However, subjective assessments of ability and potential are also understood to demonstrate a

good degree of accuracy when determining highly skilled and unskilled performance (Sieghartsleitner et al., 2019). Considering the significant financial investments made by football clubs in identifying and developing the next generation of superstars, more objective talent identification methods are now utilised to assess and measure talent and future development capacity. Due to the complexity of identifying talent, recent research has shown the efficacy of adopting a multi-disciplinary approach to identifying talent, such an approach includes the use of objective data relating to numerous factors and characteristics of the athlete (physical, psychological, technical, tactical, and sociological) and the subjective observations of experienced coaches and TID experts (Vaeyens et al., 2008). The process of identifying future sporting talent within children and young adolescents is challenging, yet extremely important for football academies as this allows clubs to recruit players and strategically assign financial and staffing resources to those deemed as most likely to reach the professional level.

Following identification and selection, *talent* must undergo a process of development. The talent development process is widely recognised as a complex, ongoing process of interactions that occur within and between the learner, the immediate development environment, the wider social and cultural milieu that the learner inhabits and other actors who cohabit these environments (Abbott et al., 2005; Bronfenbrenner & Morris, 2007; Henriksen et al., 2010a). As a process – and a sustained, longitudinal journey – talent development is non-linear and idiosyncratic in nature due to the complexity and instability of the variables that (in)directly interact with the learner (Abbott et al., 2005; Collins & MacNamara, 2017a; Rees et al., 2016). Gulbin and colleagues' research (2013) demonstrates the non-linearity within the talent development process, only 16.4% of sampled athletes were found to experience purely linear, ascending development trajectories from youth to elite sport. Non-linear trajectories were experienced by 86.4% of participants, that were comprised of both mixed ascents and mixed descents, contained numerous progressive and regressive moments within the athlete's development trajectories (Gulbin et al., 2013). Within German academy football, players who are successful in reaching the elite level have experienced several instances of selection, deselection and re-selection to academy environments (Güllich, 2014; Güllich & Cobley, 2017). Demonstrating the non-linearity, and also the idiosyncrasies of the development journey from youth to elite, senior sport. Therefore, the intentional

purpose of football academies is to provide high-quality support and learning provisions that encourage and facilitate opportunities for athletic development (sport-specific and non-sport-specific) in a controllable physical environment. However, due to the complexity of developing talent and the magnitude of variables that can catalyse or inhibit the development process, understanding the nuances of this process is essential to allow academies to account for, monitor and adjust their environments accordingly in response to instable environmental and learner interactions.

Moreover, the non-linearity of the development process results in aspiring athletes experiencing undulating talent journeys that demand learners to utilise and develop the appropriate competencies to facilitate effective coping and thriving for talent to develop (Collins & MacNamara, 2017a; Hill et al., 2019). Peaks and troughs within the talent journey are understood to be important in the pursuit of sporting excellence, with difficult pathway periods believed to initiate the development and use of coping competencies and strategies that help overcome challenges presented to the learner along the journey (Collins & MacNamara, 2012; Savage et al., 2017). Research (Henriksen et al., 2010b; MacNamara et al., 2010a, 2010b; Martindale et al., 2007) has attempted to, and continues to, investigate the personal and environmental resources that youth athletes need to possess and utilise in order to successfully navigate the talent pathways and not succumb to the troughs and challenges. In conjunction with the personal resources players must utilise to cope with the demands of the talent pathway, successful development of the competencies required to attain sporting excellence is reliant on the learner possessing and deploying effective learning strategies (competencies and behaviours) (Ivarsson et al., 2020; Van Yperen, 2009). Football academies and their associated players are by-products of and are influenced by the historical, cultural, and societal spheres that they are positioned within. Therefore, extensive research is required to examine the nuanced working processes and experiences of academy environments, the academy players navigating the talent pathway and those working to support and deliver an efficient talent development programme. Understanding domain and culturally specific aspects of a development environment, facilitates the enhancement of provisions and aids the improvement of the overall environment quality to better support player development.

Scottish Football: The Historical Rise and Fall

Football fulfils a central role in Scotland's historical heritage and contributes significantly to the past and present cultural and societal landscapes that shape life within a nation of 5.5 million people (Abell, 2011; Boyle & Haynes, 1996; Burdsey & Chappell, 2001). In the past, Scottish football clubs represented social and cultural meccas where working men would gather to worship, and lambast, the heroes of the day as they donned their teams' colours. Young children would be lifted over the turnstiles and smuggled in via unattended open gates to gain an apprenticeship in the craft of being a football supporter, following in the footsteps of blue-collar fathers, uncles, and brothers. Historically, football and football institutions in Scotland provided the working-class male with an identity, a reason to cheer, to rage, to look to the sky in despair, as the big lump up front just missed another sitter (Boyle & Haynes, 1996; Burdsey & Chappell, 2001). As a result, to father a son in Scotland was celebrated with equal aplomb as a male monarch birth would be, a son afforded a 'golden' opportunity for fathers to develop the next Jim Baxter, Denis Law or Jinky Johnstone, who could go down in Scottish folklore as a great of the game.

The significance of football within Scottish culture resulted in a social and culture milieu that value males significantly more than females. This social inequality, contributed to the development of a culture that was steeped in "hegemonic masculinity" (Bairner, 2000, p. 102), one of the key characteristics that is believed to have condemned women's football as a mere fantasy with no place in society for several decades (Macbeth, 2002, 2007). Such sexist attitudes and approaches towards female football still exist within pockets of society today, underpinning the social and cultural resistance to the growth of the female game in Scotland (Fraser, 2021; Wells, 2020)

Since the glory days of Baxter, Law and Johnstone, Scottish football and the Scottish men's national team have fallen heavily from grace thanks to the significant commercialisation of world football. With sponsors, broadcasting partners and even national governments plying hundreds of millions of pounds into football as a 'product', leagues and clubs that provide the best 'product' are rewarded with more lucrative broadcasting deals (Boyle & Haynes, 1996; Platts & Smith, 2010). This has resulted in the implicit formation of the 'big 5' European leagues (Spain – La Liga, Germany –

Bundesliga, Italy – Serie A, England – Premier League, and France – Ligue 1) who generated 28.4 billion euros worth of revenue in 2017/2018 (Deloitte, 2019b). Unsurprisingly the upsurge in revenue, and disposable income, has allowed clubs in these leagues to enormously increase transfer expenditure and investe heavily in youth development, however investment in youth development still significantly less in comparison to transfer expenditure (Geiger, 2022; Wanat & Leksowski, 2022). The elevated levels of income and investment enjoyed by clubs in the 'big 5' has resulted in exponential growth for the 'rich', however those on the outside looking in have not enjoyed comparative financial growth (Matesanz et al., 2018; Platts & Smith, 2010).

Once known for the rich footballing history, Scotland now finds itself as one of the 'poorer' nations, receiving a mere £36.8 million in 2018/2019 and enjoying ten times less growth than the English counterparts in the Premier League (Pirie, 2021). As a result of this gulf in financial revenue, Scottish clubs cannot compete against the 'rich' in European competition and the Scottish national team was absent from major competitions for 22 years. With the disproportionate rise in revenue, Scottish clubs are unable to compete with the 'big boys' in the transfer market due to astronomical rises in transfer and agent fees. This, therefore, places a greater emphasis on the importance of youth development within Scottish football. Developing the talent pool of Scottish football with home-grown superstars would allow for Scottish clubs to compete with financial richer opponents in European competitions, without the large financial outlay, and in future enjoy financial renumeration when players are sold to those richer clubs. Coincidently, the recent rise of Scottish players through the domestic game in Scotland and into clubs competing in the English Premier League (John McGinn, Andy Robertson, Kieran Tierney) has positively influenced the success of the national team, culminating in a rise to the top table of national European competition (Euro 2020).

Scottish Football: Ascension of Academy Football

With around half a million registered players across all levels and formats of football in Scotland, football contributes to a significant part of the culture and society of Scotland. Club Academy Scotland (CAS), the male football academy structure of Scotland which is centrally governed and partially funded by the Scottish Football Association (SFA). The recent overhaul of Scottish youth football, termed Project Brave,

in 2017, resulted in the redevelopment of the academy structure to include 18 club youth academies and 2 regional youth academies that were assigned to one of three levels: *elite*, (*progressive*) *performance* and *performance* (Scottish Football Association, 2017a, 2017b). Categorisation is dependent on the satisfaction of numerous on- and off-field measurable performance outcomes which relate to domestic and international appearances of academy players and graduates, qualification level of academy coaches, the quality of academy facilities, the support on offer and the extensivity of the talent identification processes utilised by clubs (Scottish Football Association, 2017a, 2017b). The centrally controlled games programme incorporates the categorisation of academies to ensure competition is utilised in a manner that offers an appropriate degree of challenges and facilitates the development of players.

The CAS structure allows clubs to sign young players from the age of 10 to represent their associated youth academies in a centralised, age grouped games programme. Players compete in single age banded age groups (U11, U12, U13, U14, U15 and U16) until graduation from the academy structure aged 16 where professional contracts can be offered, and players can then only compete in an U18 age group or senior professional squads. Players may enter the academy structure at any point after turning ten years old, academies commonly provide pre-academy opportunities for players aged 7-10 which aims to supplement the development offered by grassroots clubs. Previous research in the CAS system suggests that 10% of players will be successful in gaining a professional contract (Dugdale, Sanders, et al., 2021).

To further professionalise the development of young talent in Scotland, select clubs and the national governing body have created 'performance schools' that seek to offer talented, school age players with additional training opportunities that accumulate to result in an extra 8,000-10,000 hours of training over the first 4 years of mandatory schooling (Scottish Football Association, 2017a). These institutions afford opportunities for players to receive high-quality training prior to, during and following the school day, with the aim of providing specialised educational support to minimise the disruption caused by footballing development. Ensuring that talented, youth players have an opportunity to develop holistically and excel in either, or both, the academic and footballing domains.

Although the likelihood of reaching professional level is higher in Scotland compared other nations, the need for an efficient and effective youth development system in Scotland that overcomes financial constraints and improves the quality of the playing pool, was documented earlier. Which, therefore, formulates a significant portion of the rationale for the current piece of work and informs the study objectives.

Thesis Rationale and Objectives

It is widely understood the talent development process is complex, messy and contextually specific (Abbott et al., 2005; Rees et al., 2016). There are two key components within the talent development process; the 'athlete' and the environment and associated provisions available to support the 'athletes' development (Bloom, 1985; Gagné, 2009). The success of the talent pathway depends on the quality of the immediate talent development environment (Martindale et al., 2007, 2010), the wider, holistic environment (Henriksen et al., 2010a), the available support from the environment (Rees, 2007; Rees & Hardy, 2000) and how each aspect interacts with the athlete and one another to support the development of talent (Pankhurst et al., 2013; Rees et al., 2016). To successfully develop sporting potential into elite talent, the learner must possess or have the ability to acquire and develop a wide variety of competencies that help navigate the challenging talent pathway (Cook et al., 2014a; Gledhill et al., 2017), facilitate the transition to the elite level (Finn & McKenna, 2010; Larsen et al., 2014) and also prolonged participation at the top level of spot (Collins & MacNamara, 2017b; Rees et al., 2016). Research recognises to achieve elite sporting performance, learners must dedicate hours of time to purposefully engage in learning activities that are solely focused on the development of physical, psychological and sport specific competencies (Ericsson et al., 1993). To optimise the learning achieved from coach-led and self-directed learning activities, aspiring athletes are required to adopt effective, self-regulatory learning strategies and develop competencies that help to maximise the potential learning available within practice opportunities (Toering et al., 2009; Zimmerman, 2000). Identifying players who possess the abilities to survive the talent pathway and achieve elite performance is a challenge for talent development professional, with subjective and objective approaches to identifying individuals with future sporting potential (Vaeyens et al., 2008; Williams et al., 2020). The prevalence of early-born 'talents' within football academy environments highlights a bias towards

those who may mature early and enjoy physical advantages related to the onset of maturation (Relative Age Effect – RAE) (Dugdale, McRobert, et al., 2021a; Meylan et al., 2010). This suggests that within a practical environment that current performance during childhood and adolescence is believed to proceed, elite future sporting abilities (Barreiros et al., 2014; Barreiros & Fonseca, 2012). Research has demonstrated this to be untrue with a reversal of RAE occurring towards the elite levels (Cumming et al., 2018; Till et al., 2014).

At present, very little is understood about the youth development landscape and the processes in use within one of the world's oldest footballing nations. In recent times, Dugdale and colleagues (2020; 2021a; 2021) have expanded the empirical knowledge of the influential factors that contribute to the effectiveness of Scottish football academies with several high-quality publications, demonstrating the gainable insight from a currently under-researched development environment. Uniquely however, Scottish football receives comparatively less financial support than larger, established nations who commonly receive more academic attention, this therefore means that research in Scottish football has the potential to have a significant positive impact on the youth development strategies in Scotland. Therefore, it is imperative to understand the current processes and offer empirically underpinned practical considerations. To achieve this, the primary objective of this thesis is to:

Explore how talent is identified and developed within an elite Scottish football academy, specifically investigating the learning and development experiences of academy players as they navigate the academy talent pathway.

The thesis will utilise a mixed methods approach, of quantitative and qualitative lines of inquiry, to address the primary thesis objective and explore the more specific study aims. Qualitative inquiry offers an opportunity to gain a deep understanding of the construct or topic under investigation (Patton, 2015; Sparkes & Smith, 2013) and allows for an unearthing of the environmental nuances within the specific domain and culture. Therefore, taking into consideration the research infancy of the Scottish academy football and the proposed line of inquiry, the thesis seeks to explore the talent identification and development processes through four novel research studies that are linked:

Study 1

Aims

1) To understand the perceived quality of the academy development environment, identifying strengths and areas in need of further development

2) To understand the degree of which academy football players engage in football orientated self-regulated learning behaviours

Methodological approach

A cross-sectional study design will use psychometrically valid instrumentation(Li et al., 2015; Toering et al., 2013) to collect the academy players' perceptions' of the quality of the talent development environment (Li et al., 2015; Martindale et al., 2010) and assess the level of engagement with self-regulatory behaviours (Toering, Elferink-Gemser, Jonker, et al., 2012). Descriptive analysis will be conducted on the collected data in accordance with the study aims.

Study 2

Aims

1) To investigate possible variances between the quality of experiences of the talent development environment and the perceived provisions available to players of different levels of perceived future potential and progression.

2) To investigate the academy players' ability to self-regulate their footballing development; specifically examining the frequency of engagement, behaviours utilised, and the role self-regulation plays in the ability of players to cope with the demands and challenges of the talent pathway.

3) To investigate the presence and influence of relative age effects on the academy recruitment and evaluation of potential processes

Methodological approach:

A longitudinal study design will track the progression of academy players across one academy season, collecting quantitative data relating to the players' self-regulation

behaviours and perceptions of the environment at the beginning of the season. Perceptions of future potential will be collected from the academy manager for all players and used alongside the outcome metric of progression. Statistical analysis will be conducted using multivariate tests (MANOVA and MANCOVA) to assess variance within and between the groups of different potential and progression statuses.

Study 3
Aims

1) To understand the lived experiences of academy players, with specific attention paid to the nature and influence of challenge, the behavioural approaches taken to overcome pathway challenges and, the pressures and naturally occurring difficulties within the talent pathway.

Methodological approach:

A longitudinal approach will collect data pertaining to the lived experiences, challenges and coping behaviours of 15 randomly sampled academy players at three points across the academy season. Data will be subject to reflexive thematic analysis from an experienced qualitative researcher.

Study 4
Aims

1) To examine the competencies and behaviours utilised by academy players in an attempt to successfully navigate the talent development pathway

Methodological approach:

The research will seek to achieve the study aims by interviewing members of academy coaching staff from across the academy age groups. Qualitative data will be collected from semi-structured interviews held at the end of an academy season with coaches asked to retrospectively consider the players' learning and development behaviours across the season. Commenting on the effectiveness, nature and outcome of the learning behaviours, and also recounting previous experiences of players who have succeed at the professional level following graduation form the academy.

Methodological Considerations

To effectively achieve the aims and objectives of this thesis, and each individual chapter, an appropriate methodology must be designed, devised and developed to ensure findings are contextually relevant and practically applicable to the academy environment under investigation. The line of proposed scientific inquiry seeks to explore the talent development process in significant width and depth using a variety of robust, investigative methods that span both quantitative and qualitatively research approaches/domains/perspectives. Before outlining the methodological approaches taken to achieve the thesis aims, it is imperative to consider how the researcher's philosophical beliefs and assumptions have contributed to the formation of the thesis aims and the wider research project (Crotty, 1998). More specifically, it is the researcher's beliefs and values regarding the nature of the world (ontology) the creation of new knowledge (epistemology) that play a central, underpinning role in the design and development of research methodology that seeks to capture and generate new, novel insights (Crotty, 1998; Hassmén et al., 2016).

Considering this complexity, it is essential for the researcher to understand and appreciate the *influential* role they play within the research process, and how their philosophical stance and implicit biases are woven throughout the many layers of the chosen and refined research methodology. Saunders and colleagues (2019) introduced the 'research onion' (figure 1.1) as a model to demonstrate how the research process is composed of several layers that influence one another, graduating from an outer, philosophical and theoretical development focus to those at the heart of the onion that are concerned with more logistical, hands on data collection processes. This section will look to 'un-peel' and discuss the layers of this thesis that pertain to the adopted research philosophy and the approaches taken to develop new knowledge.

Research Philosophy

To effectively explore the research area and address the thesis, and singular study, aims and objectives, a pragmatic philosophical approach/stance was adopted. Pragmatism represents a philosophical stance which advocates for the consideration of "theories, concepts, ideas, hypotheses and research findings not in an abstract form, but in terms of the roles they play as instruments of thought and action, and in terms of their

practical consequences in specific contexts" (Saunders et al., 2019, p. 151). Pragmatism is concerned with the needs and practical considerations of the 'real-world' environment rather than absolute, either-or epistemological and ontological perspectives such as those of post-positivistic and constructivist thinking. Originating from the work of philosophers Charles Peirce (1905), William James (1907) and John Dewey (1931), pragmatism disregards 'absolute truths' and rather supports the importance of knowledge generation that contains a high degree of practical applicability and contextual relevance to the 'problem' under analysis. A pragmatic approach facilitates the use of practical research designs and methodologies that allow researchers a degree of inquiry flexibility to effectively approach and tackle 'real world' problems, generating new knowledge that directly contributes to the advancement of practical processes and outcomes.
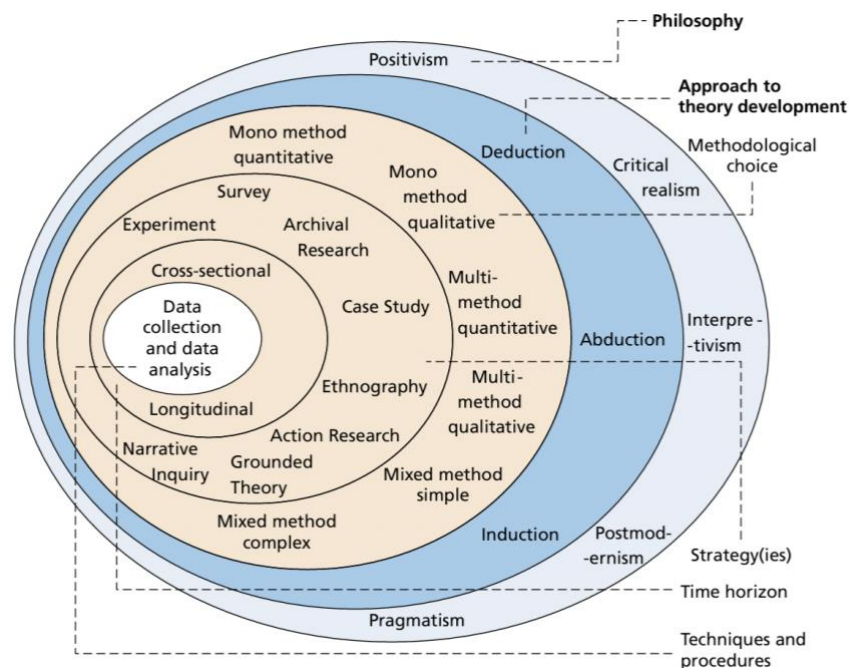
Figure 1.1: *The Research Onion* (Saunders et al., 2019)

Prior to adoping a pragmatic appraoch, Giacobbi and colleagues (2005) emphasise the need for researchers to consider a number of questions that have significant implications for the selection, appropriateness and deployment of the philosophical approach:

a) The nature of the research question(s), how practically relevant is the question(s) to the individuals and/or environment under examination?

b) The characteristics and diversity of the sample population and environment under investigation, how representative is the research sample of the local and wider population?

c) The practical implications of the research findings, to what degree are the research findings generalisable and applicable across the local and wider populations?

d) The dissemination of research findings, what are the processes and opportunities to share research findings with individuals who can maximise the practical implication of the research?

Taking these questions into consideration, pragmatism was identified as a philosophical approach that would appropriately address the overarching aim of this thesis to improve the practical, talent development process of the football academy. Firstly, the nature of the 'problem' and therefore the agreed research objectives are derived from a heavily practical source; the desire of the academy stakeholders to understand and improve the overall efficiency of the talent development processes and procedures. This initial research need aligns with the pragmatic belief that the research problem is central to the methodological designs and decisions used to address and explore the area of inquiry (Giacobbi et al., 2005). Unlike many philosophical stances, pragmatisms does not sit firmly within a subjective or objective research domain, adding further to the flexibility afforded to the line of inquiry to address a practical research problem in a way that allows for the most contextually, and practically appropriate findings to be extracted and applied (Saunders et al., 2019). This, therefore, facilitates a mixed methods approach within this thesis to address the research question(s) and objectives using both quantitative and qualitative research methodologies, which are inter-connected and inform one another to ensure the consistent drilling down of inquiry is present as the thesis progresses.

Secondly, the importance of addressing the research question(s) from a perspective that captures the width, depth and diversity of the population that is directly affected by the research 'problem' is a key tenet of a pragmatic approach (Giacobbi et al., 2005). Considering the significant number of agents actively involved in the process of developing the talents of a singular academy football player (Henriksen et al., 2010a), pragmatisms encourages and petitions for sampling methods that collate a deep and diverse sample to explore the research question(s) from a variety of different perspectives. Therefore, this recognition of the need for a diverse research sample reflects the diversity of personnel that operate and influence the talent development process that is under investigation. In recognition of the wide network of agents actively working within the talent development process, this thesis seeks to capture a diversity of perspectives within the academy by creating a player-coach research dyad. Firstly, academy players were recruited from across all the academy age groups, providing range and depth of experience and perspective within the research data. Secondly, qualitative lines of inquiry were conducted with both randomly sampled academy players and coaches, again from across all the academy age groups. The process of random sampling has the potential to result in the recruitment of homogenous populations that lack diversity, however the random sampling of academy players resulted in a highly diverse group that contained players of diverse background and potential considering some progressed within the academy and others were deselected during, and post initial data collection.

Lastly, and fundamentally, the foundational belief that pragmatism is not concerned with absolute 'truths' but is deeply invested in unearthing findings that are contextually appropriate and hold significant practical value for the investigated environment and those who operate within this social and environment sphere. As such, the overarching aim of the research is to positively contribute to the improvement and optimisation of the talent development process of a live, working football academy in Scotland. Therefore, the conclusion of each research-based chapter in this thesis will offer practical implications stemming from the data collected and the analysed findings from each study. Additionally, the thesis will conclude with a summary of the practical implications presented throughout the four research studies that comprise the thesis.

Aiming to connect empirical insight with practical implications and possible operational improvements to aid the effectiveness of the academy's talent development processes.

Within pragmatic research, the veracity of findings is determined by the usefulness and practical consequences of the new knowledge which has arisen from the inquiry as determined by ongoing communication and collaboration between the researcher and those working at the 'coalface' (Giacobbi et al., 2005). This ongoing 'checking of accuracy' will however extend far beyond the scope and time frame of the current research. Considering and addressing the questions posed by Giacobbi and colleagues (2005) helps to demonstrate the appropriateness of pragmatism as a philosophical approach, and also how this stance facilitates a degree of methodological 'freedom' within the research to capture the evident and nuanced aspects of the academy's talent development processes from the most appropriate and effective line of inquiry. The following summary provides a guide to how a pragmatic approach was appropriate and adopted within each of the four studies within this thesis, using the first three questions posed by Giacobbi and colleagues (2005) as an exploratory framework.

Study 1

The nature of the research question(s):

The research questions and aims for study 1 seek to gain a quantitative overview of the quality of the talent development environment and the self-regulation competencies and behaviours of the academy players. The nature of the research aims stems from the academy stakeholders and researchers desire to understand the academy landscape and the learning behaviours of the academy players to inform future practical and also place the research within a practically specific context.

The characteristics and diversity of the sample population and environment under investigation:

To ensure diversity within the sample population, all academy age groups were included in the study recruitment process (U12 – U18). This gave a width of perspectives by including participants at different ages and stages within the academy, and also incorporated players who had spent different periods of time within the current academy environment. All participants had spent a minimum of 6 months within the

environment, with some players having experienced other academy environments prior to joining the academy under examination within the research.

The practical implications of the research findings:

The initial study within the thesis assumed responsibility for providing an overview of the academy landscape and also the learning characteristics of the academy players. The findings from this study informed the methodological approach(es) taken with the proceeding studies by providing both empirical and practical insights that helps to ensure research designs and methods were appropriate and effective. Study 1 will seek to positively contribute to the practical development of the academy environment, as stakeholders will possess a player-based overview of the academy qualities and areas for development. This study has the potential to significantly contribute to the practical development of the academy's 'weaker areas'.

Study 2

The nature of the research question(s):

Study 2 recognises the long-term nature of talent development therefore a longitudinal (across one academy season) research design was adopted to explore the possible variances within the players' perceptions of the academy environment and engagement with self-regulation behaviours. The research questions seek to understand if high potential players perceive the environment more favourably and/or engage with self-regulation more frequently than peers who are perceived to possess less potential or were deselected from the academy. Additionally, study 2 looks to examine the presence of relative age within the academy recruitment procedures, this aim is derived from the academy stakeholders desire to identify any biases within the recruitment process and also to understand if relative age contributes to more favourable perceptions the future potential.

The characteristics and diversity of the sample population and environment under investigation:

The research sample used in study 2 identically reflects the academy players who contributed to study 1. The academy manager was used to provide perceptions of potential for all academy players due their experience within the football talent

development field and their depth of involvement with the academy over an extended number of years.

The practical implications of the research findings:

From a practical perspective, the findings from this study hold significant insight into the recruitment process within the academy and how the academy perceives future potential. Findings emphasise the potential importance of self-regulation within academy learning due to the significant variance detected between groupings of potential and progression. This, therefore, encourages the academy stakeholders to incorporate educational provisions that focus on the development of self-regulation competencies. The findings from study 2 also contribute to the creation and refinement of the qualitative interview guides used in the proceeding study.

Study 3

The nature of the research question(s):

A qualitative line of inquiry was adopted for study 3 in recognition of the limits associated with quantitative research and also to address the need to explore the lived experiences of the academy players in greater depth. Building on studies 1 and 2, study 3 sought to explore how academy players experienced and navigated the academy environment and the challenges presented by and within the environment. A longitudinal, qualitative exploration allowed for the collection of data pertaining to challenge, lived experience and the behaviours used to navigate the academy environment, and how these manifested over the season.

The characteristics and diversity of the sample population and environment under investigation:

A much narrower sample was recruited from within the academy cohort for study 3, however the diversity of sample was key to the quality and representativeness of the data. Three players were recruited from each of the academy age groups to ensure a range of experiences were captured. Although the sample was randomly selected, a diversity of player potential did emerge from within the sample. Specifically, the sample contained players deemed as highly promising, players perceived to possess low potential and also players who were deselected form the academy during and post data

collection. This demonstrates a high degree of diversity within the perceived potential of the sample and therefore translates into a more representative data set.

The practical implications of the research findings:
Considering the breadth and depth of findings relating to the players' lived experienced collected from the longitudinal study, a large number of practical insights can be extracted and utilised to inform developments within the academy processes and environment. Understanding the academy journey from a player's perspective offers a valuable insight for academy stakeholders, these insights afford opportunities to make empirically informed decisions regarding the improvement of environment provisions and support systems to account for and assist the players overcoming the difficulties associated with adopting and maintaining a dual career in sport and mandatory schooling.

Study 4

The nature of the research question(s):
The final study of the thesis sought to close to coach-athlete dyad by examining the academy coaches' perceptions of the academy football journey. By completing the dyad, the research can gather data that confirms or contrasts the experiences of the academy players collected in the previous study. Understanding the talent development process from a perspective of those who are responsible for the implementation and function of talent development activities is important, this helps contribute to the understanding of why and how decisions are made relating to the talent development provisions on offer to the academy players.

The characteristics and diversity of the sample population and environment under investigation:
To gain a degree of diversity within the sample of academy coaches, one coach was selected from each academy age group along with the academy manager. Within the academy coaching cohort, there did exist a lack of ethnic diversity therefore this ethnically homogenous sample does offer an accurate representation of the specific academy environment. Recruited coaches were however diverse in age, educational standing, and coaching experience.

The practical implications of the research findings:

The findings from the final study offer an insight into the nature of academy coaching, with data demonstrating the cultural challenges associated with adopting a development focused approach within a traditionally short-term environment. Practically, the findings help to identify the intentions behind the talent development processes implemented by the academy coaches and some of the challenges associated with these approaches. Additionally, the findings help to explicitly set out the behaviours believed to support and catalyse the development of talent which can be systematically integrated and intentionally developed within the academy development curriculum.

Chapter 2 – An Overview and Review of Theoretical and Empirical Literature

The aim of this chapter is to present and review the literature that currently informs the practical and theoretical knowledge of the talent development process in football, with a specific focus on youth development within professionalised academies. The chapter will adopt a historical narrative approach to explore theoretical and empirical literature relating to the talent development process throughout the last fifty years. Latterly, the chapter will address the interpersonal factors that aspiring athletes bring to and develop along the talent pathway.

Early Modelling of Talent Development

The early research of Benjamin Bloom (1985) sought to understand the development journeys of expert individuals who reached the pinnacle of their chosen domains. Bloom identified a high degree of pathway consistency across several domains, resulting in the formation of *early*, *middle,* and *later* years. Each stage is comprised of different development intentions, activities and networks of support that facilitate the athletes' development.

The *early (initiation) years* of an athlete's life were characterised by significant parental, or peer, involvement that introduced the athlete to sport in a fun, playful manner. Support structures within the early years focused on curating opportunities for play activities that ignited an intrinsic motivation for the sport, specifically parental support centred around providing tangible support in the form of logistical, financial, and emotional support. Athletes were tentatively involved in competition in the early years, initial competition success and perceptions of competence encouraged athletes to invest more time in their sporting development which corresponded with a move towards the *middle years*.

Bloom (1985) describes the *middle (development)* years as where a greater level of investment and commitment is made towards the intentional development of sport-specific competencies. Utilisation of more deliberate practice methods and the recruitment of more 'serious' coaches contributed to the young learners beginning to assign their identity to their role as an 'athlete' within the sport. The increased time

investment made to developing within one specific sport is intended to prepare the athlete for the next stage (later years – mastery) where performance is refined, and careers may be forged. The narrowing of focus on one sport led to the neglection of other activities, and resulted in the individuals specialising in one sport to enhance the chances of developmental and pathway progression.

The gradual transition to the *later (mastery) years* was distinguished from the previous phases by a significant increase in the intensity of time committed rigorous training activities that were aim at to achieving sporting excellence. The athletes who reached this stage of sporting life demonstrated extremely high levels of ability and were professionally competing at the highest level (Olympics, World Championships). Bloom's framework details the practice activities, support functions and experiences of athletes as they develop from a talented youth to a proficient professional, demonstrating a relatively homogenous pathway of gradual progression towards sporting excellence (Bloom, 1985).

Similar to the intentions of Bloom to understand the talent development process, Françoys Gagné's developed the Differentiated Model of Giftedness and Talent (DMGT) (1993, 2004, 2009) in an attempt to offer a theoretical model of the development process involving the transformation of gifts into high-performing talent (figure 2.1). Gagné's DMGT encompasses the trait and developable resources the learner brings to the talent development process and accounts for the characteristics of all the environmental spheres that the learner inhabits. The DMGT therefore provides a solid foundational framework guide the direction of this literature review and to position the research conducted in chapters 3, 4, 5 and 6.

'Giftedness' is defined by Gagné as the "possession and use of outstanding *natural abilities*" (2009, p. 1) that places an individual in the top ten percentile of age comparable peers. The use of 'natural abilities' possesses connotations of innate, 'born with it' ability. Rather, Gagné strongly emphasises distinction that natural gifts are untrained and may not necessarily be apparent in childhood, Gagné work suggests that gifts can be discovered in later life and are commonly associated with an individual's ability to learn at a faster and/or easier rate than others. Within the DMGT, giftedness

can be divided into one of six sub-components (intellectual, creative, social, perceptual, muscular, and motor control) that form two larger components (mental and physical).

'Talent' or "outstanding mastery of systematically developed abilities" (Gagné, 2009, p. 1) is regarded as the cumulative output of the DMGT, and categorises the talented individual within the top ten percent of similar peers. The ability to become talented is underpinned by intrapersonal and environmental catalysts, and influenced by chance or serendipity.
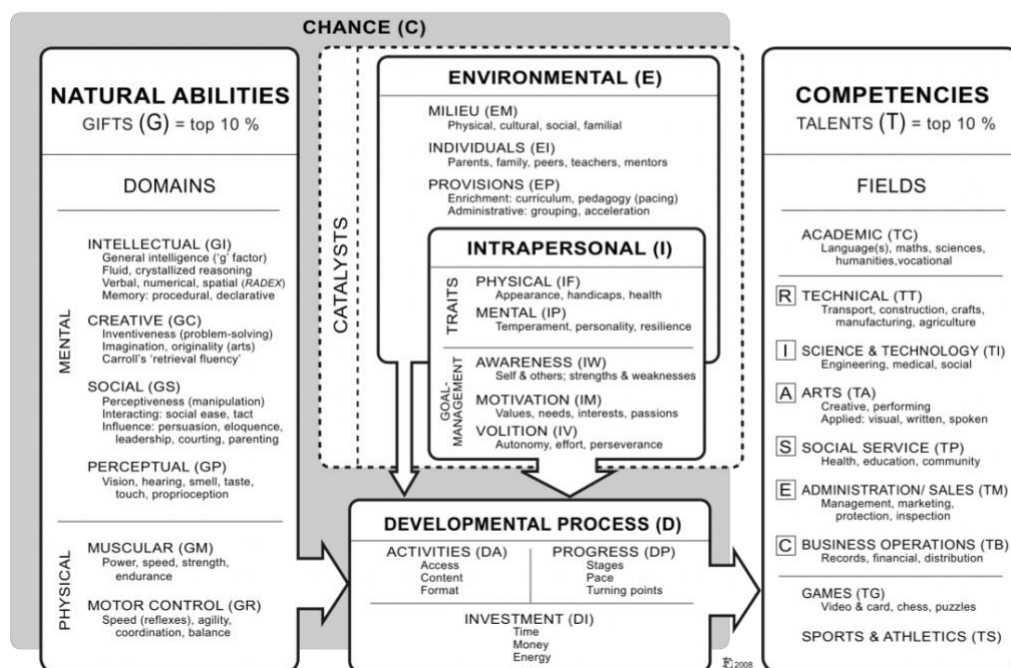
Figure 2.1: *The Differentiated Model of Giftedness and Talent 2.0 (Gagné, 2009)*

Within the DMGT, intrapersonal catalysts are differentiated into trait and goal-management sub-components which are comprised of physical (appearance, ethnicity) and mental traits (personality, resilience) and awareness (self and others), motivation (values, passions) and volition (effort, perseverance). The intrapersonal resources a learner 'brings' to and develops within the talent development process are recognised throughout literature as one of the key factors that facilitates the development of talent and elite performance but also contributes to the maintenance of peak performance at an elite level (Gledhill et al., 2017; Gould et al., 2002; MacNamara et al., 2010a, 2010b; MacNamara & Collins, 2013). Considering the importance of intrapersonal characteristics in the talent development process, significant attention will be given

later in this chapter to explore the role of these constructs in the development of footballing talent.

Environmentally, the DMGT is comprised of three subcomponents: i) 'milieu' relates to the physical, cultural, and social environments that house the developing individual, ii) significant individuals within the inhabited environments (e.g., parents, peers, coaches) and iii) provisions that are available within and are provided by the talent development environment (1993, 2004, 2009). Within the DMGT environmental components are regarded as catalysts to the development process, birthplace effects and socioeconomic factors that are understood to influence initial sport participation and later sporting excellence are included within the 'milieu' sub-component (Reeves et al., 2018). Assertions made within the DMGT relating to the role of supportive individuals and environment provisions align with the theoretical work of Henriksen and colleagues' (2010a, 2010b, 2011) holistic ecological models of Athletic Talent Development Environment (ATDE) Environment Success Factors (ESF) and Martindale and colleagues' (2005, 2007) characteristics effective of Talent Development Environments (TDEs). Both theoretical constructs will be explored and reviewed in greater depth in the coming pages.

To become 'talented' an individual must participate in the 'talent development process' which requires a significant period of investment where the learner is given access to a diverse array of activities that contribute to the development of domain specific competencies. To further drive the development of gifts into talents, a degree of investment must be made from the learner, specifically an investment of time, money and psychological energy is required to facilitate the developmental progress. Which feeds forward into the last subcomponent of the talent development process; progress, a gifted individual's need to progress through a series of stages (e.g. novice, advanced, expert) and successfully reach crucial 'turning points' at a pace that is conducive to becoming appropriately 'talented' at the peak age of competition (Gagné, 1993, 2004, 2009).

Across both theoretical models, as 'gifted' individuals embark along the development pathway, references to training and practice appear to increase in frequency, duration and intensity. This recognition of the need to practice, and to practice purposefully

resonates with the theoretical perspective of Anders Ericsson and colleagues (1993) who stipulate that to achieve excellence, individuals are required to engaged in effortful practice activities that are deliberate in their intention to improve competency and performance of the trained skills. Ericsson et al., (2008; 1993) add that due to the intense, and intentional nature of deliberate practice to focus on the development of specific, focused competencies, the activity of practice is one that is not enjoyable and requires a large resource of intrinsic motivation. Another assertion within the deliberate practice framework is that expert performers engage with their learning activity earlier than those who do not successfully reach expert status, this aligns to a degree with the work of Bloom (1985)who notes the early engagement with the activity or sport (Ericsson et al., 1993). Adopting Ericsson and colleagues' (1993) theoretical perspective would suggest that time spent in 'practice' will directly correlate with the level of competency of the trained skill and subsequent ability of the performer. Therefore, it is proposed that early engagement with the activity will allow for longer periods of intense, deliberate practice and result in expert performance. Research has however since disproven the significance of age of initial engagement, rather a meta-analysis by Macnamara et al., (2016) found higher skilled athletes started their sport later than less skilled counterparts, but not significantly. The significance of deliberate practice is supported by research suggesting volume of practice has the ability to discriminate between high and low level performers (Ford & Williams, 2012; Ward et al., 2004, 2007).

Emergence of More Contemporary Talent Development Research

Building on the initial research conducted within talent development and recognising the role of deliberate practice. The Developmental Model of Sport Participation (DMSP) (Côté, 1999; Côté et al., 2007; Côté & Hay, 2002) was developed and utilised a similar, staged approach as Bloom (1985) to model the pathways and pathway characteristics of youth sport development. The DMSP also builds on Ericsson deliberate practice framework, with the development of a deliberate practice concept. Deliberate play activities are intentionally selected and engaged with by young participants due to the enjoyment gained from playing. Within deliberate play, these activities are not governed, ruled or guided by adult involvement yet still facilitate the development of the learner's activity specific competencies (Côté et al., 2007). Unlike deliberate practice, learners engage with play for the enjoyment with development as a

subsequent by-product. The DMSP argues for the inclusion of deliberate play and practice in each stage of the model, with the ratio of play and practice evolving as the athlete progresses (Côté, 1999; Côté & Hay, 2002; Ericsson et al., 1993).

Following entry into sport, the DMSP offers two pathways: early diversification or early specialization. Early diversification begins with the sampling years which involve high volumes of deliberate play, and very little deliberate practice, across a diverse array of sports. Contrastingly the early specialisation pathway features high instances of deliberate practice, early in the sporting pathway with the aim of developing specific competencies to facilitate high levels of competence within one sport. After several years spent in the sampling stage, athletes have the ability to specialise in one or two sports but at the sacrifice of participation in other sports due to an increased commitment to development (balance of play and practice) in the chosen sports, or move into recreational sport where deliberate play remains high and sport is used for health and fitness benefits. Lastly, later specialising athletes can then transition into the investment years where significant volumes of deliberate practice are undertaken with the ultimate aim of developing to achieve sporting excellence in one specific sport. Durand-Busch and Salmela (2002) suggest the inclusion of an additional stage once athletes reach the elite stage, the *maintenance years* where athletes must continue to engage practice activities to refine and maintain high levels of sport-specific ability and competition performance.
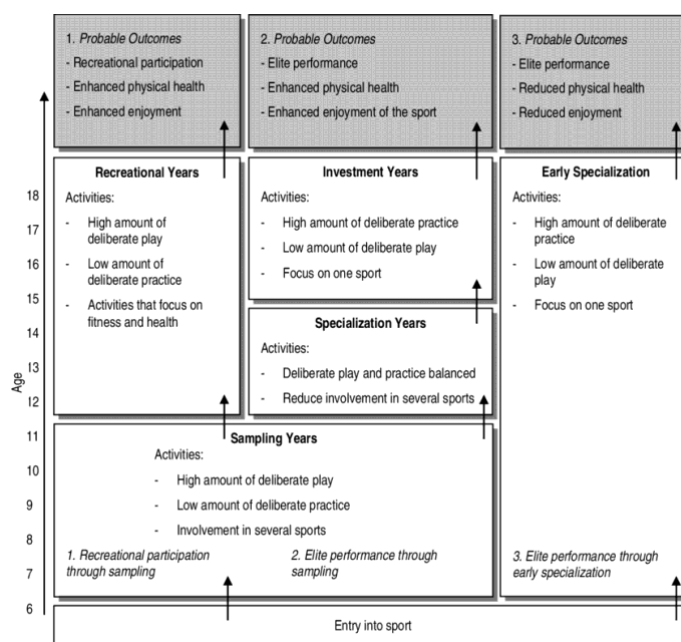
Figure 2.2: *The Developmental Model of Sport Participation (Côté et al., 2007)*

Research has attributed numerous positive developmental outcomes to participation in the sampling years, deliberate play and sampling are believed to be positively associated with the development of important life skills, high levels sporting enjoyment, increased socialisation opportunities and fundamental motor skill development (Côté & Vierimaa, 2014; Fransen et al., 2012; Macphail et al., 2003). Early diversification experiences may as a result equip the participant with the appropriate resources (i.e., psycho- and sociological) to navigate and cope with the demands of later specialisation and the involvement with talent pathways (Côté & Vierimaa, 2014; Gould, 2010). Within research, early specialisation is commonly attributed with negative development outcomes, specifically the commitment required to engage in large volumes of un-enjoyable deliberate practice and the pressure associated with serious competition performance possess the potential to result in higher incidences of injury, athlete burnout and serious mental health problems (Fraser-Thomas et al., 2008; Gould et al., 1996; Wall & Côté, 2007). However, empirical and anecdotal evidence demonstrates the applicability of both early-diversification and early-specialisation approaches in helping aspiring athletes to develop the competencies required to excel at an elite level (Barreiros et al., 2013; Bridge & Toms, 2013; Ward et al., 2004). Recent research (Baker et al., 2021; Mosher et al., 2020) has however demonstrated a dichotomy in the classification and understanding of what 'early specialisation' is, literature appears to utilise a variety of ages, stages and characteristics to define early specialisation, very few align.

Wylleman, Lavelle and colleagues recognised the holistic nature of talent development process, cognisant of the fact developing athletes must inhabit and live within both sporting and non-sporting domains, competing with the challenges of both simultaneously. Building on the prevalence of stage-based models in talent development at the time, Wylleman et al., (2004) devised a framework that accounts for the various stages of a developing athlete's life and the transitionally periods between each 'stage'. Wylleman and Lavelle's work (2004) and the later development of the Holistic Athletic Career Model (Wylleman et al., 2013) (figure 2.3) presents a multi-domain, stage-based model that accounts for the demands and challenges presented within each stage of multiple domains/development (athletic, psychological,

psychosocial, academic/vocational and financial), and the subsequent transitions between stages of specific domains. The interconnectivity of the stages, and simultaneous requirement to inhabit multiple domains and navigate stage-specific transitions contribute to the messiness of the talent development pathway.

Age	10	15	20	25	30	35
Athletic development	initiation	development	mastery			discontinuation
Psychological development	childhood	puberty/adolescence	adulthood			
Psychosocial development	parents, siblings, peers	peers, coach, parents	partner, coach – support staff/teammates			family, coaching peers, athletes)
Academic/vocational development	primary education	secondary education	(semi-) professional career / higher education		(semi-) professional career	
Financial development	family	family NGB	NGB/NOC/government/sponsors			family, employer

Figure 2.3: The Holistic Athletic Career Model (Wylleman et al., 2013)

The developmental pathway in football is characterised by domain and environment specific examples of the stages of development and important transitional moments that athletes must successfully navigate (figure 2.4). To further enhance the developmental opportunities available to young players, select academies and the Scottish FA have created 'performance schools' that aim to offer additional training opportunities to talented players while ensuring academic studies are not negatively impacted by working in collaboration with secondary schools to facilitate a dual-career approach for each young player (Aalberg & Sæther, 2016; Henriksen et al., 2011; Scottish Football Association, 2017a). However, the transitional process from a local, primary school to a specialised performance school that places demands on players to excel in both football and academic domains through the use of intensive schedules, is identified as especially challenging due to the psychological, athletic and psychosocial transitions happening concurrently (Bjørndal & Gjesdal, 2020; Christensen & Sørensen, 2009; Henriksen et al., 2011; Topping, 2011; Zeedyk et al., 2003).
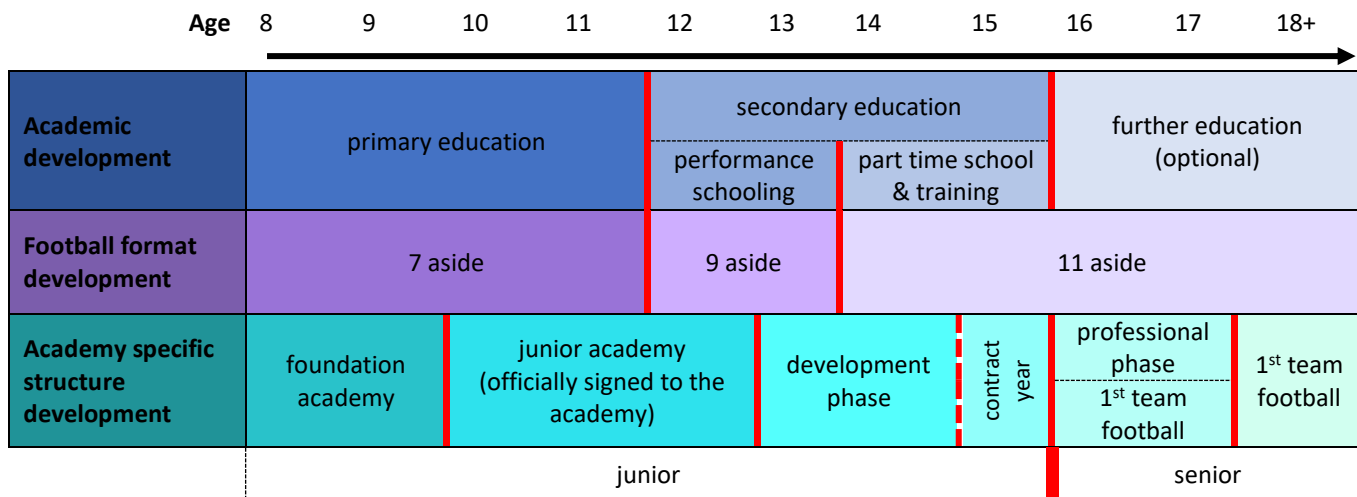
Figure 2.4: *Scottish football academy specific stages and transitions*

The within career transition of youth-to-senior sport is identified as the most challenging and difficult experience of an athlete's career (Stambulova et al., 2009). However, this transition is the 'final step' of the talent development process, successful transition to the senior level marks the successful development of talented youngster to senior athlete, and a marker of a successful talent development programme. Although transitions are regarded as processes rather than episodic events, the youth-to-senior transition in football commonly occurs once an athlete graduates from the academy and enters the full/part time professional environment where the first team is within reach. This specific transition may take a young player up to five years to complete as they navigate the preparation, orientation, adaptation, and stabilisation phases of Stambulova and colleagues' (2017) empirical model. The ability of an athlete to navigate the transition from youth-to-senior sport is influenced by three main factors: i) the prior knowledge, competencies, and behaviours of the athlete, ii) the wider organisational structure and iii) the external development environment and the individuals within the environment (Drew et al., 2019). Therefore, the football academy plays a significant role in preparing and developing young players in preparation for the impending transition to the elite level (Larsen et al., 2014). Specifically, this transition presents the athlete with a plethora of domain specific (i.e., cultural, social, physical) demands and barriers that must be successfully navigated and overcome if the athlete is to patriciate and excel in senior sport. Stambulova (2009) identified five perceived demands associated with the youth-to-senior transition: *1) balancing sport and life goals while living an organised life, 2) identifying an individual path in the sport, 3) coping with the pressures of*

selections, 4) to win prestige among peers, and 5) to cope with possibly strained relationships. The youth-to-senior transition in football is understood to be an especially stressful time for the developing athlete, stressors are attributed to external sources – family, peers and coaches – and internal, self-imposed pressure to perform (Morris et al., 2017). More specifically, football coaches (Finn & McKenna, 2010; Røynesdal et al., 2018) and transitioning athletes (Swainston et al., 2020) identified *athletic* (i.e., physical training intensity, performing under new levels of pressure, earning respect from and socialising with coaches and teammates), *social* (i.e., managing free time, financial, parents) and *academic/vocational* (i.e., university studies) as new demands and sources of stress experienced by athletes transitioning to the senior environment. To successfully transition from the academy to senior domain, young players are required to possess the knowledge and operational potential to selected and deploy appropriate coping resources and strategies. This ability to utilise and manage coping resources in response to the demands of senior football is crucial in determining the likelihood of successful transition. Athletes must possess and deploy the correct personal coping resources within an appropriate coping strategy (problem-focused, emotion-focused, appraisal-focused and avoidance-focused) that aligns with the presented demands and stressors (Lazarus & Folkman, 1984; Nicholls & Polman, 2007). Van Yperen (2009) identified that engagement with problem-focused coping behaviours predicted the future success of players 'making it' in professional football. Additional coping resources may relate to psychological competencies possessed by the athlete, resilience, mental toughness, goal commitment and self-regulation are understood to be important in the development of talent and navigation of transitions to the senior level (Holt & Dunn, 2004; Ivarsson et al., 2020; MacNamara et al., 2010a, 2010b; Van Yperen, 2009). Prior knowledge and experience of the demands associated with the senior sporting environment can also aid the ability of a developing athlete to cope with and navigate the transition from the youth, academy environment (Bruner et al., 2008; Stambulova, 2009).

Therefore, the organisational structures (football clubs) that facilitate the development process, and initiate the transition to senior sport, play a significant role in preparing players for the next step to senior football. Equipping them with the appropriate resources and experiences through systemically implemented programmes of focused

preparation (Larsen et al., 2014; Morris et al., 2015). Larsen and colleagues (2014) implemented an intervention program, from an ecological perspective, focused on preparing under 17 players for the transition to senior football. The intervention centred around theoretical workshops that aimed to develop the players' psychological competencies and transitional knowledge required to transition to senior football, role modelling and storytelling formed effective aspects of the intervention. Cognisant to the important role of coaches play in helping players to transition successfully (Finn & McKenna, 2010; Morris et al., 2015), Larsen worked closely with the head coach to develop behaviours and approaches to training that would facilitate the players' development of competencies required to transition successfully (Larsen et al., 2014). Lastly, social support from sources within the immediate talent development environment (i.e., coaches, teammates, etc.) and in the wider social milieu (i.e., parents, siblings, friends, etc.) plays an important role in the transitional process into senior sport (Finn & McKenna, 2010; Morris et al., 2015). Developing athletes require a plethora of supportive agents to fulfil and provide a wide range of different functions of support, that aid the navigation progression along the developmental pathway (Keegan et al., 2010; Rees, 2007; Rees & Hardy, 2004). Coaches are recognised within the literature as the most important sources of support as athletes transition from youth-to-senior sport, primarily providing informational (technical and tactical) support, however a greater level of holistic support during transitions in beneficial to successful athlete progression (Sheridan et al., 2014; Taylor & Bruner, 2012). Parents predominantly fulfil tangible support functions in the form of financial, logistical and operational support, and emotional and esteem-building support through the provision of praise, reassurance and guidance (Harwood & Knight, 2015; Rees, 2007; Rees & Freeman, 2009).

Modern Research in Talent Development

In recent times, talent development literature has progressed significantly from the use of stage-based models to describe the complexities of the development process. For example, reflecting back on the Holistic Athletic Career Model, transitionally movements are not consigned to a specific date or age within the talent pathway and transitioning players approach and navigate these events at different paces. Prior to the significant challenge of leaving the youth academy and entering senior football, players must navigate the earlier 'stages' and transitions across a variety of domains (Wylleman

et al., 2013; Wylleman & Lavallee, 2004) as and when they appear and are tackled, which contributes to the messy, idiosyncratic and non-linear nature of the talent development journey (Abbott et al., 2005; Dugdale, McRobert, et al., 2021b; Gulbin et al., 2013). Collins and MacNamara, (2012, 2017a) describe such development trajectories as a 'rocky road', one that is characterised by peaks and troughs, progression and regression, ascents and descents across the pathway from sport initiation to elite performance (Gulbin et al., 2013). Furthermore, there is a belief that the 'traumas' which stem from periods of difficulty, regression, descension along the journey can be utilised by the developing athletes to springboard future development (sport specific and psychological) if the appropriate psychological competencies and coping strategies are implemented, otherwise such 'traumas' may result in drop out and discontinuation of the sport (Collins & MacNamara, 2017a, 2017c; MacNamara & Collins, 2013). Coping strategies, approaches to learning from challenge and the psychological skills possessed and utilised by developing athletes are understood to discriminate between the 'super champs' (top level competitors with 50+ international caps), 'champs' (top level competitors with <5 international caps) and 'almost' (second tier competitors with no international caps) (Collins et al., 2016b; Collins & MacNamara, 2017b). Collins and MacNamara (2016a; 2012, 2017a, 2017c) support the 'need' for non-linear talent journeys and propose the necessity to systematically integrate challenging, 'traumatic' experiences within the pathway to help prepare players for challenges that may lie in the future (i.e., youth-to-senior transitions, injury, etc.), providing an opportunity to learn from difficulties and development the appropriate coping and psychological resources to later thrive in difficult situations.

The football academy was born out a recognition for the need to support and facilitate the complex talent pathways. Aiming to be an environment that supports the long-term development of young players into senior professional which can then be used to achieve on-pitch success or sold for large transfer fees. The commercial and sporting interest of developing homegrown players has highlighted the need for effective environments to facilitate growth, thus becoming the professionalisation of youth development in football.

Martindale , Collins and Abraham's research (2007) supported the identification of five generic characteristics of effective talent development environments: 1) Long-term aims and methods, 2) Wide-ranging coherent message of support, 3) Emphasis on appropriate development, 4) Individualised and ongoing development, and 5) integrated, holistic and systematic development. The long-term nature of the talent development process is recognised and emphasised within Martindale et al.'s (2007) characteristics of effective development. Adoption of a longitudinal perspective that seeks to individualise and appropriately nurture talent into sporting excellence is important as this accounts for the non-linearity of the development process (Abbott et al., 2005; Dugdale, McRobert, et al., 2021b; Gulbin et al., 2013). However, within specific sporting cultures, such as football, the importance of adopting a long-term perspective on development is regularly disregarded due to the value and importance placed on current performance and success at both youth and senior levels (Cushion & Jones, 2014; Dixon & Turner, 2018). This common approach in football appears counterproductive as many of those who successfully reach the elite level do not demonstrate exceptional levels of performance, consistently experience success in competition and/or represent national age group teams during the youth development stage (Barreiros et al., 2014; Barreiros & Fonseca, 2012; Bloom, 1985; Martindale et al., 2007).

The effectiveness and quality of the immediate talent development environment is underpinned by the features and characteristics identified by Martindale and colleagues (2005, 2007). As a result of the appropriateness of the Martindale's work, the Talent Development Environment Questionnaire (TDEQ) (Martindale et al., 2010) was produced to assess the quality of talent development environments by their adherence to the five generic features. Initial development resulted in the creation of a seven factor, 59 item instrument that assessed an environment's quality and ability to support long-term development focus, quality preparation, communication, understanding the athlete, challenging and supportive environment, and long-term development fundamentals (Martindale et al., 2010). The TDEQ has demonstrated the ability to discriminate between high and low quality development environments (Gangsø et al., 2021; Martindale et al., 2013), and is recognised as an effective working instrument to assess the quality (strengths and weaknesses) of development environments (Cupples

et al., 2020; Gangsø et al., 2021; Gledhill & Harwood, 2019; Hall et al., 2019; Martindale et al., 2013; Mills et al., 2014a). Taking this process one step further, Hall, Jones and Martindale (2019) used the TDEQ to assess the quality of an international rugby programme and utilised the findings to inform a number of environmental interventions aimed at enhancing the quality of the development environment, before reassessing the success of the intervention programme with the TDEQ (Hall et al., 2019). Additionally, research has utilised the TDEQ to investigate the influence of the talent development environment, and specific sub-components, on developmental outcomes (Li et al., 2017, 2019; Thomas, Gastin, et al., 2020; Wang et al., 2011, 2016). Wang et al., (2011) identified the role that an environment which prioritises long-term development and contains an appropriate support network will contribute to the development of a mastery approach within athletes which in turn promotes intrinsic goal striving. Furthermore, a long-term approach, coupled with an environment's ability to holistically prepare athletes and communicate effectively were found to influence the needs satisfaction of athlete and underpin the development of mental toughness (Li et al., 2019). Therefore, the quality of the development environment plays a central role in the talent development process, with quality of specific environmental aspects positively influencing the development of athlete competencies (Li et al., 2019; Wang et al., 2011, 2016), and also the prevention of burnout within elite youth athlete populations (Li et al., 2017; Thomas, Gastin, et al., 2020).

Access to football academies is, however, extremely competitive, with clubs seeking to 'tie up' young players with potential from an early age. Therefore, the identification of talent (TID) is an important process to allow clubs to identify and select young players who they perceive to possess the most potential. Institutionalised TD programmes also commonly encourage early specialisation in order to achieve the perceived training volume required to accomplish excellence in the sport (Güllich & Cobley, 2017). The early identification and recruitment of young football players who possess a high level of future talent can provide financial and competitive rewards for the academy and the professional club associated with the academy (Reilly, Bangsbo, et al., 2000; Unnithan et al., 2012; Vaeyens et al., 2008). However, many challenges exist when attempting to identify talent at such an early age. The multifaceted nature of elite sport performance and inter-individual differences pose significant challenges in the attempt to predict the

future manifestation and development of required/appropriate sport specific competencies (Baker et al., 2017; Côté et al., 2009; Murr et al., 2018) The advantages and challenges associated with (early) talent identification (TID) have led to decades of scientific research and practical investigations centred around the TID process and the characteristics/competencies that predispose future sporting success (Baker et al., 2018; Sarmento et al., 2018; Williams et al., 2020; Williams & Reilly, 2000).

The idiosyncratic, complex and dynamic nature of TD is now widely recognised. Recent evidence informed recommendations from academia (Vaeyens et al., 2008; Williams et al., 2020) have challenged the traditional subjective, unidimensional approaches to TID, this has resulted in more robust multidisciplinary and multidimensional TID process that better capture the nuances presented from the dynamisms of TD. Professionalised TD programmes, such as football academies, attempt to identify observable/measurable characteristics in young players which they believe indicate the capacity to achieve future expertise in the sport (Dugdale et al., 2020; Forsman et al., 2016). With an increased emphasis placed upon early TID, pre-pubescent identification of talent is common and has resulted in a plethora of research which has attempted to isolate and evaluate the prognostic value of specific anthropometric (Gravina et al., 2008), physiological (Emmonds et al., 2016), sociological (Reeves et al., 2018), psychological (Murr et al., 2018; Van Yperen, 2009) and sport specific (technical and tactical) (Keller et al., 2016; Kelly, Wilson, Jackson, & Williams, 2020) competencies.

The presence and magnitude of individual, or a combination of, competencies may contribute to the current performance abilities of young players. Previously, the concept of future sporting talent was directly and interchangeably related to the current performance levels demonstrated by young athletes; in that those high performing young athletes would develop into high performing elite athletes (for review see Baker et al., 2018). This proxy is however conceptually flawed and has proved highly problematic within the TID and TD processes (Abbott & Collins, 2002; Martindale et al., 2005). Research has debunked the perception that highly competent youth performance and success is a precursor of future adult ability (Barreiros et al., 2014; Barreiros & Fonseca, 2012), with only one third of international elite junior football players successfully competing at the same level in adulthood (Barreiros et al., 2014).

This ideology and value placed on short-term success is extremely prevalent within football, particularly academy football. This has contributed to the over-representation of specific athlete characteristics which consequentially results in asymmetricities within 'talented' academy cohorts (i.e. relative age (RAE), early maturers) (Güllich & Cobley, 2017). The perceived importance that academy coaches, administrators and stakeholders place upon short-term success and performance results undermines the long-term requirements for effective TD (Aalberg & Sæther, 2016; Baker et al., 2018; Hill & Sotiriadou, 2016). This short-termism may explain the significant annual academy turnover rate (selections vs deselection), research reported a 25% annual turnover rate within German football academies and only a 43% chance of progressing through a singular academy for 3 years or more and 24% probability of remaining within an academy over 5 years (Güllich, 2014). Further evidence on the instability of current performance emerged from Güllich's work (2014) as a 41% turnover rate was present in the German national age group squads. The desire to identify talent early coupled with the perceived importance of current performance and the short-termism of academy football, directly influences the strategic and operational decisions made within TID and selection/recruitment processes. Thus, resulting in a greater emphasis placed on current performance and the competencies that contribute to heightened levels of current performance.

Perhaps the most variable characteristics in youth football are those which relate to anthropometric and physiological features. Both characteristics possess the ability to generate wide-ranging variance within the current performance levels of academy cohorts. This is predominantly due to the significant, resultant advantages/disadvantages that emerge from and are mediated by the maturational process. Considering the emphasis placed upon short-term success and the subsequent characteristics that achieve high level, short-term performance, within football academies, unsurprisingly an overrepresentation of early maturing players exists (Ostojic et al., 2014). Anthropometric characteristics such as height in adolescence are influenced by genetics and rate of maturation, Furley and Memmert (2016) demonstrated that coaches implicitly associated taller players with more positive performance related attributes compared to smaller peers. Research conducted within an elite English football academy, over an eight year period, reported that zero academy

players aged between fourteen and sixteen were classified as late maturing (Hill et al., 2020), highlighting the role that maturational maturity and the associated short-term performances advantages play in academy recruitment, retention and progression (Hill et al., 2020; Jackson & Comber, 2020). Cripps, Hooper and Joyce (2016) reinforced this idea of maturational bias with their research that found Australian football coaches associated early maturation with greater future potential than those who were classified as late maturing players.

Longitudinal research from Rugby Union has uncovered small differences that existed between anthropometric and physiology measures across selection levels, however such characteristics only partially explained the assignment of players to their level of play (Till et al., 2011). Further research from Till and colleagues (2015) highlights the developmental proprieties of anthropometric and physiological factors that have the potential to improve over time as a result of the maturational process or the exposure to specialised physical training opportunities afforded by specialised TD programmes (Till, Jones, et al., 2015). The findings from Till and colleagues' (2011; 2015) work demonstrates the importance of longitudinal research designs to investigate the dynamic and multifaceted nature of TD, while facilitating the examination of how such interpersonal characteristics develop over time and their influence on career progression and achievement. Ultimately, anthropometric and physiological factors can be described as immature and inaccurate predictors of talent (when examined pre-puberty) considering the mediating effect that maturation and the rate of maturation has on the development and prominence of such characteristics (Côté et al., 2009).

Similar to biological maturity, the *'relative age'* phenomenon relates to chronological age differences that exists within and due to age grouping in youth sport and is prevalent and potentially problematic within TID and TD process (Helsen et al., 2005). The presence of relative age is hypothesised to result in an immediate performance advantage for the earlier born player due to increased experience and exposure to football specific activities (possible technical and tactical development advantages) and advanced developmental process; cognitive, emotional, social and motor control. Subsequently the effects of relative age (RAE) are represented by an asymmetrical dispersion of birth dates within academy football, those born earlier in the selection year (1st of January vs. 31st December in Scottish football) are more likely to be recruited

by academies and gain access to enhanced learning provisions (i.e., coaching, training facilities) and receive greater investment in their footballing development (Helsen et al., 2005; Hill et al., 2020; Jiménez & Pain, 2008). Research within Scottish youth football observed relative age biases within development and performance youth cohorts but no bias at the amateur level (Dugdale, McRobert, et al., 2021a). Furthermore, the biases detected within development and performance academy level did not translate to the professional stage as no relative age bias was present (Dugdale, McRobert, et al., 2021a). Research involving larger population samples has reported contrasting findings, RAE was found to be prevalent within nine of the top ten leagues in Europe (Yagüe et al., 2018). Although the prominence of early born players still exists in many contexts, the severity/prominence diminishes within the professional game (Brustio et al., 2018; Gil et al., 2020). The effects of relative age have been extensively evidenced within research, while those born earlier in the selection year may been more likely to be initially selected, those born in the later third of the year (if they can get into the system) have been shown to be 4 times more likely to 'make it' from youth to the senior professional ranks (Kelly, Wilson, Gough, et al., 2020).

Outside of the football academy, selected players are also inhabitants of their wider social, cultural and national environment. Henriksen (2010a) adopted a holistic, ecological perspective to capture the width, depth and dynamic, interlinked nature of the environments that a developing athlete must interact with and live within. The Athletic Talent Development Environment model (ATDE) encompasses the roles and functions of different components, facets and individuals within sport- and non-sport-specific domains (figure 2.6). The developing athlete is central to the model, surrounded by individuals who directly influence the talent development process and housed within a micro- and macro- structure that assigns environmental components based on the proximity to the athlete and number of regular interactions with the athlete. Micro-level components contain those environments where athletes spend a significant volume of time in and macro-level environments are the social, historical and cultural settings that do not directly influence the developing athlete (Henriksen et al., 2010a). A dual-domain system is implemented within the ATDE, the athletic domain relates to the components of the specific talent development environment, the national sport-specific culture and the wider general sporting culture. Non-athletic domains relate to social mileu,

educational settings, national youth culture and historically influenced, national culture (Henriksen et al., 2010a, 2010b, 2011). Within the ATDE components possess the ability to transverse domain boundaries, specifically family may inhabit both athletic, and non-athletic domains due to their significance within the talent development process and the everyday lives of the developing athletes.
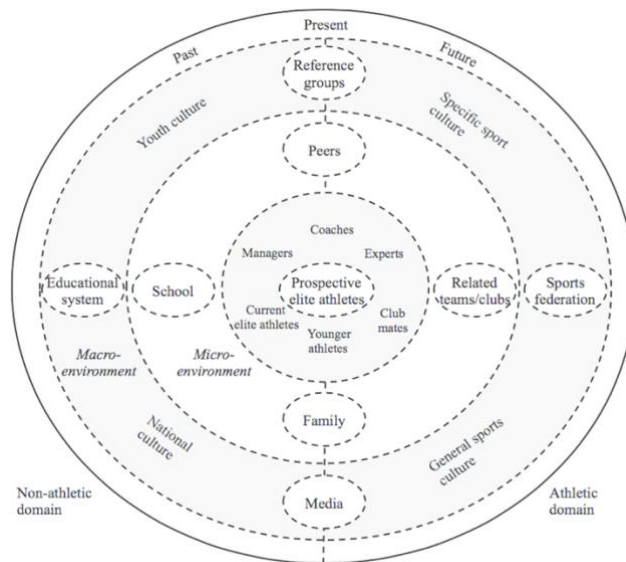
Figure 2.6: The Athletic Talent Development Environment model (Henriksen et al., 2010a)

Following the conception of the ATDE, case study research has demonstrated the appropriateness of the model as a working tool to assess the holistic development environment (Aalberg & Sæther, 2016; Flatgård et al., 2020; Haukli et al., 2021; Henriksen et al., 2010b, 2011, 2014; Larsen et al., 2013, 2020; Ryom et al., 2020). Findings from early case studies (Henriksen et al., 2010a, 2010b, 2011) demonstrate effective environments are characterised by an organisational culture that was cohesive within and between the athletic and non-athletic domains. Athletes are encouraged to be autonomous learners, who also seek to collaborate with peers, senior athletes and coaches to drive development (Henriksen et al., 2010a, 2010b, 2011). More recent research utilising the ATDE in a football development context (Aalberg & Sæther, 2016; Flatgård et al., 2020; Larsen et al., 2013, 2020; Ryom et al., 2020) found the relationships between the developing athletes and the academy coaches, academy peers and family were central to the effectiveness and quality of the immediate development environment. To develop players in a holistic manner, effective environments place a significant emphasis on the adoption of a dual-career approach. Effective academy

environments aimed to facilitate parallel participation in football specific and academic/vocational domains by instilling values of hard work, dedication and mastery focus in developing athletes and by also creating close, integrated relationships with the players' educational institutions (Aalberg & Sæther, 2016; Flatgård et al., 2020; Larsen et al., 2013, 2020; Ryom et al., 2020). Talent development programmes that are cognisant of the, wider holistic environment that academy players simultaneously inhabit, create a more coherent and cohesive ecosystem that affords players access to a network of support structures all orientated towards aiding the developing athlete (Aalberg & Sæther, 2016; Curran et al., 2021; Martindale et al., 2005, 2007; Webb et al., 2016).

Henriksen's (2010a) holistic modelling of the talent development environment demonstrates the presence of multiple influential components that contribute to the effectiveness of the development process, if cohesion and coherency is maintained across environments. The ATDE and subsequent case study research (Aalberg & Sæther, 2016; Haukli et al., 2021; Henriksen et al., 2010b, 2010a, 2011; Larsen et al., 2013; Ryom et al., 2020) highlights the importance of the immediate talent development environment (i.e., football academy) and those placed within that environment who support the athlete to the talent development process. The work of Martindale and colleagues (2005, 2007) identified features of effective talent development (2005) and characteristics of effective talent development environments (TDE) (2007).

The Learner: Interpersonal Competencies

The importance of psychological competencies to sustain developmental progression and navigate the talent pathway has been established earlier in this chapter. However, psychological skills and characteristics play a much more significant role in the entirety of the talent development process, the proceeding high levels of performance and the athletes' ability to sustain such levels of performance over an extended period of time (Gledhill et al., 2017; Gould et al., 2002; Hill et al., 2019; Holt & Dunn, 2004; Ivarsson et al., 2020; MacNamara et al., 2010a, 2010b).

MacNamara and colleagues (2010a, 2010b), and more recently Hill et al., (2019) identified significant psychological competencies and psychologically derived

behaviours that were perceived to be play a crucial role in facilitating the development of athletes and aiding the navigation of the talent pathway; termed the Psychological Characteristics of Developing Excellence (PCDE). The PCDE literature (Hill et al., 2019; MacNamara et al., 2010a, 2010b) identifies the importance of psychological concepts such as resilience, motivation, imagery and commitment and psycho-behaviours like effective goal setting, strategic future planning and the desire to work on weaknesses. Gould, Dieffenbach and Moffett (2002) found Olympic Champions possessed and utilised 12 main psychological competencies, which predominantly aligned with work in PCDE, however constructs such as coachability, adaptive perfectionism and optimism were also present within the research. Saward and colleagues' research (2020) utilising the PCDE questionnaire (PCDEQ - Hill et al., 2019; MacNamara & Collins, 2011) within a football academy context has demonstrated the importance of coping with performance and developmental pressures, evaluating performances and working on weaknesses in helping players navigate the academy development pathway and successfully transition to senior football.

Moreover, systematic reviews of the influential psychological characteristics within youth football development conducted by Gledhill et al., (2017) and Ivarsson et al., (2020) identified a plethora of competencies and behaviours that were possessed, utilised and demonstrated by athletes who successfully reached the senior level. The psychological construct of motivation, and associated behavioural tenets, were prominent within both reviews and across the wider, non-domain specific literature. The origin, orientation and operationalisation of the developing athlete's motivation to participate in and excel in a chosen sport are understood to play a significant, dynamic role in the ability of the learner to continually engage with developmentally conducive behaviours and practices (Bloom, 1985; Côté & Hay, 2002). Deci and Ryan (1985; 2000) contend that the nature of a learner's motivation is underpinned by their feelings of autonomy, competence, and relatedness to the social milieu. Both place motivational dispositions on a continuum, with Intrinsic motivation characterised as the desire to engage and compete in sport for the internal enjoyment gained and extrinsic motives for engaging in sport that stem from external rewards or gratification (Deci & Ryan, 1985).

Similarly, Achievement Goal Theory (Duda & Nicholls, 1992; Nicholls, 1984, 1989) identifies goal orientations as *task*: focused on mastering and achieving task success through effortful application, and *ego*: outcomes, and competence are compared to others, primary focus on outperforming others and demonstrating competence while applying minimal/little effort (Ames & Archer, 1988; Duda & Nicholls, 1992). The learner's mechanism of defining success (task vs ego) and the subsequent direction of the learner's efforts (motivation) underpins learning behaviours and approaches. Conceptual approaches of *hope for success* and *fear of failure* are associated with achievement motives, *hope for success* is perceived as a developmentally facilitative approach where the learners positively appraise and engages in a task with an optimistic outlook (Conroy & Elliot, 2004; Elliot & Church, 1997). Correlations have been established between hope for success approaches and positive development and performance outcomes (Coetzee et al., 2006; Elbe & Beckmann, 2006; Schmid et al., 2021; Zuber et al., 2016). Contrastingly, fear of failure is empirically linked to ego orientations and is understood to produce behaviours that avoid engaging with challenging situations in order to preserve the sense of competence (Elliot & Church, 1997; Sagar et al., 2009, 2010). Failure fearing orientations, and the subsequent behaviours, are believed to negatively influence the 'staying power' of an athlete as they attempt to navigate the talent pathway and are therefore not conducive to facilitating long-term development and sporting excellence (Sagar et al., 2010; Schmid et al., 2021; Zuber et al., 2015, 2016). The work of Zuber et al., (2015) and Schmid et al., (2021) identify that highly intrinsically, achievement-orientated athletes are significantly more likely to reach and succeed at the top level due to the behaviours that stem from such a motivational disposition: resilience, commitment and effective goal-setting strategies (Gledhill et al., 2017; MacNamara et al., 2010a, 2010b; MacNamara & Collins, 2013).

The 'rockiness' of the developmental pathway toward sporting excellence is understood, and the importance of athletes being mentally tough and resilient to cope with and navigate the pathway challenges is prominent within the literature (Cook et al., 2014b; Gucciardi et al., 2015; Sarkar & Fletcher, 2014). However, developing athletes must also possess skills and competencies that will aid learning and help to maximise the development achieved from the afforded learning opportunities (Elferink-Gemser et al., 2015; Jonker et al., 2012a; Toering et al., 2011). Specifically within football,

psychologically derived behaviours such as effective goal setting, reflection and planning are identified within the literature as key constructs that support and enhance the developing athlete's ability to learn and become highly competent (Gledhill et al., 2017; Ivarsson et al., 2020). Due to the dynamic nature of the talent process and development environments, possessing the ability to quickly, and independently readjust, realign and redistribute learning efforts and resources within effective strategies – self-regulation of learning (Zimmerman, 1989, 2000, 2006) – is important to future success.

Self-Regulation of Learning and Performance

Prior to 1986, self-regulation was an abstract concept with contending definitions, ideas and sub-constructs. The 1986 symposium at the American Educational Research Association resulted in the generation of an agreed definition of what self-regulation of learning was and the processes that comprise the construct. Following the 1986 symposium, Barry J. Zimmerman (1986) published the resultant outcomes and definition: "the degree to which students are metacognitively, motivationally, and behaviourally active participants in their own learning process". Learners are viewed as proactive agents within the self-regulation process, assessing task and environmental demands, before then adopting, adapting and reflecting on the approaches and behaviours utilised to interact with the task. A recent review (Panadero, 2017) of historical and contemporary models of self-regulation presented six key models of self-regulation that were prominent within research (Boekaerts, 2011; Efklides, 2011; Järvelä & Hadwin, 2013; Pintrich, 2000; Winne & Hadwin, 1998; Zimmerman, 2006). Perhaps the most prominent within the field, Zimmerman's cyclical, social-cognitive model (figure 2.5) (2000, 2006) was identified as a significant contributor the current literature and will be discussed below. Additionally, the preceding sections have highlighted the complex, social interactions that are present within the talent development process and therefore it is appropriate to acknowledge that learning, and self-regulation of learning does not happen within a social vacuum. As such, Efklides (2011) Metacognitive and affective Model of Self-Regulated Learning (MASRL) and Järvelä and Hadwin's (2013) Socially shared Regulated Learning (SSRL) model are presented and discussed below.

Zimmerman's social-cognitive model (2000, 2006) presents three phases (forethought, performance, self-reflection), with sub-component behaviours, that continuously interact and inform one another in a cyclic manner. The forethought phase of Zimmerman's social-cognitive model (2000, 2006) encapsulates pre-task cognitions and behaviours tasked with analysing tasks, setting goals and planning the most appropriate learning approach to employ. Zimmerman includes self-monitoring, use of attentional focus strategies and self-control behaviours within the performance phase. Finally, Zimmerman closes the cyclic loop with the self-reflection phase which proceeds the performance phase and houses self-evaluation and reflection behaviours that inform and underpin the proceeding forethought phase (Zimmerman, 2000, 2006). The role of social interactions is ingrained within Zimmernan's theoretical perspective of self-regulation, learners are believed to acquire knowledge through interactions and observations of others within the available social milieu (Zimmerman, 2006).

Efklides' MASRL model attributes more significance to metacognitive aspects of self-regulation compared to Zimmerman's and the SSRL. Akin to Zimmerman's socio-cognitive model, the MASRL is also grounded in Bandura's socio-cognitive theory, which is evident in the model's design with the task x person interaction level (Efklides, 2011). The MASRL model is comprised of two levels; Person and Person x Task, the person level contains a variety of trait-like characteristics (i.e metacognitive knowledge and skills, cognitive ability, emotions, motivation) that facilitate general self-regulated functioning. The learner's goals, aspirations and standards towards the presented task play a significant role in the Person level of the MASRL as these are hypothesised to guide cognitive processing and effort application (Efklides, 2011). The secondary level, Person x Task is viewed by Efklides (2011) as 'bottom up', with the functioning of the metacognition directing the actions and behaviours of the learner. The interaction with task, provides feedback and direction for the learner to continuously readjust and redirect (meta)cognition and the direction of effort.

Laslty, Järvelä and Hadwin's (2013) Socially shared Regulated Learning (SSRL) model presents three individual tents of self-regulation: self-regulation, co-regulation and shared regulation. This notion builds on the idea of the external, social environment influencing and contributing to a leaner's ability to self-regulate their learning

opportunities. The SSRL stipulates that learners who inhibit environments where goals are shared within groups or communities, possess the ability to co-regulate and collaborate to aid individual and group progression (Järvelä & Hadwin, 2013). However, Järvelä and Hadwin (2013) explicitly detail that individuals are still active individuals in their own individual self-regulation but have the ability to contribute and collaborate with peers who share the same types of goals but may possess complimentary personal resources. This approach may appear appropriate within a large football academy that contains a magnitude of formal, and informal communities of development or learning. However, one of the challenges with the SSRL model in a football academy is the competitive nature where players may be reluctant to share knowledge and assist peers that may be competing for the same end goal as them.

Performance Phase

Self-control
- Self-instruction   - Task strategies
- Time management   - Imagery
- Help-seeking   - Environmental structuring
- Self-consequences   - Interest incentives

Self-observation
Metacognitive monitoring
Self-recording

Forethought Phase

Task analysis
Goal setting
Strategic planning

Self-motivation beliefs
Self-efficacy
Outcome expectations
Task interest/value
Goal orientation

Self-reflection Phase

Self-judgement
Self-evaluation
Casual attribution

Self-reaction
Self-satisfaction/affect
Adaptive/defensive

Figure 2.5: *The Social-Cognitive Model of Self-Regulated Learning (Zimmerman, 2000, 2006)*

Research in academic and sporting domains which has utilised Zimmerman's model, has shown self-regulatory engagement, specific competencies and behaviours possess the potential to discriminate between current and future experts and non-experts, elite and non-elite and talented and 'non-talented' individuals (Bartulovic et al., 2017; Jonker et al., 2019; Jonker, Elferink-Gemser, & Visscher, 2010; Jonker, Elferink-Gemser, Toering,

et al., 2010; Toering et al., 2009; Toering, Elferink-Gemser, Jonker, et al., 2012; Zimmerman & Martinez-Pons, 1990). The work of Toering, Jonker and colleagues (2012b; 2010; 2009; 2012) consistently identifies the learner's ability to, and level of engagement with self-reflection behaviours as a key component of the self-regulation process that can differentiate between high and low levels of current level of competition, and future sporting success. Specifically, Toering et al., (2009) found elite youth players invested more effort in and reflected more frequently on their learning experiences (training and competition) than non-academy peers. Building on this early work, the self-regulatory behaviours of elite and international elite academy players were assessed, internationally capped elite academy players were found to reflect significantly more often than their elite academy peers who had not represented their country at youth age groups (Toering, Elferink-Gemser, Jordet, et al., 2012). Although both studies were cross-sectional in nature, Jonker, Toering and colleagues (2019) reaffirmed the discriminatory ability of reflection by assessing players' self-regulation competencies and longitudinal progression measures, future professional players reflected more than those who did not reach the professional level. The possession and utilisation of self-regulation competencies are key to helping players maximise the learning opportunities afforded by the environment, however the ability to effectively self-regulate was also found to help players overcome pathway challenges (i.e., maturational and/or physical disadvantages) and reach the professional level (Cumming et al., 2018). Self-regulation research beyond a quantitative perspective is sparse, Toering et al., (2011) recruited six expert youth football coaches to identify observable learning behaviours and associate these with components of the self-regulation process. Verbal involvement (asking questions, clarifying coaching instruction and guiding teammates) and additional time spent in voluntary training were prominent behaviours of effective self-regulators (Toering et al., 2011). The learning and play experiences acquired by developing football players throughout early childhood are understood to contribute to the development of self-regulatory skills (Erikstad et al., 2018). Therefore, the learners interaction with the development environment and opportunities afforded by the environment play an important role in equipping developing athletes with the competencies required to optimise and self-regulate learning (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2007; Wang et al., 2011, 2016).

To summarise, the development of talent is a complex and dynamic process that requires talented youth athletes to simultaneously inhabit, transition through and navigate a plethora of different stages in multiple athletic and non-athletic domains (Abbott et al., 2005; Bloom, 1985; Côté et al., 2007; Wylleman & Lavallee, 2004). Specifically, the transition from junior academy football to senior professional football is identified as perhaps the most significant due to the perceived difficulty of reaching and surviving at the highly competitive and pressurised elite level (Morris et al., 2017; Røynesdal et al., 2018; Stambulova, 2009). Psychological competencies and coping strategies are understood to aid and facilitate the successful transition into senior sport (Lazarus & Folkman, 1984; MacNamara et al., 2010a, 2010b; Nicholls & Polman, 2007). The development of appropriate coping resources is influenced by the quality of the talent development environment and the development experiences afforded to the young players (Collins & MacNamara, 2017c; Martindale et al., 2007; Wang et al., 2016). The non-linearity of the talent development pathway presents opportunities for developing athletes to learn from difficult experiences and allows development programmes to systematically integrated challenge within the athletes' developmental journeys (Collins et al., 2016a; Collins & MacNamara, 2012, 2017a). Psychological competencies, such as self-regulated learning, contribute to the young athletes' ability to learn and optimise the learning opportunities afforded by the development environment (Elferink-Gemser et al., 2015; Toering et al., 2009; Zimmerman, 2006). This ability to maximise the learning opportunities on offer helps athletes to develop the sport-specific competencies and attain the appropriate degree of competence required to succeed at the elite level (Cumming et al., 2018; Jonker et al., 2019; Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012). The learning environment within professionalised talent programmes play a central role in the talent development due to their ability to provide high-quality learning opportunities, support holistic development and teach the psychological competencies that are essential for learning and elite sporting performance (Martindale et al., 2005, 2007). Therefore, considering the significance of the intrapersonal and environmental influence on the talent development process, it is of great interest to professional development programmes to understand the quality of the learning provisions available within their environment, the learning strategies and capacity of their athletes and the learning experience of players as they interact with the development environment.

Chapter 3: A Quantitative Analysis of Self-Regulation Within a Scottish Football Academy Cohort, and the Quality of the Elite Academy Environment

Introduction

The Differentiated Model of Giftedness and Talent (DMGT) (Gagné, 2004, 2009) acknowledges the complex nature of talent development (TD), and presents three catalysts for the development of talent, specifically intrapersonal, environmental and chance. These are considered as facilitators, or inhibitors, in the TD process (Gagné, 2004, 2009). Interestingly, while there has been much research investigating the physical and anthropometric profiles of elite and developing athletes (e.g., Carling, Le Gall, Reilly, & Williams, 2009; Emmonds, Till, Jones, Mellis, & Pears, 2016; Noon et al., 2020), more recently the role of psychological factors is being demonstrated and recognised. Indeed, in sport psychological characteristics have been described as "significant predictor[s] of success" (Vaeyens et al., 2008, p. 706).

Research around successful elite athletes identifies a plethora of psychological characteristics which are required to facilitate progression and success at the top level (Gould et al., 2002; Holt & Dunn, 2004). Examples of useful skills include the ability to cope with anxiety and pressure, competitiveness and anticipatory and decision making skills are commonly possessed/demonstrated by those involved at the elite level (Gould et al., 2002; Larkin et al., 2016; van Rossum, 1996).

Literature appears to suggest factors such as resilience (Bloom, 1985; Holt & Dunn, 2004), motivation (Zuber et al., 2015), discipline (Holt & Dunn, 2004) and self-regulation (Toering et al., 2009, 2011; Toering, Elferink-Gemser, Jordet, et al., 2012) may be the most impactful on the development of future elite athletes (Gledhill et al., 2017; Holt & Dunn, 2004; MacNamara et al., 2010a). Extensive research by MacNamara, Collins and colleagues (2008; 2010a; 2010b) identified a comprehensive set of psychological skills, termed Psychological Characteristics of Developing Excellence (PCDE), that aspiring athletes must possess and develop in order to effectively interact with an optimise the developmental opportunities afforded by their environment. Similarities exist between the PCDEs and those characteristics required for elite performance (i.e., competitiveness, coping under pressure), however the psychological abilities of the developing athlete relate closer to the commitment and ability to deal with setbacks as

embark on the long, potentially turbulent, road to mastery rather than those associated with optimal short-term performance. Although comprehensively utilised and verified within sport settings, use of the PDCE framework in elite or youth footballing contexts is still in its infancy (Saward et al., 2020).

Limited, conclusive research exists relating to the psychological characteristics required to successfully develop into a professional football player. As such, Gledhill, Harwood & Forsdyke (2017) identified twenty-two psychological factors associated with successful TD through a systematic review of literature. Ivarsson and colleagues (2020) highlighted the inability of previous research to conclusively identify psychological characteristics that directly influence progression within football. However, three psychological factors reported small effect sizes for career progression in football: task orientation, task-oriented coping strategies and perceptual-cognitive functions.

Self-regulation of learning (SRL) is one psycho-behavioural concept which has received significant academic interactions from a developmental perspective in elite and youth football (Toering et al., 2009, 2011, 2013; Toering, Elferink-Gemser, Jordet, et al., 2012). The ability of a learner to self-regulate their learning relates to the act of intentionally (cognitively and metacognitively) activating, adjusting and sustaining cognitions, behaviours and affects in accordance with goal orientations (Zimmerman et al., 2017; Zimmerman & Kitsantas, 2005). Deployment of effective self-regulatory strategies require the learner to be cognisant of personal capabilities and limitations while consistently engaging in self-observing behaviours that allow for strategic, behavioural, environmental and/or covert, readjustment in order to maximise involvement and learning achieved from experiences (Bandura, 1986; Bartulovic et al., 2018; McCardle et al., 2017). Cross-sectional investigations in self-regulatory abilities by Toering, Elferink-Gemser, Jordet and Visscher (2009) found reflection and effort to be more prominent and developed in elite youth footballers compared to non-elite peers. Toering and colleagues (2012) identified reflective thinking as a cognitive-behavioural indicator that differentiated between elite academy and elite-international academy players (Jonker, Elferink-Gemser, & Visscher, 2010).

In an attempt to measure the engagement with self-regulatory behaviours within sporting domains, Toering and colleagues (2012) developed a psychometric analysis tool

– the Self-Regulated Learning – Self Report Scale (SRL-SRS). A six factor, 50-item instrument was generated with a sufficient internal consistency across all subscales (α = .73 – .85). Further development for sport specific domains resulted in the production of a football specific version of the SRL-SRS, henceforth referred to as FSRL-SRS, a refined 22-item, three factor structure (reflection, evaluation and planning) produced a satisfactory model fit and adequate internal consistency across factors (α = .76 – .85) (Toering et al., 2013).

As outlined earlier, the DMGT also identifies a variety of environmental catalysts that directly, and indirectly, influence and underpin the TD process (Gagné, 2004, 2009). Research has recognised the interrelated nature of environmental contributors to the development of talent. The Athletic Talent Development Environment (ATDE) model demonstrates micro- and macro-level influences on TD within both athletic and non-athletic domains. Henriksen's ATDE (Henriksen et al., 2010a, 2010b, 2011) and Gagne's DMGT (Gagné, 2004, 2009) share similarities between their interpretation and presentation of components comprising the talent development environment (TDE); Henriksen's definitions of the social and cultural settings align with Gagne's conceptualisation of milieu and individuals within the athletes' support network. Additionally, Gagne's depiction of 'provisions' closely associates with the influence and resources provided by the micro-environment within Henriksen's model.

Recent research (Gangsø et al., 2021; Mills et al., 2014b) has highlighted the importance of the immediate (micro – ATDE), physical development environment within the TD process, environments such as academies and centres of excellence provide opportunities for the development of young athletes' innate, raw materials into sport-specific competencies and the fulfilment of athletic potential. TDEs such as football academies are intentionally engineered to provide high quality provisions to optimise the development of young, talented football players. The academy environment appears to be the most directly pliable and controllable aspect in the development process of a young academy prospect into a successfully professional player (Martindale, Collins, & Abraham, 2007).

This premise led Martindale, Collins and Daubney (2005) to investigate the generic characteristics and structures of effective talent developments. From this early work

four key features of effective practice emerged; *i) long-term aims and methods; ii) wide ranging coherent message and support; iii) emphasis on development rather than early success; iv) individual and ongoing development*. These findings provide a foundational platform and practical guidance to assist the assessment and optimisation of TDEs. These features have since been supported by both work by Martindale and colleagues (Martindale et al., 2007, 2013) and also work by Henriksen and colleagues (Henriksen et al., 2010a, 2010b, 2011) across a variety of cultures and sporting contexts. While not to ignore the sport specific nuances and context specific requirements of different TD pathways and environments, these generic features seem universal.

Consequently, and due to the clear need to be able to measure and/or monitor important environmental features of TDEs, Martindale and colleagues (Martindale et al., 2010) designed and developed a psychometrically robust questionnaire to assess the quality of TDEs, the Talent Development Environment Questionnaire (TDEQ). Underpinned by previous scientific research (Martindale et al., 2005, 2007) the TDEQ measures seven key processes involved in the effective development of talent – *long-term development focus, quality preparation, communication, understanding the athlete, support network, challenging and supportive environment and long-term development fundamentals.* Utilising a seven factor, 59 item structure the TDEQ assess the quality of TDEs from a holistic and generic perspective.

Importantly, the TDEQ has demonstrated ecological validity in a couple of studies, reporting a discriminate accuracy of 77.8% between high and low quality TDEs (Martindale et al., 2013). The environment's ability to provide appropriate high-quality development provisions (i.e., training, recovery and competition) (quality preparation) and holistically cater for the development of the athletes (understanding the athlete) were found to be significant discriminators of the environment's quality. Furthermore, Gangsø et al., (2021) demonstrated the TDEQ's ability to differentiate between the quality of the top five and bottom five elite academy environments in Norwegian youth football. Factors relating to holistic quality preparation, alignment of expectations and communication significantly differed between the top five and bottom five nationally ranked football academies.

Numerous psychometric refinements and translations (Brazo-Sayavera et al., 2017; Li et al., 2015; Wang et al., 2011) have also occurred in an attempt to strengthen the robustness and practical applicability of the tool and to expand the use of it across different cultures. Wang et al., (2011) refined the TDEQ by reducing the number of items within 'long-term development focus' factor from twenty-four to five and dismissed the 'challenging and support environment' factor due to low internal reliability (α = .62). Thus, the primary evolution of the TDEQ comprised a 6 factor model containing 36 items (Wang et al., 2011). Additional refinements led to increased psychometric robustness of the TDEQ through an exploratory and confirmatory factor analyses producing two refined versions; five factor, 28-items and a five factor, 25-items (Li et al., 2015). Generation of a five factor structure emerged from an amalgamation of factors from the original TDEQ to produce a new, structure (*long-term development focus, holistic quality preparation, support network, communication and alignment of expectations*) characterised by an acceptable internal reliability (α = .79 - .86) and mild to moderate correlations (r = .19 to .66, P < .01) (Li et al., 2015). The initial and lateral developments of the TDEQ by Wang (Wang et al., 2011) and Li (Li et al., 2015) provide not only psychometrically more robust versions of the instrument but has also produce a far more appropriate instrument for use within youth TDEs through its shortened and more concise format.

The TDEQ has also been evidenced within academic literature to have been effectively deployed to evaluate the strengths and weaknesses of various TDEs in a variety of sporting domains and cultural contexts (Cupples et al., 2020; Gledhill & Harwood, 2019; Martindale et al., 2013; Mills et al., 2014a; Thomas, Gastin, et al., 2020; Wang et al., 2011). For example, Thomas, Gastin, Abbot and Main (2020) investigated the quality of Caribbean track and field development environments. Interestingly, Cupples and colleagues (Cupples et al., 2020) utilised the TDEQ in conjunction with the PCDEQ (psychological characteristics for developing excellence questionnaire) to establish the strengths and weaknesses of an Australian school-based rugby league TDE from an ecological perspective. Both studies demonstrated the ability of the TDEQ to identify effective and weaker aspects of the TDEs, the TDEQ also afforded opportunities for context specific recommendations to be presented to stakeholders.

Several studies have demonstrated the applicability/appropriateness of the TDEQs use within a football specific context (Gangsø et al., 2021; Gledhill & Harwood, 2019; Mills et al., 2014a). Both Mills et al., (2014a) and Gangsø et al., (2021) asked experienced academy players, to complete the TDEQ. Both populations reported their environments adopted an appropriate long-term development focus and created supportive networks of individuals that aimed to foster the development of their talents (Gangsø et al., 2021; Mills et al., 2014a). Gledhill and Harwood (2019) further contributed to the academic evidence supporting the use of the TDEQ in football with their investigation into the English Football Association's (EFA) Girls Centres of Excellence and Women's Super League development squads. Parallels exist between the findings of Mills (2014a) and Gangsø (2021) with those reported by Gledhill and Harwood (2019).

The TDEQ has proved useful for not only investigating the quality of TDEs and identifying environmental strengths and weaknesses, but also for evaluating specific aspects of such environments in order to inform evidence based plans for directing improvement (e.g. Hall, Jones, & Martindale, 2019). Little research has focused on the implementation and monitoring of the effectiveness of an intervention within TDEs (Hall et al., 2019; Larsen et al., 2014). Therefore, Hall, Jones and Martindale's (2019) use of the TDEQ to establish the quality of Hong Kong's rugby union programme and direct a comprehensive intervention strategy which aimed to address weaker areas of the TDE is novel and unique. Hall and colleagues (2019) demonstrated the practical appropriateness of the TDEQ, as twelve items reported statistically significant increases following the 12-month intervention. The outcomes achieved by Hall, Jones and Martindale (2019)highlight the ability of the TDEQ to positively impact the quality of TDEs. The diversity of the TDEQ has shown its capabilities to establish the quality of a TDE, identify environmental strengths and weaknesses and positively contribute to the development of TDEs through evidence informed intervention programmes.

Gagne's DMGT (2004, 2009) presents a foundational framework which illustrates the importance of interpersonal and environmental tenets within the TD process. The interaction between the quality of provisions available within TDE and the psychological characteristics of those athletes engaging with the TDE has so far been neglected by the academic community. More recently, Cupples, O'Connor, & Cobley (2020) explored the presence of PCDEs and the quality of the environment, via the TDEQ, of an Australian

school-based rugby union context. Although analysed from a primarily cross-sectional, comparative perspective, Cupples and colleagues (2020) have highlighted an appropriate methodological approach that allows for the simultaneous investigation of interpersonal characteristics and the quality of the TDE.

The psycho-behavioural factors related to self-regulation of learning have demonstrated the ability to discriminate between elite and non-elite and elite and internationally elite player football players (Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012). Considering the mechanisms that underpin self-regulation of learning that allow learners to intentional adjust their cognitions and behaviours in response to environmental stimuli and in accordance with goal orientation. Therefore, understanding how the variance in SRL abilities may influence the players' perceptions of their learning environment and interact with their ability to extract learning from environmental provisions is important. At present no literature exists that aims to simultaneously examine a psycho-behavioural factor such as self-regulated learning and the quality of the TDE. Developing an understanding of the psychological characteristics, especially those closely related to learning capacity, of the talents within the academy allows for the directed development of abilities that have been proven to separate those who are elite and non-elite (Bartulovic et al., 2017; Toering, Elferink-Gemser, Jordet, et al., 2012). As presented previously the importance of establishing the TD landscape within the academy environment is essential as this provides a platform for evidence informed intervention strategies to grow from in future (e.g. Hall et al., 2019). The investigation of self-regulation of learning and the quality of the TDE have both been extensively, and successfully, explored within football, thus demonstrating the appropriateness of both concepts within a practical domain. Lastly, little scientific research has focused on the environment of Scottish football (Dugdale, McRobert, et al., 2021a; McGillivray, 2006), far less academy football in Scotland, this presents a unique, untapped cultural domain to be explored through a novel investigative approach.

Study Aims

The aims of this study are two-fold:

1) To understand the perceived quality of the academy development environment, identifying strengths and areas in need of further development

2) To understand the degree of which academy football players engage in football orientated self-regulated learning behaviours

Methodology

Study Design

To effectively explore and address the research aims, quantitative instrumentations, in the form of validated questionnaires, were utilised to measure self-regulated learning and the quality of the TDE at the beginning of the 2019 CAS season.

Participants

Academy players aged 11-18 (assigned to U12-U18 age groups) were included in the pool of participants. From the initial pool of 94 potential participants, 74 academy players agreed to voluntarily participate in the study. The sample contained participants from across six age groups within the academy (U12, U13, U14, U15, U16 and U18), with an average of 12 players participating per age group. The sample reported an average age of 13.19.N ($\pm$ 1.86) years old with players having spent an average of 8.39 ($\pm$ 2.19) years training their footballing skills. All players signed to the academy were subject to a stringent talent identification and trial processes prior to joining the academy. As such, they were deemed as 'talented' and possess the potential to develop into professional football players.

Instrumentation

Demographic Questionnaire

A demographic questionnaire was distributed to participants with the aim of collecting key demographic characteristics; age, ethnicity, nationality and the number of siblings each participant has. Further football specific information pertaining to the weekly football training load, football training history and the volume of weekly, competitive competition was also collected by the demographic questionnaire.

Talent Development Environment Questionnaire-5 (TDEQ5)

The Talent Development Environment Questionnaire (TDEQ; Martindale et al., 2010) is a psychometric self-report questionnaire that assesses the perceived quality of talented athletes' developmental environment experiences. The Talent Development Environment Questionanire-5 (TDEQ5; Li, Wang, Pyun, & Martindale, 2015) is a 28-item, five-factor evolution of the original TDEQ. The 28-item version of the TDEQ (Li et al., 2015) has undergone multiple evolutions from the original tool developed and refined by Martindale and colleges (2010). As such, the refinement and reduction of the original seven factor, 59 item tool down to a five factor, 28 item questionnaire aids the practical applicability for use with adolescent athletes. The re-structuring of the TDEQ resulted in the reformation of factors through the combination of items from different factors, this was possible given the 'mild to moderate' correlation between factors established during the initial questionnaire development (Martindale et al., 2010). The reassignment of items to new factors negatively impacted the meaning of certain items, psychometric analysis reported items were cross-loaded (i.e., *My training programmes are developed specifically to my needs* comprises the support network factor yet cross-loads to long-term development) and thus were removed. Further items were 'lost' from the original TDEQ as they failed to satisfy pre-set psychometric parameters. Deletion of such items from the original TDEQ limits the scope that which the questionnaire can comprehensively assess the talent development environment (TDE) and may negatively impact the ecological validity of the proposed shorter versions of the TDEQ. The TDEQ-5 collated data pertaining to the five factors; long-term development (LTD) , holistic quality preparation (HQP), support network (SN), communication (Comms) and alignment of expectations (AOE) (Li et al., 2015 factors and items are reported in table 3.1). A 6-point Likert scale anchored by; '1' *strongly agree* and '6' *strongly disagree,* is used to measure the level of agreement with each item. Seven of the twenty-eight items are reverse scored, all of which are contained within in *holistic quality preparation* factor. Psychometric analysis of the TDEQ5 has reported good internal reliability (α = .79–.86) across all five factors (Li et al., 2015).

Table 3.1: TDEQ5 structure (Li et al., 2015)

Factor Name	Factor description	Number of items	Item Example
Long-term development	"The extent to which developmental programmes are specifically designed to facilitate athletes' long-term success"	6	19) My training is specifically designed to help me develop effectively in the long term
Support network	"The extent to which a coherent, approachable, and wide-ranging support network is available for the athlete in all areas"	6	1) I can pop in to see my coach or other support staff whenever I need to
Communication	"The extent to which the coach communicates effectively with the athlete in both formal and informal settings"	4	6) My coach and I regularly talk about things I need to do to progress to the top level in my sport
Alignment of expectations	"The extent to which goals for sport development are coherently set and aligned"	5	14) I regularly set goals with my coach that are specific to my individual development
Holistic quality preparation	"The extent to which intervention programmes are prepared both inside and outside of sports settings"	7	2) I am rarely encouraged to plan for how I would deal with things that might go wrong

Football Specific Self-Regulated Learning – Self Report Scale (FSRL-SRS)

The football specific Self-Regulated Learning – Self Report Scale (FSRL-SRS; Toering, Jordet, & Ripegutu, 2013) is a psychometrically validated, context specific questionnaire designed to measure the level self-regulated learning within daily football practice. The FSRL-SRS is a multidimensional assessment tool built upon a tri factor structure, encompassing 22-items which are answered on a 5-point Likert scale (with anchors of; '1' *never* and '5' *always*). The self-report scale measures the extent to which each item relates to the level of metacognition and behaviours displayed within a daily football training context. The factorial structure of the FSRL-SRS is empirically grounded in Zimmerman's model of self-regulated learning (2006); *reflection, evaluation and planning* (Toering et al., 2013). Of the twenty-two items, nine represent the reflective process of self-regulated learning (e.g., Each practice session I think about both my strengths and weaknesses and of ways that I can improve them). A further six items measure the extent of evaluative behaviours and metacognitive processes (e.g., Each practice session I think back and evaluate whether I did the right things to become a better player). Lastly, seven items refer to the intentional behaviours and subsequent metacognition associated with planning development strategies prior to the training event (e.g., Before each practice session I plan which skills I want to work on during the session). The FSRL-SRS demonstrates sufficient internal consistency across all three factors with a mean Cronbach Alpha of .80 (reflection α=.85, evaluation α= .80 and planning α= .76) (Toering et al., 2013).

Procedure

Ethical approval was granted by Edinburgh Napier University's, School of Applied Sciences Ethics Committee. The academy director was contacted via email with further information regarding the study aims and data collection process. Permission to access the academy and academy players was granted by the academy director following an in-person meeting where the primary researcher answered any question regarding the study and future implications it may have for the TD process' within the academy.

Academy players aged 11-18, and the parents of those aged under 16, were invited to attend an information evening within the academy buildings where the aims of the study, the data collection process and other relevant details were presented along with an invitation to participate in the research. One week prior to the initial data collection events, parents/guardians of 74 consented players were sent a reminder email outlining the study aims and data collection procedures, with an additional opportunity to withdraw their participation from the study. No players withdrew from the study at this point, thus leaving a total of 74 academy players participating in the study.

Questionnaire data was collected at the prior to the commencement of the 2019 CAS season (February), participants were invited (along with their participating age group peers) to a meeting suite within the academy buildings. The researcher was present to support all participants as they completed the three questionnaires, which were completed in a single sitting, lasting approximately 20 minutes. Those questionnaires included; a demographic survey, the five-factor version of the talent development environment questionnaire (TDEQ5) (Li et al., 2015) and the football specific version of the self-regulated learning – self report scale (FSRL-SRS) (Toering et al., 2013).

Data Analysis

Statistical data analyses were carried out using IBM Statistical Package for the Social Sciences (SPSS 23) software. Likert scale data was attributed to be both scale and ordinal for the purposes of analysis. Use of Likert scale data within parametric testing is understood to possess a high degree of robustness when all parametric assumptions are satisfied (Norman, 2010; Sullivan & Artino Jr, 2013). Data collected from the TDEQ5 was reversed within SPSS so that higher scoring responses signified higher perceptions of the

environment quality and thus aligned with the FSRL-SRS anchor direction. Responses to the TDEQ5 and FSRL-SRS were analysed descriptively, means and standard deviations were reported for all items, factors and overalls where appropriate. Frequency of responses were analysed for each item within the TDEQ5 and FSRL-SRSL and presented. A 100% completion rate was reported from all participants across each of the three questionnaires.

Results

An Overview of The Quality of the Talent Development Environment

Descriptive statistics, including means and standard deviations for all TDEQ5 factors and overall perceived quality of the TDE can be found in table 3.2 (with factorial descriptions). Higher scores represent a high degree of agreement with the item statement that relates to aspects of the development environment (1 – strongly disagree, 6 – strongly agree). Overall, the environment was reported to be of a good quality (m= 4.64). The highest scoring aspects of the environment were long-term development (m= 4.85) support network (m= 4.73), with communication (m = 4.67 ± 0.75) and alignment of expectations (m= 4.66 ± 0.75) scoring similarly and holistic quality preparation was reported as the lowest scoring factor (m= 4.37 ± 0.82).

Table 3.2: TDEQ5 factors, descriptions, academy means and standard deviations

Factor Name	Factor description	Academy Mean	Academy SD
Long-term development	"The extent to which developmental programmes are specifically designed to facilitate athletes' long-term success (e.g., fundamental training and rounded development, ongoing opportunities, and de-emphasis of winning)"	**4.85**	± 0.54
Support network	"The extent to which a coherent, approachable, and wide-ranging support network is available for the athlete in all areas (e.g., professionals, parents, coaches, and schools)"	**4.73**	± 0.61
Communication	"The extent to which the coach communicates effectively with the athlete in both formal and informal settings (e.g., development path, rationale for training, and feedback)"	**4.67**	± 0.75
Alignment of expectations	"The extent to which goals for sport development are coherently set and aligned (e.g., goal setting, goal review, and individualised goals)"	**4.66**	± 0.75
Holistic quality preparation	"The extent to which intervention programmes are prepared both inside and outside of sports settings (e.g., caring coach, clear guidance, mental preparation, and balanced life)"	**4.37**	± 0.82
Overall		**4.64**	± 0.54

Note: Factor descriptions directly quoted from Li et al., (2015), adapted from Martindale et al., (2010)

With age group considered, descriptive statistics demonstrated the quality of the academy to provide opportunities of a long-term nature was perceived highest by players within the under fourteen age group (m = 5.17 ±.69). The youngest age group sampled (under twelve) scored highest of all age groups on the quality of the support network available (m = 4.88 ± .62), the communication within the talent development environment (m = 4.98 ± .52) and also the ability of the environment to prepare them in a holistic manner (m = 4.75 ± .48). Lastly, the under thirteen age group felt the academy coaches and staff aligned closely with their own expectations (m = 4.97 ± .35).

Table 3.3: TDEQ5 factor mean scores and standard deviations for all academy age groups

Factor Name	U12 M (SD)	U13 M (SD)	U14 M (SD)	U15 M (SD)	U16 M (SD)	U18 M (SD)
Long-term development	5.05 (.46)	4.83 (.47)	5.17 (.69)	4.78 (.52)	4.80 (.48)	4.50 (.44)
Support network	4.88 (.62)	4.79 (.52)	4.71 (.55)	4.79 (.77)	4.64 (.58)	4.58 (.63)
Communication	4.98 (.52)	4.86 (.40)	4.88 (.63)	4.62 (.99)	4.30 (.83)	4.54 (.76)
Alignment of expectations	4.86 (.93)	4.97 (.35)	4.49 (.81)	4.86 (.57)	4.70 (.73)	4.20 (.67)
Holistic quality preparation	4.75 (.48)	4.55 (.21)	4.14 (.89)	4.47 (.89)	4.20 (.82)	4.23 (1.16)

Given the extensive re-developments made to the factorial structure of the TDEQ, and the applied nature of this research, Martindale and colleagues (2013) recommend considering items individually and in conjunction with subscale scores. Therefore, the mean and standard deviation of each item will be presented in descending order (table 3.3). Considering the intended practical application of these findings, the reporting of findings and recommendations should form themes that are relevant and pertinent to the specific development environment. As such, a two-phase analysis and theme reformation is presented in figure 3.2, phase one demonstrates the theming of the lowest scoring 25% of items (shown in yellow) and phase two incorporates items that scored higher yet did not score in the top 50% of all items (shown in blue)

Table 3.4: TDEQ5 means and standard deviations, itemised and presented in descending order

	Item Number	Item	Academy Mean	Academy SD	Factor
Top 25% of items	22	My coach allows me to learn through making my own mistakes.	5.37	± 0.65	LTD
	9	Currently, I have access to a variety of different types of professionals to help my sports development (e.g., physiotherapist, sport psychologist, strength trainer, nutritionist, lifestyle advisor etc.)	5.25	± 1.01	SN
	1	I can pop in to see my coach or other support staff whenever I need to (e.g., physiotherapist, psychologist, strength trainer, nutritionist, lifestyle advisor etc)	5.13	± 1.24	SN
	6	My coach and I regularly talk about things I need to do to progress to the top level in my sport (e.g., training ethos, competition, performances, physically, mentally, technically, tactically)	5.11	± 0.93	Comms
	19	My training is specifically designed to help me develop effectively in the long term	5.00	± 0.94	LTD
	28	My coach emphasises the need for constant work on fundamental and basic skills	4.96	± 0.80	LTD
	15	I am involved in most decisions about my sport development	4.89	± 0.92	AOE
	24	My progress and personal performance is reviewed regularly on an individual basis	4.87	± 0.84	AOE
	20	I spend most of my time developing skills and attributes that my coach tells me I will need if I am to compete successfully at the top/professional level	4.78	± 0.86	LTD
	7	Those who help me in my sport seem to be on the same wavelength as each other when it comes to what is best for me (e.g., coaches, physiotherapists, sport psychologists, strength trainers, nutritionists, lifestyle advisors etc.)	4.75	± 1.02	SN
	12	My coach rarely takes the time to talk to other coaches who work with me	4.66	± 1.28	HQP
	14	I regularly set goals with my coach that are specific to my individual development	4.66	± 1.21	AOE
	8	My coach and I often try to identify what my next big test will be before it happens	4.64	± 1.02	Comms
	10	The guidelines in my sport regarding what I need to do to progress are not very clear	4.61	± 1.12	HQP
	21	My coach explains how my training and competition programme work together to help me develop	4.55	± 1.12	Comms
	23	I would be given good opportunities even if I experienced a dip in performance	4.54	± 1.03	LTD
	3	The advice my parents give me fits well with the advice I get from my coaches	4.51	± 1.19	AOE
	11	I don't get much help to develop my mental toughness in sport effectively	4.51	± 1.14	HQP
	27	My coaches ensure that my school understand about me and my training/competitions	4.50	± 1.47	SN
	25	My coach emphasises that what I do in training and competition is far more important than winning	4.46	± 1.24	LTD
	26	My training programmes are developed specifically to my needs	4.41	± 1.07	SN
Bottom 25% of items	13	My coach rarely talks to me about my well-being	4.39	± 1.27	HQP
	4	My coach and I talk about what current and/or past world class performers did to be successful	4.39	± 1.07	Comms
	17	I am not taught that much about how to balance training, competing and recovery	4.38	± 1.25	HQP
	16	My coaches make time to talk to my parents about me and what I am trying to achieve	4.37	± 1.22	AOE
	18	My coaches talk regularly to the other people who support me in my sport about what I am trying to achieve (e.g., physiotherapist, sport psychologist, nutritionist, strength & conditioning coach, lifestyle advisor etc.)	4.32	± 1.06	SN
	5	My coach doesn't appear to be that interested in my life outside of sport	4.22	± 1.26	HQP
	2	I am rarely encouraged to plan for how I would deal with things that might go wrong	3.79	± 1.47	HQP

Support network

+ Currently, I have access to a variety of different types of professionals to help my sports development (e.g., physiotherapist, sport psychologist, strength trainer, nutritionist, lifestyle advisor etc.)

+ I can pop in to see my coach or other support staff whenever I need to (e.g., physiotherapist, psychologist, strength trainer, nutritionist, lifestyle advisor etc)

– My coaches talk regularly to the other people who support me in my sport about what I am trying to achieve (e.g., physiotherapist, sport psychologist, nutritionist, strength & conditioning coach, lifestyle advisor etc.)

Holistic quality preparation

– I am rarely encouraged to plan for how I would deal with things that might go wrong

– My coach doesn't appear to be that interested in my life outside of sport

– I am not taught that much about how to balance training, competing and recovery

– My coach rarely talks to me about my well-being

Long-term development

+ My coach allows me to learn through making my own mistakes

+ My training is specifically designed to help me develop effectively in the long term

+ My coach emphasises the need for constant work on fundamental and basic skills

Talent Development Environment

Alignment of expectations

– My coaches make time to talk to my parents about me and what I am trying to achieve

Communication

+ My coach and I regularly talk about things I need to do to progress to the top level in my sport (e.g., training ethos, competition, performances, physically, mentally, technically, tactically)

– My coach and I talk about what current and/or past world class performers did to be successful

Figure 3.1: Highest and lowest scoring 25% of TDEQ5 items

Contextualisation and Practical Theming of Environmental Aspects

Items below were scored in the lower half of the TDEQ5 items by players at T1, yellow denotes items that were scored in the lowest 25% of scores (7 items), blue items are those that were scored higher than yellow but fell in the lower half of the TDEQ5 items.

Planning and Preparation for Future Challenge

Phase 1	I am rarely encouraged to plan for how I would deal with things that might go wrong (Q2, HQP)	My coach and I talk about what current and/or past world class performers did to be successful (Q4, Comms)
Phase 2	I don't get much help to develop my mental toughness in sport effectively (Q11, HQP)	

Holistic Wellbeing and Recovery Considerations

Phase 1	My coach doesn't appear to be that interested in my life outside of sport (Q5, HQP)	I am not taught that much about how to balance training, competing and recovery (Q17, HQP)
	My coach rarely talks to me about my well-being (Q13, HQP)	

Coach Communications with Significant Others

Phase 1	My coaches talk regularly to the other people who support me in my sport about what I am trying to achieve (Q4, Comms)	My coaches make time to talk to my parents about me and what I am trying to achieve (Q16, AOE)
Phase 2	My coaches ensure that my school understand about me and my training/competitions (Q27, SN)	The advice my parents give me fits well with the advice I get from my coaches (Q3, AOE)

(Over) Emphasis on Current Performance/Winning

Phase 2	My coach emphasises that what I do in training and competition is far more important than winning (Q25, LTD)	I would be given good opportunities even if I experienced a dip in performance (Q23, LTD)

Individualisation of Training Programmes

Phase 2	My coach explains how my training and competition programme work together to help me develop (Q21, Comms)	My training programmes are developed specifically to my needs (Q26, SN)

Figure 3.2: Rethemed lowest scoring TDEQ5 items into practically appropriate insights

Long-Term Development

Long-term development was the strongest scoring factor of the selected environment with a mean of 4.85 (± 0.54). Within this factor 73.7% players strongly agreed or agreed that their training programme was specifically designed to help them develop in the long-term (m = 5.00 ± 0.94). Within their training programme, 65.3% of academy players agreed that coaches emphasised the importance of the basic, fundamental skills (m = 4.96 ± 0.80) and 67.1% felt (agreed and strongly agreed) that they spent most of their training time learning, developing and refining the skills and attributes which the coaches emphasised as crucial to compete at a professional level (m = 4.78 ± 0.86).

Over 90% of academy players agreed (and strongly agreed) that they were afforded opportunities by their coaches to learn by making their own mistakes (m = 5.37 ± 0.65). Despite coaches reportedly (m = 5.37) encouraging players to make and learn from their mistakes, only 60% of players agreed that their coaches emphasised the value of learning/development gained from training and competition over importance of winning in competition. Just over half of the academy cohort (55%) agreed (and strongly agreed) that they would still be given development opportunities regardless of their level of performance (m = 4.54 ± 1.03). However, two in five players (40.8%) were uncertain (agree/disagree a little bit) when asked if a dip in performance would impact the opportunities they would be afforded.
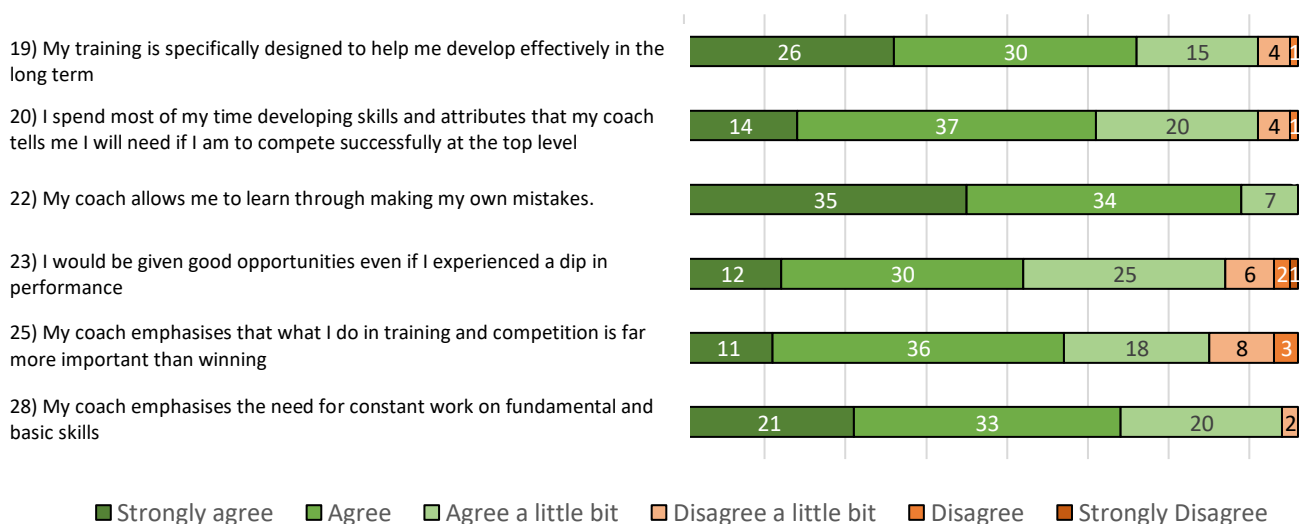
Figure 3.3: Frequency of long-term development responses

Support Network

Players perceived the environment to contain an integrated and collaborative network of supportive professionals that aided their development experiences (m = 4.73 ± 0.61). Around half of the players (47.4%) agreed (and strongly agreed) that their training programme was specifically developed with their individual needs in mind (m = 4.41 ± 1.07).

According to over 80% of players, the academy offers access to a number of individuals who specialise in a variety of disciplines that support their development (m = 5.25 ± 1.01) and such professionals are readily available to assist and support academy players (m = 5.13 ± 1.24).

Considering the significant volume of support staff involved in the development of a single academy player, it is imperative that they all present coherent message of guidance and support. Around four in ten players (42.1%) agreed or strongly agreed that their coaches regularly communicated with other individuals who support them in the football development (m = 4.32 ± 1.06). However, a greater number of players (51.4%) were unsure (agree/disagree a little bit) if their coaches regularly conversed with others within their personal support network. Considering this lack of uncertain over communication channels between supportive adults, it may be surprising to see two-thirds (65.8%) of academy players believed that those within their support network were all on the same wavelength and delivered coherent messages to best support the player (m = 4.75 ± 1.02).

Bearing in mind the age of the academy players who completed the TDEQ, balancing academic demands with the demands associated to the development of footballing abilities can be especially challenging. Although, 59.2% of players agreed (and strongly agreed) that their coaches communicated effectively with their school to ensure that their school was aware of the training and competition demands placed upon them (m = 4.50 ± 1.47).

1) I can pop in to see my coach or other support staff whenever I need to — 38, 25, 11, 2

7) Those who help me in my sport seem to be on the same wavelength as each other when it comes to what is best for me — 16, 34, 22, 3, 1

9) Currently, I have access to a variety of different types of professionals to help my sports development — 38, 25, 11, 2

18) My coaches talk regularly to the other people who support me in my sport about what I am trying to achieve — 8, 24, 36, 4, 4

26) My training programmes are developed specifically to my needs — 12, 24, 28, 7, 5

27) My coaches ensure that my school understand about me and my training/competitions — 22, 24, 16, 8, 5, 1

■Strongly agree ■Agree ■Agree a little bit □Disagree a little bit □Disagree ■Strongly Disagree

Figure 3.4: Frequency of support network responses

Communication

With a mean score of 4.67 (± 0.75), communication was reported as the third highest scoring aspects of the TDE. Over three quarters of players (73.7%) agreed (and strongly agreed) that they could regularly converse with their coach regarding the areas they must develop to achieve their potential and progress to the top level in football (m = 5.11 ± 0.93). As such 58% of players reported (agreed and strongly agreed) that their coach explained how their training and competition programme works to aid their football development (m = 4.55 ± 1.12).

The talent development pathway is known to be non-linear, with 60% of academy players agreeing (and strongly agreeing) that their coach had taken time to help identify the next big test on their development journey before it happened (m = 4.64 ± 1.02). 46% of players agreed (and strongly agreed) that their coaches told stories of previous academy graduates and utilised role models to demonstrate what it takes to be a successful football player (m = 4.39 ± 1.07).

4) My coach and I talk about what current and/or past world class performers did to be successful — 13, 22, 26, 12, 3

6) My coach and I regularly talk about things I need to do to progress to the top level in my sport — 32, 24, 17, 2, 1

8) My coach and I often try to identify what my next big test will be before it happens — 15, 31, 21, 6, 3

21) My coach explains how my training and competition programme work together to help me develop — 12, 33, 25, 6

■ Strongly agree ■ Agree ■ Agree a little bit □ Disagree a little bit ■ Disagree ■ Strongly Disagree

Figure 3.5: Frequency of communication responses

Alignment of Expectations

The alignment of expectations factor reported a calculated mean score of 4.66 (± 0.75), which places it as the second lowest scoring factor (however, still relatively high on the six-point Likert scale) within the investigated academy environment.

Three quarters (71.1%) of the academy cohort agreed (and strongly agreed) that their progression was reviewed regularly and on an individual basis by coaches and others involved with their development (m = 4.87 ± 0.84). Of the players participating in the study, 64.5% reported that they regularly (agreed and strongly agreed to TDEQ 14) set individual goals that was specific to their personal development (m = 4.66 ± 1.21). A further 81.5% however agreed or strongly agreed that they were involved in most of the decisions relating to their individual football development (m = 4.89 ± 0.92).

Lastly, ensuring that the expectations and intentions of all major stakeholders in the academy players' lives are aligned is crucial to provide a coherent and supportive network for the player. With that in mind, over half of players felt that their coaches made time to converse with their parents regarding their progression and overall development (m = 4.37 ± 1.22). Leaving 40% of the academy cohort unsure how often coaches took the time to speak with their parents. Maybe unsurprisingly, only 42.1% of players agreed or strongly agreed that the advice they received from their parents aligned with that which was provided by their coaches (m = 4.51 ± 1.19). With an equivalent percentage of academy players (42.1%) unable to confidently report (disagree and strongly disagree) if the advice from their parents and coaches was the same. Which may infer a correlation between the lack of coach to parental

communication and subsequently little coherence of feedback and advice provided by both parties.

Frequency of Responses for Alignment of Expectations
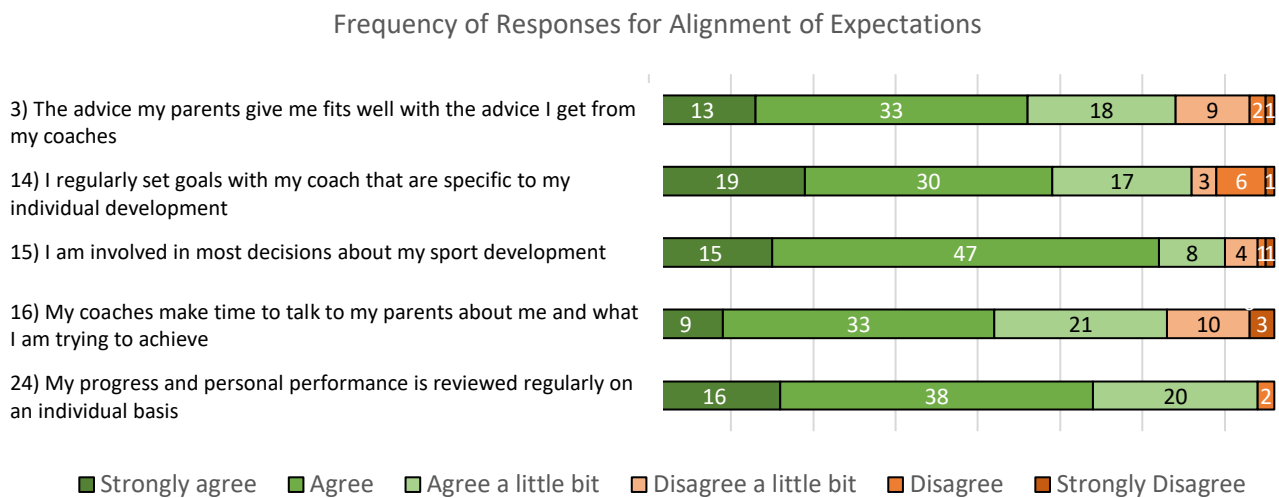
Figure 3.6: Frequency of alignment of expectation responses

Holistic Quality Preparation

With a mean score of 4.37 (± 0.82), this factor was the lowest scoring element of the development environment. This factor is comprised of seven, negatively phrased items, therefore a lower score would disagree with the item and thus relate to perceptions of a higher quality environment. However, to align with the scoring structure of the remaining TDEQ factors, the scoring responses were reversed upon collection to maintain that higher scores related to higher quality perceptions of the environment.

Items relating to the well-being of players were scored moderately, with 56.5% of players reporting (agree or strongly agreed) that their coach regularly checked on their well-being (m = 4.39 ± 1.27) and taught them how to balance training and competition demands while emphasising the need to recover (m = 4.38 ± 1.25).

Half of the academy players agreed or strongly agreed that their coach took an interest in their life outside of football (m = 4.22 ± 1.26), with a further 39.5% unable to report with any great confidence the degree to which their coach cared about their life outside of academy football activities. Coinciding with a limited number of players feeling as if their coach cared about their life outside of the football academy, less than half of the academy players agreed (or strongly agreed) that their coaches encouraged them to plan for how they would deal with things that may go wrong (i.e., dip in performance,

injury, deselection) (m = 3.79 ± 1.47). With a further 59.2% agreeing (and strongly agreeing) that they had been given help to develop their mental toughness (m = 4.51 ± 1.14).

The majority of players (67.1%) also felt (agreed and strongly agreed) that the guidelines for progression within the academy and towards a professional football contract were relatively clear (m = 4.61 ± 1.12), with only 6.6% disagreeing (disagree or strongly disagree). Seven out of ten players (69.8%) also agreed (or strongly agreed) that their coach took time to speak with other coaches who were involved in their football development (m = 4.66 ± 1.28).

Frequency of Responses for Holistic Quality Preperation

	Strongly disagree	Disagree	Disagree a little bit	Agree a little bit	Agree	Strongly agree
2) I am rarely encouraged to plan for how I would deal with things that might go wrong	6	26	12	23	7	2
5) My coach doesn't appear to be that interested in my life outside of sport	9	29	19	11	5	3
10) The guidelines in my sport regarding what I need to do to progress are not very clear	13	38	13	7	4	1
11) I don't get much help to develop my mental toughness in sport effectively	12	33	20	6	3	2
12) My coach rarely takes the time to talk to other coaches who work with me	16	38	16	2	3	1
13) My coach rarely talks to me about my well-being	15	28	12	15	5	1
17) I am not taught that much about how to balance training, competing and recovery	11	32	19	8	5	1

Figure 3.7: Frequency of holistic quality preparation responses

An Overview of The Self-Regulation Skills of Academy Players

Analysis of self-regulation data collected demonstrated the frequency of which players engage in self-regulatory behaviours in relation to their footballing development. Descriptive statistics, including means and standard deviations for all self-regulation factors and overall engagement in self-regulation can be found in table 3.4 (with factorial descriptions). Higher scores correspond to an increased level of engagement with the items in the FSRL-SRS (1- never, 5- always). Participants reported a mean overall self-regulation score of 3.51 (± 0.55), while prominently spending their time in reflective nm = 3.75 ± 0.62) and evaluative (m = 3.75 ± 0.65) phases of the self-

regulation process. Considerably less time was spent planning their behaviours that would impact the rate of football development (m = 3.01 ± 0.66).

Table 3.5: FSRL-SRS overall and factor means and standard deviations

Factor Name	Academy Mean	Academy SD
Reflection	**3.75**	± 0.62
Evaluation	**3.75**	± 0.65
Planning	**3.01**	± 0.66
Overall	**3.51**	± 0.55

Reflection

Within the reflection factor, most players (73.7%) commonly (often and always) tried to identify their weakness (m = 3.96 ± 0.81) and strengths (m = 3.86 ± 0.69) prior to each training session. Coincidentally this corresponds with nearly 50% of players reporting that they 'always' worked on their strengths and weaknesses in a training session (m = 4.24 ± 0.83).

Further items reported similar mean scores relating to the player's ability to identify strong (m = 3.75 ± 0.85) and weaker areas of their game (3.83 ± 0.89) while planning approaches to continually develop such areas. Items that reported lower mean scores related to the frequency of which players monitor and track their progress during training sessions. With over a third of players reporting that they only 'sometimes' kept track of their improvements made during a training session (m = 3.54 ± 0.90), and just over half of the players often or always referenced a pre-set practice goal to help monitor their development during a session (m = 3.66 ± 0.95). Therefore, unsurprisingly, players recorded a lower level of engagement with items associated to the setting and utilisation of practice goals/targets. With nearly one in five players rarely (never and seldom) focusing on their practice goal during a session (m = 3.49 ± 1.06) and infrequently (never and seldom) referring to their practice goal to check how close they are to achieve their target for that session (3.30 ± 1.04).

1) Each practice session I think about both my strengths and weaknesses and of ways that I can improve them

2) During each practice session I check whether I make progress in my football skills.

3) I know my strengths and weaknesses and at each practice session I plan how I can improve them.

4) During each practice session I keep track of my football performance relative to my practice goal (so that I know where I stand).

5) Each practice session I try to identify my strengths and think about ways to improve these even more.

6) Each practice session I work on my strengths and weaknesses because I believe in my potential as a football player.

7) Each practice session I focus on my practice goal.

8) During each practice session I check what I still have to do to reach my practice goal.

9) Each practice session I try to identify my weaknesses and think about how to improve these.

■ Always ■ Often □ Sometimes ■ Seldom ■ Never

Figure 3.8: Frequency of reflection responses

Evaluation

Players reportedly spent a considerable amount of time evaluating their practice performances (m = 3.75 ± 0.65). From the academy cohort, over 70% regularly (often and always) evaluated training sessions as a whole to identify the positives and negatives (m = 4.09 ± 1.05). A similar portion of players also evaluated sessions on a deeper level to consider positive and negative actions within specific training situations or practices (m = 3.93 ± 0.91). Many academy players (69.9%) frequently (often and always) reported that they spent time following practice sessions to evaluate whether they did the correct things to aid their development as a football player (m = 3.84 ± 0.83). One in three players only 'sometimes' kept track of their performance during training sessions, utilising this as a way of monitoring the skills that require further development (m = 3.66 ± 0.87).

Less than half of the players evaluated their performance in training sessions and then applied their evaluations to practice specific skills either alone or with others outside of organised, academy training sessions (m = 3.57 ± 0.96). Aligning with results presented above that related to the use of practice goals in the athlete's development, unsurprisingly half of the players did not actively (never, seldom or sometimes) evaluate

their performance in relation to the pre-set practice goals following each practice session (m = 3.24 ± .1.07).

Frequency of Responses for Evaluation

10) Each practice session I think back and evaluate whether I did the right things to become a better player	16	37	18	5
11) After each practice session I think back at situations I've been through during practice and use this information to practice specific situations either alone or together with others	15	22	31	7
12) Each practice session I keep track of my performance during practice, so that I can see which football skills I must improve.	11	36	22	6
13) After each practice session I think back and evaluate whether I did the right things to reach my practice goal.	11	29	21	11	4
14) After each practice session I think about what I did right and wrong during the session.	33	27	10	6
15) After each practice session I think back at specific practice situations and what I did right and wrong.	22	33	16	4

■ Always ■ Often □ Sometimes ■ Seldom ■ Never

Figure 3.9: Frequency of evaluation responses

Planning

Planning behaviours was the lowest scoring factor of the FSRL-SRS, with a mean score of 3.01 (± 0.66), which correlates to players only 'sometimes' (3 = 'sometimes') engaging in the planning of behaviours to enhance their footballing development. One in five players 'seldomly' or 'never' set clear goals for each training session (3.57 ± 1.16), which may explain a reported lack of reference made to practice goals when evaluating and reflecting upon training performances. Prior to training sessions, 31.6% and 10.5% of players often or always took time to plan which skills they wanted to develop during the session (m = 3.26 ± 1.03). Coincidently, players reported a lower mean score when they were asked how often they planned their training actions in relation to achieving their practice goal (3.18 ± 1.13).

Around half of the academy cohort regularly (often and always) made use of information from TV, the internet or from watching football matches to aid their development of footballing skills (3.37 ± 1.02). Interestingly, only 19.7% of players regularly (often and always) referred to written media such as books, magazines and interviews for information that could be aid their development prior to each training session (m = 2.68 ± 0.99).

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Items that scored lowest within this factor correspond to behaviours that relate to the volume of self-directed, additional training that players undertook prior to and after structured academy sessions. With 43.5% of players not frequently (never and seldomly) arriving early for structured, academy sessions to work on specific skills (m = 2.71 ± 1.25). Two thirds of academy players never or seldomly dedicated additional time following academy sessions to work on areas of their game (m = 2.26 ± 1.18).

Frequency of Responses for Planning

	Always	Often	Sometimes	Seldom	Never
16) I have a clear goal for each practice session.	19	23	20	10	4
17) Before each practice session I plan which skills I want to work on during the session.	8	24	28	12	4
18) Each practice session I use information from TV/internet/live football matches to become a better football player.	9	27	27	9	4
19) Before each practice session I plan my actions relative to the goal I want to attain during the practice session	5	30	25	11	5
20) Each practice session I use information from books, magazines, and interviews about elite players to develop myself as a football player.		14	33	16	12
21) I come early for each practice session in order to work on specific skills.	6	16	21	16	17
22) After each practice session I stay to work on specific skills.	2	12	17	18	27

Figure 3.10: Frequency of planning responses

Discussion

The aims of this study were to investigate the perceived quality of an elite tier football academy environment in Scotland and to examine the self-regulation competencies of young academy players. The academy players predominately 'agreed' (M= 4.64, 4 = *agree a little bit*, 5 = *agree*) that the academy environment was of a high-quality. Subscale factors, long-term development and support network were scored most favourably with the majority of players 'agreeing' that the environment was conducive of long-term development (M= 4.85, 4 = *agree a little bit*, 5 = *agree*) and possessed an accessible, wide range of specialised sources of support (M= 4.73, 4 = *agree a little bit*, 5 = *agree*). The environment's ability to understand the players in a holistic, person first manner and to prepare them appropriately for life outside of sport was perceived as the weakest aspect of the academy. Subscale scoring highlighted that players mainly only

'agreed a little bit' that the academy provided a holistic development experience (M= 4.37, 4 = *agree a little bit*, 5 = *agree*). Self-regulation results indicated that the academy players spent an equal volume of time reflecting on and evaluating their football learning, specifically players demonstrated that they "sometimes" (Likert – 3) or "often" (Likert – 4) engaged with such behaviours (M=3.75). The 'planning' subscale was the lowest scoring aspect of self-regulation within the academy cohort, players only engaged 'sometimes' (Likert – 3) with the planning behaviour that related to future footballing development (M = 3.01).

The Academy Environment as a Learning Landscape

Overall, the academy environment was perceived to be of a good quality when compared to previous research that effectively utilised the TDEQ (and TDEQ5) to evaluate development environments (Brazo-Sayavera et al., 2017; Gangsø et al., 2021; Gledhill & Harwood, 2019; Li et al., 2019; Mills et al., 2014a; Thomas, Abbott, et al., 2020; Wang et al., 2011). Specifically, the findings from this study mirror the strengths and weaknesses of other professionalised, football development environments (Gangsø et al., 2021; Gledhill & Harwood, 2019; Mills et al., 2014a). For example, research identified common strengths such as the availability and appropriateness of extensive support networks and the perceived focus centred around the long-term development of talent (Gangsø et al., 2021; Gledhill & Harwood, 2019; Mills et al., 2014a).

As such, the academy players in this study 'agreed' that their environment was cognisant of the longer-term nature of talent development and provided the suitable provisions to support and facilitate their development from talented youth athlete to senior, professional player. Several items that comprised the long-term development subscale scored within the top 25% of all items, indicating a level of agreement from the players that the environment appeared to encourage and allow them to learn experientially, with mistakes portrayed in positively as opportunities to learn from and inform future behaviours. Additionally, the creation and utilisation of training programs that aimed to effectively develop talent over a long-term period and emphasised the importance of fundamental skill improvement were conducive to development and future success. Factorial findings and item scores resemble a degree of consistency with those of Gledhill and Harwood (2019) and Mills et al., (2014a) who investigated female centres of footballing excellence and male football academies in England respectively.

The quality and availability of the support network that the academy provided for the developing players was identified as the second highest scoring aspect of the TDE. Specifically, players on average 'agreed' that the academy environment possessed a variety highly specialised professionals who were available and readily accessible to support their needs when required. Research has shown wide-ranging and diverse sources of support are essential to facilitate the development of young athletes and aid the adoption of positive coping mechanisms in response to challenges that expectedly arise along the development pathway (Rees & Hardy, 2000; Staff et al., 2017). Previous football specific research (Gangsø et al., 2021; Gledhill & Harwood, 2019; Mills et al., 2014a) shares comparable findings which reinforces the importance of a high quality support network as an essential facet of effective talent development (Martindale et al., 2007).

Following long-term development and support network, both communication and alignment of expectation subscales were scored similarly to one another, indicating that the players 'agree' that the academy environment was as one that fostered effective, formal and informal, coach-player communication channels. The ability of coaches to communicate effectively with players may also explain the perceived high degree of agreed coherency between both parties in relation to their aims and expectations of the talent development pathway. Gangsø's (2021) research with elite youth football environments in Norway reported that within the top academies, communication and alignment of expectations were perceived to be of a similar quality, with both subscales identically scored. Within the current environment, there was an agreement that coaches regularly engaged with players to discuss and emphasise the "things" (e.g. approaches to training, importance of competition etc.) that were required of them in order to reach the professional level. Possessing an understanding of the demands and requirements to successfully navigate the talent development pathway provides players with the knowledge needed to inform and direct the application of psycho-logical and -behavioural resources (self-regulation: planning). Additionally, the coaches within the academy environment appear to effectively include the players within the development process, mutually collaborating to make significant football development decisions and regularly reviewing performance and progression on an individual basis. Therefore, the academy environment seems to support and promote player autonomy and encourages

the involvement of the developing athlete in their own journey. Consequently, this supports earlier studies that emphasised the need for academy football players to 'take responsibility' for their football development and engage in self-regulation of learning (Aalberg & Sæther, 2016; Flatgård et al., 2020; Larsen et al., 2013; Mills et al., 2014b).

The holistic quality preparation subscale was the lowest scoring aspect of the academy environment. Although the lowest scoring subscale in the current environment, the players tended to still 'agree a little' that the academy was able to prepare them for life both inside and outside of the footballing domain. Although holistic, quality preparation was not the highest scoring aspect of the current academy environment, the subscale scored higher when compared to previous research in football development environments (Gangsø et al., 2021; Gledhill & Harwood, 2019; Mills et al., 2014a). The holistic quality preparation subscale encapsulates a variety of concepts, coaching behaviours and programme provisions that centrally relate to the current and future, physical and psychological, well-being of the developing athletes. Academy football players dedicate a significant portion of their childhoods to pursue their footballing ambitions, over the course of one football season, academy players attend an average of five training sessions per week and can be involved in up to fifty games throughout the season (Ford et al., 2020). This substantial and sustained dedication of time to the development of sport-specific competencies allows for the accumulation of the training hours required to achieve sporting expertise (Ericsson et al., 1993). However, an unbalanced emphasis placed on footballing developing over a holistic development approach may be problematic. The time and resources that young players dedicate to academy activities may contribute to the development of an excessively strong athletic-identity and subsequent athletic-foreclosure, this which may pose significant behavioural, psychological and well-being issues in future (Mitchell et al., 2014; Murphy et al., 1996).

As was advised by Martindale et al., (2013), and in line with the practical nature of this study, data pertaining to the quality of the development environment was analysed on an item-by-item basis and inductively analysed to form meaningful, practical insights. A two stage analysis process involving the 'lowest' scoring 25 percentile and next 'lower' 25 percentile of items was utilised to identify five 'weaknesses' of the current environment, five themes emerged, three exclusively from the 'lowest' 25 percentile of

items (i) pla*nning and preparation for future challenge,* ii) *holistic well-being and recovery considerations,* and iii) *coach communications with significant others*) and two emerging from the supplementary phase of 'lower' scoring items (i) *(over) emphasis on current performance/winning*, and ii) *individualisation of training programmes*). Previous research also adopted a similar, item-by-item, inductive re-theming process in order to generate practically specific, insightful findings that aimed to enhance the effectiveness of the analysed development environments (Gledhill & Harwood, 2019; Hall et al., 2019).

Planning and Preparation for Future Challenges

Although participants perceived the football academy environment was cognisant of and designed to facilitate the development of players over a long-term period of time, three items (two from the lowest quartile and one from lower quartile) which shared similar connotations were themed, 'Planning and preparation for future challenge'. This theme was comprised of items that related to the environments (in)ability to (a) utilise role models to demonstrate successful developmental behaviours, (b) encourage players to plan for obstacles and challenges that emerge along/from the talent pathway, and (c) to educate players sufficiently in order to aid the development of mental toughness competencies and strategies.

One of the highest scoring items from the environment analysis related to the fact that players were afforded experiential learning opportunities by making and learning from mistakes. Interestingly, however, one of the lowest scoring items highlighted that the academy players only 'agreed a little' that coaches and academy staff encouraged them to plan for how they might deal with challenges and setbacks on their developmental journey. As the literature demonstrates the talent development process is complex and dynamic (Abbott et al., 2005; Simonton, 2001), littered with an array of various 'bumps in the road' that aspiring athletes must overcome to reach the top (Collins et al., 2016a; Collins & MacNamara, 2012). In order to face, tackle and overcome the challenges that emerge from the talent pathway, developing athletes must possess some form of a psychological coping 'toolkit', containing a variety of psychological competencies (e.g. resilience, mental toughness) and appropriate coping strategies (Collins et al., 2016a; Collins & MacNamara, 2017b; MacNamara & Collins, 2013). The development of mental toughness was identified within the 'lower' scoring percentile of items. Mental

toughness relates to the consistent production of high level of performance and/or development despite the consistent presence of everyday stressors and challenge (Gucciardi et al., 2015). Research has revealed several interlinked concepts and predictors of mental toughness within the TDE, for example the presence of effective coach-athlete relationships and the teaching of proactive coping resources (Gucciardi et al., 2009). High-quality TDEs, specifically long-term development considerations and holistic quality preparation, are perceived to possess the ability to facilitate the development of mental toughness through the satisfaction of basic psychological needs (Li et al., 2019). Therefore, the perceived lack of encouragement to plan for and prepare to deal with future setbacks by developing valuable psychological competencies, such as mental toughness, and coping 'tools' may contribute to the inability of players to deal with stressors and overcome pathway challenges. Difficult developmental experiences possess the potential to negatively impact the players' physical and psychological well-being if approached ineffectively or with the incorrect psychological 'toolkit'. This may therefore contribute to instances of burnout and possible drop out from the sport entirely (Taylor & Collins, 2019).

The talent development process within football *could* be considered especially complex, or simply ineffective, considering the competitiveness and very few young players who successfully 'make it' and reach the professional level. This, therefore, equips and ensure coaches have access to a plethora of information rich resources pertaining to the biographies, competencies and behaviours of players who have 'made it' and those who have not (Martindale et al., 2007). The elite sailing environment examined by Henriksen and colleagues (2010a) revealed that young prospects served an informal 'apprenticeship' where elite athletes shared technical knowledge, offered guidance regarding life of an elite sailor and acted as jousting partners in training. Earlier research concerning elite, development football environments found that the use of role models was an underutilised commodity which may be interlinked to the observed distance between elite, professional teams and the immediate development squads that aim to supply them with talented young players (Aalberg & Sæther, 2016; Larsen et al., 2013). Implementing the use of role models and reducing the perceived distance between older, more challenging age groups/teams exposes developing players to the demands and challenges that lie ahead. This in turn aids the preparation and behavioural

development which equips players with the competencies and strategies to overcome challenges and facilitate smooth transitions through academy age groups and into senior football (Aalberg & Sæther, 2016; Henriksen et al., 2010b, 2011). Findings from Gledhill and Harwood (2019) shared clear similarities with the current study, from their item-by-item content analysis, environmental weaknesses relating to a lack of emphasis placed upon the development of psychological coping resources to tackle future challenges and the underutilisation of role models were identified.

Holistic Well-Being and Recovery Considerations

Holistic quality preparation was the lowest scoring subscale of the TDEQ5, therefore perhaps unsurprisingly several individual items that comprise the factor were identified within the lowest scoring quartile. Players perceived environmental stakeholders, coaches in particular, were not overly cognisant of the person behind the player. Specifically, players only 'agreed a little bit' that coaches took an interest in their lives outside of football, that their well-being was regularly discussed and taken into account and that education was provided on how to best balance training, competition and recovery demands. As discussed previously, aspiring football players dedicate a significant portion of their childhood and adolescence to developmental activities within talent development programmes (football academies), this coupled with a perceived overemphasis on the 'player' – and their performance – and little focus placed upon the 'person' behind the player may exacerbate the development of an unhealthily strong athletic identity and identity foreclosure (Mitchell et al., 2014; Murphy et al., 1996). The considerable volume of time players spend at the football academy and the subsequent hours of contact time with academy staff contributes to the high degree of influence that coaches have on the developmental culture and process. Nesti and Sulley (2014) argued that coaches who endeavour to holistically support their athletes can positively influence their thinking and life choices which in turn may enhance the players' perceptions of the value of their life away from football (Roe & Parker, 2016).

The results of the item-by-item content analysis in current study identified one of the lowest scoring items related to education (or lack of education) surrounding recovery methodologies following high training and competition loads. The players only 'agreed a little' that they were taught how to balance training and competition demands with appropriate recovery methods. The nature of academy football results in young, elite

players possessing a relatively high risk of injury and illness as a result of frequent exposure to increased levels of physical, cognitive and psychosocial stress stemming from the environmental demands of the football academy (Brink et al., 2010). High levels of training and competition load, coupled with ineffective/inappropriate recovery strategies, have been found to result in a deterioration of player perceptions of well-being within English football academies (Noon et al., 2015). Specifically, physical stressors were related to muscular injury and general illness, while psychosocial stress was associated with the occurrence of illness when inadequate or no recovery approaches were utilised (Brink et al., 2010). The environment and significant individuals within the environment (e.g., coaches) are responsible for and possess the ability to positively influence the development and maintenance of player well-being. Recent research in Danish and English football academies have highlighted the importance of holistic player development and prioritizing player welfare in order to optimise the talent development environment and process (Larsen et al., 2013; Mills et al., 2014b). Ivarsson and colleagues (2015) found that Swedish academy players' perceptions of the quality of their development environment were directly related to self-assessed well-being variables, with players in high quality environments experiencing higher levels of well-being compared to academy players in low quality environments. Additionally, 50 English academy players reported similar findings to the current study, deficiencies were reported relating to a lack of interest in the players' lives outside of football and a limited consideration paid to the well-being of players (Mills et al., 2014a).

Coach Communications with Significant Others

The availability and accessibility of wide range of support staff (i.e., coaches, physiotherapists, psychologists, sport scientists) within the academy has been established as one of the strongest aspects of the examined TDE. Although communication channels between academy staff and players appear open and effective, communication and coherency between academy stakeholders and other major stakeholders in the players' lives, such as parents and teachers, was deemed as far less effective. Henriksen's ATDE model (2010a, 2010b, 2011) illustrates the number of stakeholders that directly (or indirectly) influence the talent development process and the complex interactions between each individual variable component. Henriksen

attributes the success of effective TDEs to strong, closely knit relationships and the interconnectedness between environmental stakeholders (Henriksen et al., 2010a, 2010b, 2011). The nature and influence of parent-coach dyad on the talent development process has received recent academic attention. The quality of the parent-coach dyad involves two of the most prominent figures in an athletes' support network, research points to this relationship as a collaborative, athlete-centred and contractual in nature (Wall et al., 2019). Smoll and colleagues (2011) stress the importance of frequent, open communication channels between parents and coaches to develop dyadic harmony and coherency. Fostering and developing harmonious coach-parent relationships within talent development programmes allows for both parties to understand their role and the associated functions required to support athletic development. Research suggests that effective parenting must acknowledge the coach's authority in directing and nurturing of their child's talent, parents must also look to reinforce the coach's message in conjunction with encouraging positive athlete attitudes and behaviours in order to optimise the talent development process (Gould et al., 2008; Harwood & Knight, 2015; Knight & Harwood, 2009).

The perceived lack of communication between academy coaches and parents may therefore directly explain the believed lack of coherency that exists between the advice given by coaches and parents. A lack of coherence within TDEs may negatively impact the developmental success of academy prospects, misconstrued guidance and conflicting agendas from various stakeholders possess the ability to derail development and academy progression (Pankhurst et al., 2013). Recent research has demonstrated a lack of coherency relating to 'alignment of expectations' and 'holistic quality preparation' across international, regional and club TDEs in hockey (Curran et al., 2021). Within tennis, Pankhurst, Collins and MacNamara (2013) also discovered a lack of coherence between stakeholders' (parents, coaches and national governing body) understanding of the talent development process and the roles of each stakeholder within the process. Furthermore, players in the current study believed that their school/educational institution was not aware of the sport specific demands that were placed upon them by the football academy. In order to satisfy both academic and sporting demands, the young prospects attempt to navigate a dual career – seeking to excel in both by dedicating the required time to conflicting domains. Historically,

excelling in both academic and sport domains has proved difficult in part due to the cultural and logistical conflicts (Christensen & Sørensen, 2009), the recent professionalisation of talent development has heightened the focus and committed required to progress within talent development programmes (Ford et al., 2020). As a result, football clubs have sought to create close relationships with educational institutions and endeavoured to integrate schooling within the academy schedule by employing coordinators who work closely with both domains to ensure players' needs and well-being are maintained throughout the dual careers pursuit (Aalberg & Sæther, 2016; Larsen et al., 2013). The creation of sport schools also aim to alleviate the conflict posed by competing academic and sporting demands, working in partnership with clubs, sport schools offer opportunities for modified schedules that facilitate opportunities for specialised sport specific training throughout the day and allow players to 'catch up' with academic lessons outside of the traditional school day (Henriksen et al., 2010b, 2011).

Possession and Utilisation of Self-Regulation Skills and Strategies

The data pertaining to the self-regulatory abilities of the academy players highlighted the frequency with which players engaged in reflective, evaluative and planning behaviours relating specifically to their footballing development. Both reflection and evaluation reportedly received an equal share of engagement from the players (M=3.75) with future planning receiving slightly less attention (M = 3.01). The results from the current study share stark similarities with previous research that utilised the FSRL-SRS in professional football academy settings, Norwegian academy players reportedly engaged with reflection and planning in equal quantities (M=3.77 and M=3.74 respectively) with planning receiving comparable attention to the current study (M=3.00) (Toering et al., 2013).

Reflection is perhaps one of the most crucial processes required in the acquisition and translation of knowledge into action, requiring the learner to make sense of previous learning experiences and to utilise this new information to inform future behaviours and approaches to new learning opportunities (Ertmer & Newby, 1996). Consistent engagement with the reflective process may also include the assessment and acknowledgement of personal strengths and weaknesses during and following training and competition experiences. The current study found that academy players

'sometimes' or 'often' engaged with self-reflection behaviours, as highlighted previously the data parallels with that of Toering and colleagues (2013) from a similar football academy cohort. Several cross-sectional and longitudinal studies investigating the self-regulated learning phenomenon have identified reflection as a key aspect which possess strong predictive and discriminatory properties (Jonker et al., 2019; Jonker, Elferink-Gemser, & Visscher, 2010; Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012). Toering and colleagues (2009) reported that the level of engagement with reflection was able to differentiate between elite, academy and non-elite youth football players in the Netherlands. Recent research extends and reinforces Toering et al's., (2009) findings with the level of engagement in reflective practice found to be positively related to the likelihood of becoming a professional football player (Jonker et al., 2019). Deep, critical reflections precede the 'forethought phase' in Zimmerman's model of self-regulation (2006), therefore frequent engagement with appropriate, realistic reflections of self and previous experience will inform the selection, deployment and assessment of approaches to learning (Zimmerman, 1986; Zimmerman & Kitsantas, 1997). Thus, contributing to successful attainment of sporting excellence by assisting the development and progression through the acquisition of sport specific competencies.

Sharing similarities with reflection, the evaluation subscale within the FSRL-SRS relates closer to the, cognitive and metacognitive, evaluation of performance and experience against pre-determined mastery goals, performance indicators and socially desirable outcomes in order to ascertain the effectiveness of selected learning approaches and behaviours (Zimmerman, 2006). The extent of self-evaluations as developmentally facilitative depend on the evaluation criteria selected by the learner and the interpretation of lived events against the selected criteria, extremely low or high evaluative standards can diminish future performance and progression (Bandura, 1991; Schunk, 1983; Zimmerman, 2006). The findings from the current study show the academy players to have comparable levels of engagement of self-evaluation and -reflection, engaging in both behaviours on a 'sometimes' or 'often' basis. In comparison to earlier research, the academy players in the current study appear to engage more with evaluative behaviours than Dutch international elite, elite and non-elite academy players (Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012). The evaluation subscale of the FSRL-SRS encompasses specific behaviours that relate to the

evaluation of performance and learning progress made against practice goals and the success of specific actions that occurred within a training session. Although the quality and frequency of engagement with self-evaluation behaviours has not previously demonstrated the capability to significantly differentiate between the 'ability' of academy players, 'more elite' players frequently report to spend more time evaluating their performance than 'less elite' peers (Jonker, Elferink-Gemser, & Visscher, 2010; Jonker, Elferink-Gemser, Toering, et al., 2010; Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012). The consistent evaluation of self and the lived learning experiences and performances against an appropriate, realistic learning goal/milestone or performance indicator affords opportunities for the learner to adapt and adjust the selected learning approach or behaviours to maximise the learning or performance within training and competition settings.

The reported levels of engagement with both reflection and evaluation behaviours within the academy cohort may be influenced by or attributed to the opportunities for experiential learning that players identified as one of the strengths of the football academy. A key component within the experiential learning process is the learner's ability to evaluate and reflect upon their lived experiences, such behaviours allow the learner to make sense of their experiences and extract valuable insights that contribute to the development of knowledge (Huntley et al., 2019). Therefore, the approach adopted by the coaches to allow players to learn from their mistakes in an experiential fashion may, directly or indirectly, encourage the players to development and utilise, effective reflective and evaluative behaviours.

Planning within the self-regulation process is comprised of the purposefully forethought and the resultant cognitions and behaviours that inform decisions and initiate actions relating to the accomplishment of a specific learning or performance goal/milestone. Positioned prior the learning event (practice session or game) and informed by previous reflections and evaluation, effective planning requires the learner to accurately appraise the demands of the event before selecting an appropriate approach and suitable behaviours that aim to optimise the potential learning available (Zimmerman, 2006). The findings from the current study suggest that although the academy players spend the less time planning their approaches to learning than they do reflecting and evaluating their learning, players 'sometimes' engaged with planning prior to academy

learning activities. The planning subscale of the FSRL-SRS consists of items relating to the utilisation of media resources (i.e., player interviews, online videos) to inform practice behaviours, purposefully linking training behaviours and intentions with pre-set practice goals and the tangible action of arriving early and staying after training to further develop specific skills and competencies. Interestingly, planning was found to be positively associated with task orientation and intrinsic motivation of Dutch speed skaters, which consequently resulted in positive associations with training volume and performance improvement (Elferink-Gemser et al., 2015). Therefore, frequent engagement with quality planning processes may provide academy players with greater direction and purpose when approaching learning opportunities, resulting in a more efficient use of practice time where the athlete is intrinsically driven to achieve a realistic, mastery orientated goal.

Findings from the environmental analysis highlighted the players' perceived there to be a lack of the necessary provisions and guidance to help them plan ahead and prepare adequately for any future challenges that may emerge from the development pathway. Specifically, players believed that little encouragement and emphasis was placed upon contingency planning in the event of encountering significant stressors or challenging experiences. This lack of consideration attributed to possible future challenges and little focus placed on the development of appropriate coping and learning strategies may offer some explanation as to the lower levels of strategic planning skills and engagement. Coupled with the previously identified, perceived over-emphasis placed upon current performance and winning, this value placed on short-term performance outcomes may also contribute and discern academy players from adopting a long-term planned approach to their development.

Conclusion

To conclude, the current piece of research offers an overview of the quality of the development environment within an elite tier Scottish football academy and the self-regulatory behaviours and competencies of the academy players. The academy environment was perceived to be of a good quality, particular strengths relating to the long-term development focus and the comprehensive nature of an accessible support network for all players. Players believed the academy supported their long-term

development and endeavoured to allow players to take responsibility for their own development by involving players in most major decisions pertaining to their own development and afforded opportunities for players to learn experientially. Areas of the academy that were perceived to require further development related to the planning and preparation of players for future challenges which coincided with and may potentially influence the relatively 'low' levels of engagement with strategic future planning behaviours. Additionally, the effectiveness of the academy may be enhanced through the adoption of a more holistic approach to developing talented players, placing a greater emphasis on the person behind the player and educating players on how to balance academy demands, life challenges and appropriate recovery methodologies. Although the academy was perceived to offer a wide-ranging support network where players could access and communicate with coaches and support staff freely, communication and coherency between coaches and significant, non-footballing, stakeholders in the players' lives (i.e., parents, school) requires further improvement. Lastly, the players appeared to engage with the assessed self-regulatory behaviours (planning, evaluation and reflection) on a semi-regular basis with players sometimes or often reflecting and evaluating their learning experiences. Less time was spent strategically planning future learning approaches and behaviours to aid the players' footballing development.

Theoretical and Academic Considerations

From a research perspective the current study demonstrates a valid and appropriate line of investigation which examines the self-regulatory skills of academy football players and the quality of a Scottish football academy. At present, there exists a dearth of research surrounding talent development identification and processes within professionalised youth football settings in Scotland (Dugdale et al., 2020; Dugdale, McRobert, et al., 2021a; Dugdale, Sanders, et al., 2021). Although the recent work of Dugdale and colleagues (2020; 2021a; 2021) has 'nudged the spotlight' onto academy football in Scotland, no known research has examined the quality of the academy development environment. Therefore, the current study presents an insightful perspective of a previously unresearched development landscape. Limitations relating to the generalisability of the current findings are acknowledged. Only one Scottish football academy was selected/recruited to participate in the research, although the

examined academy is 1 of 9 elite tier academies in Scotland the findings may not accurately represent other elite and lower tiered football academy environments in Scotland.

Secondly, utilising a cross-sectional research design provided an 'in the moment' perspective of the players' perceptions of the quality of their learning environment and the self-regulatory behaviours they currently engage in. Collection of 'in the moment' data eliminates the potential for retrospective, recall bias that can distort the actual lived experiences and perceptions of participants. Self-regulatory skills, such as planning, reflection and evaluation, are understood to be dynamic, malleable competencies that can be influenced directly by the surrounding physical, social and cultural environments. Therefore, assessing the self-regulatory competencies of developing academy players at a singular, static time point offers a mere snapshot of data and limits the ability to assess the progression or regression of self-regulation skills over a sustained period of time (i.e., a season or throughout the development journey).

Lastly, in line with recommendations from Martindale et al., (2010) and in accordance with the work of Mills et al., (2014a), Gledhill and Harwood (2019) and Hall et al., (2019), TDEQ5 data was analysed on an item-by-item basis to uncover contextually specific practical insights and implications for practice. Item-by-item analysis afforded an opportunity to glean more specific detail, allowing results and trends to emerge and form novel, context specific, practically applicable findings. As with all self-report data collection methods, social desirability bias is a prominent limitation of the current study (Van de Mortel, 2008). The prominence and influence of social desirability is perhaps compounded by the nature of the academy environment. As a result of the incredibly high annual turnover of academy players (Güllich, 2014) and the perceived power/capital coaches possess in the selection, progression and deselection of players, prospects seek to gain the favour of coaches to increase the likelihood of avoiding deselection (Clarke et al., 2018; Cushion & Jones, 2006). This desire to please coaches and gain favour may consequently contribute to inaccuracies and over-exaggerations in the scoring of the self-regulation and environmental perceptions data. Throughout the recruitment and data collection processes, participants were explicitly informed and reminded of the importance of completing the data collection instrumentation honestly, and that the current research was not directly associated with the football academy.

However, considering the age of the participating academy cohort and the nature of the academy environment, it would be impossible to suggest that, although accounted for and steps were taken to mediate, social desirability bias was entirely eradicated from the data collection process.

Practical Considerations

The presented findings offer valuable, contextually specific insights that identify perceived strengths and areas for improvement within the academy development environment and offer an overview of the self-regulatory behaviours and skills of the academy players. Research findings highlight a variety of environmental strengths and aspects that may require further development to improve the effectiveness of the TDE as a key component within the wider talent development process. Insights from the environmental analysis provide a foundational understanding of the current, practical landscape and offers an evidential basis to inform and direct future developments of the academy environment. The academy environment was perceived as one that placed value on short-term performance and emphasised the need to win in competition, academy stakeholders may look to address this by explicitly defining the importance of long-term development measures to players, parents and coaches to ensure a coherency across all parties. However, if academy players are to successfully graduate from the academy and progress to the senior level where winning is of paramount importance, some exposure to the demands of pressurised competition and the need to 'win' may be appropriate stressor for player to be exposed to. In this instance, the academy stakeholders should look to explicitly communicate the developmental intentions behind exposing players to high-pressure competitive environments where development may be a secondary consideration.

The perceived lack of coherence between major stakeholders associated with the development of academy players can be attributed to the ineffective, and sometimes absent, communication channels between significant individuals in the academy environment (i.e., coaches, physios, sport scientists) and other stakeholders involved in important areas of the players lives outside of football (i.e., parents and school). In order to facilitate the effective development of talented youth players the academy should look to implement more effective channels of communication between the parents and school stakeholders to ensure coherent messages are shared with the player and a

degree of awareness is present across of parties relating to the demands placed upon the developing athletes.

Considering the significant hours young players invest in their footballing development through the involvement with a football academy, hopefully, over a number of years the importance of adopting a holistic approach to consider and develop the person behind the player is essential to not only football development but also general, childhood and adolescent development. From the data, the current academy environment was perceived to lack holistic considerations within the development of young players. Future developments of the academy environment should focus on the adoption of a more holistic approach where coaches value the achievement and progression of players outside of the football academy. Additionally, the academy stakeholders may look to provide education for players and parents surrounding appropriate recovery methodologies and place a greater emphasis on monitoring and maintaining the well-being of the young prospects to ensure development is optimised and negative physical, and psychological outcomes are minimised.

Interestingly, the limited emphasis the academy placed upon preparing and planning for future challenges may influence the reduced level of engagement with strategic planning behaviours. In order to encourage players to strategically plan their development, the academy environment should look to help players identify potential future challenges and plan appropriate approaches to optimise the potential developmental gains from said challenges. Additionally, players commented on the limited use of role models and previously successful academy graduates in their academy programme. Utilising role models and the academy journeys of both successful and unsuccessful players may provide invaluable resources for current academy players to inform their future planning and current developmental behaviours. Creating opportunities for academy players to look ahead, identify developmental challenges and formulate a strategic plan to ensure learning is achieved would promote the engagement with planning behaviours and in turn improve player planning competencies.

Future Considerations

This current piece of research offers on overview of the development landscape of one, elite tier Scottish football academy. At present, Scottish football academies are largely untapped and under-researched environments, therefore, future research should look to further explore the TD process and environmental aspects with the aim of optimising the development of young prospects into high-achieving senior professionals. The current study deemed the use of a condensed version of Martindale's original TDEQ (2010) (TDEQ5: Li, Wang, Pyun, & Martindale, 2015) appropriate due to time constraints within the academy environment and the age of the participating players. The TDEQ (and TDEQ5) is a generic, psychometrically valid instrument to measure the quality of TDEs. In order to capture the nuances of the talent development process and environments in a footballing context, the creation and development of a football specific version of the TDEQ would offer an accurate measurement tool to investigate and capture the contextually specific intricacies related to talent development within football academies. Lastly, the cross-sectional design of the current study offers a mere snapshot of the self-regulatory competencies and behaviours of the developing academy players. Therefore, future research would be wise to adopt a longitudinal focus to investigate the development of self-regulation competencies over a longer period of time, possibly a season or even across the talent development journey. Additionally, the current study offers an academy wide overview of the players' self-regulation abilities and their perceptions of the environment, this therefore does not offer an opportunity to explore the nuanced differences that exist within the largely homogenous academy cohort, particularly pertaining to discrepancies between academy players with a high and low chance of 'making it'. Building upon this, future research should look to explore the potential discriminatory qualities of the players' ability to self-regulate their own learning through the tracking of players and collection of tangible, longitudinal progression/deselection data.

Chapter 4: An Examination of the Academy's Talent ID Processes, and Variances in Self-Regulation and Environmental Experiences of Elite Academy Footballers

Introduction

The Nature of Talent Identification and Development in Football

Performing at an elite level is the pinnacle of sporting competition. To successfully compete at such heights, athletes must be highly competent in a combination of multiple physical, psychological and sport-specific technical and tactical skills. The attainment of expertise in sport has been described as the result of complex interactions among biological, psychological and sociological constraints (Singer & Janelle, 1999). The successful achievement of expertise in sport is the desired outcome of the talent development (TD) process, this process encapsulates the complex bio, socio and psychological interactions that facilitate long term development of the athlete and their competencies.

The ultimate objective of football academies is to identify and develop the competencies of talented youth players. Successful TD programs will consequently increase the volume of highly competent players available for selection within the associated team's senior squad. Football academies are specialised talent development environments (TDE) that aim to support the development of talented young players by adopting an athlete-centred approach that provides access to high-quality coaching, development conducive learning provisions and readily available support staff (Güllich & Cobley, 2017). Rather than casting a wide net into the talent development process, football academies look to identify and select a limited number of players each year to admit to the academy. With earlier instances of professionalism in academy football, the identification of 'talent' also occurs at a younger age. Current performance and ability has for years been utilised as a proxy for future potential with subjective coach opinions used as selection tools (Mujika et al., 2009). This degree of subjectivity has contributed to the bias of physically more developed players gaining access to football academies due to the assumptions made regarding current ability and potential (Dugdale et al., 2020). Early maturing players are commonly recruited due to their current ability which is a consequence of the relative age advantages that are enjoyed due to the earlier onset of maturation compared to later developing academy peers (Meylan et al., 2010). The

'lucky ones' who are later born and/or later maturity and gain access to academies are regarded as underdogs. Research has examined and validated the 'underdog hypothesis' (Cumming et al., 2018; Zuber et al., 2016) which stipulates chronological later born players and/or later maturing players must possess superior sport specific (technical and tactical) and/or psychological attributes in order to remain competitive and survive within a cohort of older, potentially earlier maturing peers (Cumming et al., 2018; Kelly, Wilson, Gough, et al., 2020). The presence and development of elevated sport specific and psychological abilities can be explained by the 'compensation phenomenon' which suggests deficiencies in one area of ability can be compensated by excellence in other areas (Vaeyens et al., 2008; Williams & Reilly, 2000). Therefore, future excellence can be achieved through a unique combination of competencies and characteristics and not as a result of a specific set of abilities that satisfy a pre-determined competency threshold (Meylan et al., 2010). The existence of the 'underdog hypothesis' and 'compensation phenomenon' highlight the dynamic, idiosyncratic nature of achieving excellence in sport, thus demonstrating the importance of practical and scientific practitioners adopting a longitudinal, multidimensional and multidisciplinary approach to the utilisation (and research) of the TID and TD processes (Till, Jones, et al., 2015; Vaeyens et al., 2008; Williams et al., 2020).

Effective Talent Identification and Development; The Role of Psychology

Until recently psychological characteristics and psychosocial behaviours have received limited attention within football specific TID literature. Sarmento and colleagues' (2018) systematic review of literature relating to TID and TD in male football identified six studies that primarily investigated psychological factors (Coetzee et al., 2006; Holt & Dunn, 2004; Holt & Mitchell, 2006; Toering et al., 2009; Van Yperen, 2009; Zuber et al., 2015) and three multidimensional studies that included some form of psychological component in their analysis (Forsman et al., 2016; Huijgen et al., 2014; Reilly, Williams, et al., 2000). MacNamara and colleagues (2010a, 2010b) through their research have highlighted the facilitative nature of psychological skills, psychosocial behaviours, emotions and cognitions throughout the TD journey towards excellence. They have identified a collection of psychologically based factors that underpin an athlete's developmental capacity and the successful realisation of potential (Hill et al., 2019; MacNamara et al., 2010a, 2010b). The undertaking of a systematic review by

Gledhill, Harwood and Forsdyke (2017) into the psychological factors associated with TD in football uncovered 48 psychological factors that contributed to the successful development of footballing talent. Of those 48 factors, which were identified as interrelated; 22 were internal psychological factors (i.e., discipline, self-control, intrinsic motivation etc.), 21 were external social factors (i.e., player-parent relationships, social support, talent development environments etc.) and 5 player-level behaviours (i.e., adaptive lifestyle choices, quality of football specific practice and play, appropriate use of coping strategies, etc.) were identified. Further research reinforces and builds upon the findings from Gledhill and colleagues' review (2017), Ivarsson and colleagues' recent systematic review with meta-analysis reported small effect sizes of task orientation, task-orientated coping, perceptual cognitive functions on future football performance (Ivarsson et al., 2020). Considering the non-linear, dynamisms that characterises the TD journey, it is perhaps unsurprising that a significant number of psychological factors which are identified within the literature as facilitative and supportive relate to competencies, behaviours and cognitions that enable the athlete to cope with the 'peaks and troughs' of the rocky road to excellence (Gledhill et al., 2017; Holt & Dunn, 2004; MacNamara et al., 2010a, 2010b; Van Yperen, 1995). Specifically, the psychological characteristics and behaviours that underpin this ability to cope centre around aspects such as use of appropriate coping strategies, commitment, resilience, discipline, intuitive seeking of social support and self-regulation (Gledhill et al., 2017; Holt & Dunn, 2004).

Self-regulation is influenced by a learner's psychological abilities in order to adapt to and cope with the demands of the environment while orientating resources to aid learning attainment and optimise performance (see Zimmerman, 2006; Zimmerman et al., 2017). Competent self-regulators are likely to approach tasks with a high degree of effort and possess greater feelings of self-efficacy (Zimmerman, 2006) which can positively influence the motivational goal attainment and resilience of players identified by Gledhill and colleagues (2017). Toering and colleagues (2009) explored the discriminative abilities of self-regulation with elite and non-elite youth players and elite and international elite players (Toering, Elferink-Gemser, Jordet, et al., 2012). Elite players were found to reflect more and apply greater effort to their footballing development than their non-elite peers (Toering et al., 2009; Toering, Elferink-Gemser,

Jordet, et al., 2012). The 'underdog hypothesis' presented earlier, demonstrates an environmental demand that may force later maturity and/or chronological later born players to engage with self-regulatory processes and develop appropriate competencies that facilitate self-regulation in order to optimise their development within the afforded opportunities (Cumming et al., 2018).

At present the majority of self-regulation of learning (SRL) literature within football (Toering et al., 2009, 2011; Toering, Elferink-Gemser, Jordet, et al., 2012) is cross-sectional, however longitudinal research has highlighted the benefits of monitoring and assessing the developments of SRL over an extended period of time to understand their prognostic value (Jonker et al., 2019). Cross sectional designs offer an invaluable insight into the prevalence and potential relationship between SRL and current performance measures (e.g. level of competition, national team selection) (Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012). Longitudinal study designs (i.e. Jonker et al., 2019) afford opportunities to capture the nuanced changes associated with the development of psychological characteristics, such as SRL, and help identify potential predictive abilities of the characteristics under observation through their association and reporting of tangible performance/career outcomes (cf Till et al., 2014; Till, Cobley, et al., 2015; Van Yperen, 2009). In order to address this lack of tangible outcome measures in cross-sectional studies, research has utilised a coach ratings system to prospectively assign outcomes to participants (MacNamara & Collins, 2013; Van Yperen, 1995, 2009). Although the nature of talent is dynamic, coach ratings offer an appropriate and readily accessible option to assess the future potential and likelihood of progression, player specific insights, experiences and familiarity allow coaches to provide more informed assessments of future potential and progression likelihoods (Hendry et al., 2018; Vaeyens et al., 2008). The subjective assessment of talent by coaches has been shown as an accurate and appropriate measure of future potential and progression. Sieghartsleitner and colleagues (2019) reported that coaching evaluations were in agreement 71% of the time with the progression level of Swiss youth players at age thirteen over a five year period. Similarly within handball, national and regional coaches demonstrated predictive accuracy rates of 79.3% and 75.8% respectively for player progression over a ten year period (Schorer et al., 2017).

Effective Talent Identification and Development; The Role of the Environment

      Bronfenbrenner's bioecological model (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2007) illustrates the influential interactions that occur between the environmental structures, active (and inactive) participants and the subsequent developmental outcomes. Based on Bronfenbrenner's bioecological model, Henriksen, Stambulova and Roessler (2010a, 2010b, 2011) adopted a holistic, ecological approach to identify common characteristics of effective TDEs and define the roles and functions of different components within the environment that surrounds the TDE (football academy).

Therefore, the quality of the immediate TDE (football academy) plays a significant role in the development of talent through the availability and mobilisation of provisions aimed at facilitating development and the interactions between academy prospect and environmental tenets (Cupples et al., 2020). Specifically, Martindale and colleagues demonstrated that 'quality preparation' and 'understanding the athlete' accurately discriminate between the effectiveness of institutionalised TDEs in relation to successful athlete transition to the senior level (Martindale et al., 2013). High quality TDEs look to integrate a holistic approach to developing athletes, one that aims to support the person first and nurture psychological competencies and behaviours within their development curriculums in order to allow athletes to cope with the ups and downs of the TD journey and successfully transition into the senior sport (Gledhill & Harwood, 2019; Ivarsson et al., 2015; Larsen et al., 2014; Martindale et al., 2007). As a result of adopting a holistic developmental perspective within TDEs, research has reported correlations between the quality of the TDE and psychological aspects such as basic needs satisfaction which may promote mental toughness (Li et al., 2019), intrinsic goal striving (Wang et al., 2011) and psychological well-being (Ivarsson et al., 2015; Thomas, Gastin, et al., 2020) which has been suggested to increase the chance of successful TD (Henriksen et al., 2010a; Martindale et al., 2013). The development of (adaptive) psychological competencies and coping strategies is essential to facilitate the continued pursuit of excellence, navigating and maximising learning opportunities from the challenges that are presented within the TD journey and ensuring the physical and psychological well-being of players is maintained (Holt & Dunn, 2004; Larsen et al., 2014; MacNamara et al., 2010a, 2010b).

Study Aims

Identifying and selecting young football players who possess the developmental capacity to navigate the TD journey and achieve excellence is one of the most important practices that underpin the effectiveness and output of a football academy. As such this study has three distinct research aims. Recent research has reported a distinct prevalence of players born early in the selection year within Scottish football academies (Dugdale et al., 2021). Taking Dugdale's research (2021) into account and the biases and challenges associated with identifying 'talent' from an early age, this study looks to (1) investigate the presence and influence of relative age effects on the academy recruitment and evaluation of potential processes. It is hypothesised that a significant relative age bias will exist within the academy cohort, and this bias will influence the perceptions of potential with a larger percentage of early born players perceived as possessing higher potential compared to those born later in the selection year.

Limited, yet extensively football specific research, has demonstrated that the adaptive behavioural and psychological competencies relating to self-regulation of learning can accurately discriminate between the non-elite, elite and super-elite youth footballers, allowing them to orientate their resources to maximise learning (Toering et al., 2009, 2012). However, this research is cross-sectional and therefore lacks tangible performance outcomes that demonstrate the developmental properties of self-regulated learning and their longer-term impact on sporting success. Therefore, this research attempts to bridge the cross-sectional – longitudinal divide by utilising coach perceptions and progression data to (2) investigate possible variances in the academy players' ability to self-regulate their footballing development; specifically examining the frequency of engagement, behaviours utilised, and the role self-regulation plays in the ability of players to cope with the demands and challenges of the talent pathway. This aim hypothesises: a significant difference ($p<.05$) will exist in the level of engagement with self-regulatory behaviours between high potential players and players deemed as possessing less potential and those deselected (extending across all three of the self-regulation variables under examination: planning, self-evaluation, and reflection). The last aim of the study is to (3) investigate if any possible variances exist in the perceived quality of the talent development environment and the level of provisions available to players across the different groups of perceived potential and progression, as

determined by the coach ratings and progression data. It is hypothesised, there will be no significant difference (p>.05) in the academy sample's perceptions of the quality of their development environment.

Methodology

Study Design

This study is quantitative in nature, utilising psychometrically validated self-report measures, academy manager ratings of player potential, birth month and actual progression data. The first aim assesses the relationship between birth month, academy recruitment and levels of potential. However, the second aim utilises a longitudinal prospective design to track player progression/deselection across a season, alongside academy manager ratings of potential, in order to understand the potential difference between self-regulation, player experiences of the academy environment and progression along the development pathway.

Participants

Ninety-one academy football players aged 11-18 (13.19 $\pm$ 1.86) voluntarily agreed to participate in the programme of research. Players were signed to U12 – U18 squads of a professional Scottish football club's youth academy. All 91 players (and the parents of those aged under 16) provided written informed consent to participate in the study. Across the six age groups that players were recruited from (U12, U13, U14, U15, U16 and U18), an average of 13 ($\pm$ 3) players (see table 4.1 for sample spread) per squad participated and had amassed on average 8.39 ($\pm$ 2.19) years of footballing training. Admission to the academy is achieved by academy scouts identifying talented players which is followed by a six-week trial period that is monitored and scrutinised by academy coaches. Ninety-one players were eligible to participate in the study, however, seventeen of those participants were recruited to the academy collection of SRL and TDEQ data. Therefore, data relating to self-regulatory behaviours and perceptions of the academy environment was not collected, thus have been omitted from the results.

Table 4.1: Distribution of participating players across academy age groups

Academy age group	Number of participating players	% of academy and sample represented
U12	13	14.3%
U13	14	15.4%
U14	16	17.6%
U15	15	16.5%
U16	17	18.7%
U18	16	17.6%
Total	91	100%

Instrumentation

Talent Development Environment Questionnaire-5 (TDEQ5)

Considering the age of some participating players it was agreed that an abbreviated version of the original TDEQ (Martindale et al., 2010) was a practically appropriate and ecologically valid instrument to use throughout the data collection process due to the reduced number of items and time taken to complete. Therefore, Li and colleagues' (2015) five factor, twenty-eight item version of the TDEQ (TDEQ5) was selected to gather data on the participants' perceptions of the quality of the academy environment. The TDEQ5 is psychometrically validated and is comprised of five factors associated with effective TDEs; long-term development (LTD), holistic quality preparation (HQP), support network (SN), communication (Comms) and alignment of expectations (AOE). Item assignment ranges from four to seven per factor, with factor descriptions and examples of items presented in table 4.1. Items within holistic quality preparation are negatively worded to counter for potential acquiescence, particularly pertinent within the recruited participant sample. A six-point Likert scale is utilised (anchored by; '1' *strongly agree* and '6' *strongly disagree*) to measure the level of agreement with each item statement. The TDEQ5 reported good internal reliability across all five factors (α = .79–.86) (Li et al., 2015).

Table 4.2: TDEQ5 structure (Li et al., 2015)

Factor Name	Factor description	Number of items	Item Examples
Long-term development	"The extent to which developmental programmes are specifically designed to facilitate athletes' long-term success"	6	19) My training is specifically designed to help me develop effectively in the long term
Support network	"The extent to which a coherent, approachable, and wide-ranging support network is available for the athlete in all areas"	6	1) I can pop in to see my coach or other support staff whenever I need to
Communication	"The extent to which the coach communicates effectively with the athlete in both formal and informal settings"	4	6) My coach and I regularly talk about things I need to do to progress to the top level in my sport
Alignment of expectations	"The extent to which goals for sport development are coherently set and aligned"	5	14) I regularly set goals with my coach that are specific to my individual development
Holistic quality preparation	"The extent to which intervention programmes are prepared both inside and outside of sports settings"	7	13) My coach rarely talks to me about my well-being

Football Specific Self-Regulated Learning – Self Report Scale (FSRL-SRS)

The football specific version of the Self-Regulated Learning – Self Report Scale (FSRL-SRS; Toering, Jordet, & Ripegutu, 2013) is a psychometric self-report questionnaire which gathers data on the self-regulatory behaviours of respondents during their footballing activities. The FSRL-SRS is a twenty-two item, three-factor structure which is measured using a five-point Likert scale with anchors of: '1' never to '5' always. The factorial structure of the FSRL-SRS relates to three behaviours associated with the metacognitive and behavioural aspects of Zimmerman's model of self-regulated learning (2006); *reflection, evaluation and planning*. Nine items relate to the reflective processes (e.g. During each practice session I check whether I make progress in my football skills), six items measure the engagement with evaluative behaviours (e.g. After each practice session I think about what I did right and wrong during the session) and seven items refer to the regularity of which players plan development strategies prior to the training event (e.g. Before each practice session I plan which skills I want to work on during the session). The FSRL-SRS reports sufficient internal consistency across all factors with a mean Cronbach Alpha of .80 (reflection α=.85, evaluation α= .80 and planning α= .76) (Toering et al., 2013).

Ratings of Potential

The academy manager's perception of the players' level of potential was measured using a five-point Likert scale to measure the likelihood of each player progressing to become a professional football player. A single item was utilised to gather the perceptions of the future potential that each player possessed (How likely is it that

the player will progress to professional status in the future/play first team football?).
Responses were anchored by '1' extremely unlikely and '5' extremely likely. All players
signed to the academy were included in this process to ensure the academy director
could not identify participating (or non-participating) players, therefore upholding the
anonymity of participating players.

Procedure

Edinburgh Napier University's School of Applied Sciences' Ethics Committee
provided ethical approval for the study. The academy director was approached by email
to gain access to signed academy players, further face-to-face conversations provided
an opportunity for the researcher to outline study aims, methodology and answer any
questions regarding the proposed research.

Prior to the beginning of the 2019 CAS season, all signed academy players and their
parents/guardians were invited to attend an information evening lead by the
researcher, who presented the research aims and methodology, before extending a
participation invite to all attendees. Informed consent was gained in a written format
from players and a parent/guardian of those who were aged under sixteen. Seventy-
four players (and their parents/guardians) originally consented to participate in phase
one of the study, a further seventeen players agreed to participate following their
recruitment to the academy. All seventeen newly recruited players and their
parents/guardians consented for their date of birth to be included in the study.

Following the information evening and four weeks prior to the commencement of phase
two data collection, consenting participants were afforded opportunities to ask
questions of the researcher and withdraw their voluntary participation if they wished
to. During this time no player withdrew from the study and therefore 74 consenting
players were included in the collection of self-regulation of learning and perceptions of
the environment.

The Academy director was approached to provide their perceptions of the future
potential for all signed players. Players were categorised in relation to their rating of
future potential, three groups were established; *low potential* (unlikely and extremely

unlikely), *neutral potential* (neutral) and *high potential* (likely and extremely likely) (MacNamara & Collins, 2013).

During pre-season activities (February), participating players were invited along as an age group to a meeting suite within the academy buildings. Participants were presented with the two questionnaires (TDEQ5 and FSRL-SRS) and encouraged to complete them as honestly as possible, emphasis was placed on the lack of a 'correct' answer. To ensure confidentiality throughout the data collection process, players were spread across the meeting suite, thus limiting the impact of social desirability bias. The researcher supported players through the collection process by clarifying the meaning of certain items or explaining the items relevant to their specific environment when required. Participants required 20 minutes to complete all questionnaires and left them face down on their desk ready for collection by the researcher.

Following the re-signing and deselection of academy players at the end of the 2019 CAS season (November), the ratings of perceived potential provided by the academy director were combined with actual progression/deselection data. This process led to the formation of four categories relating to the combination of potential and progression; *deselected* (DS), *progressed – low potential* (LP), *progressed – neutral potential* (NP) and *progressed – high potential* (HP). Deselected players were released from the academy during the 2019 CAS season or were not resigned for the 2020 CAS season and thus their rating of potential was discarded.

Data Analysis

Statistical analysis was completed on version 23 of the IBM Statistical Package for the Social Sciences (SPSS) software. Month of birth data was analysed comparatively with Scottish statistics pertaining to male births during the same period as the participants. A chi-squared test for homogeneity was conducted to establish variances between national statistics and academy data, with Fishers Exact test run to identify differences between the number of births per quarter when groupings of potential were accounted for.

Phase two data was subject to multiple one-way multivariate analysis of variance (MANOVA) and multivariate analysis of covariance (MANCOVA) tests, these were

conducted to determine how SRL abilities and perceptions of the TDE differentiated between the four groupings of potential/progression. Data collected from the TDEQ5 was reversed within SPSS so that higher scoring responses signified higher perceptions of the environment quality and thus aligned with the FSRL-SRS anchor direction. MANCOVAs were used to assess the variance between self-regulation and environmental perceptions across potential groupings when age was accounted for. From the age groupings, three analysis groups were created to aid the statistical power of the sample sizes (U12 & U13, U14 & U15 and U16 & U18 which aligns with the academy phase structures). Multivariate normality was assessed through box-plot observation, skewness and kurtosis scores with multivariate outliers determined by Mahalanobis distance. Levene's test for equality of variance detected homogeneity of error variance between dependent variables. Analysis reported between and within participant differences, statistical significance was set at .05. Effect sizes were calculated using partial eta squared (η_p^2); 0.01, 0.06 and 0.14 cut offs were utilised to distinguish the size of effects, as advised by Kirk (1996) and Field (2017). No missing data was reported from the data collection phase.

Results

Data was statistically analysed using SPSS software to establish level of compliance with the assumptions required to conduct multivariate analysis of variance (MANOVA) and multivariate analysis of covariance (MANCOVA) testing. Univariate outliers were assessed by visual inspection of a boxplot, there were no residual outliers present greater than three box lengths from the edge of the box plot. Univariate normality was initially assessed through skewness and kurtosis absolute scores, environmental residuals for neutral potential – support network, high potential – alignment of expectations and neutral potential – overall quality of environment violated normality thresholds. Therefore, Skewness and Kurtosis Z-scores were calculated for all variables in violation, yielding a result out with the acceptable threshold (Z ± 2.56). However, normal distribution was satisfied following visual inspection of QQ plots. There was also no multicollinearity within the data, as assessed by Pearson's correlation (r - .354 – .712 p= .000). Visual inspection of scatterplots determined the presence of linear relationships between SRL factors and TDEQ factors for all groups of potential. Levene's

test established homogeneity of variance was statistically significant for all residuals apart from 'reflection' (p>.05). As such, Welch's F and Games-Howell's post-hoc tests were conducted, both reporting statistical significance (p =.038 and p= .037). Mahalanobis distance reported there were no multivariate outliers in the data (p> .001). There was homogeneity of variance-covariance's matrices, as determined by Box's test for equality of covariance matrices (p= .053).

Academy Player Potential: Analysis of Perceived Future Potential

Descriptive analysis established the number of participants contained within the four groupings of potential and the percentage distribution across the academy. From the original ninety-one players included in phase one of the study, eleven were deselected from or did not re-sign with the academy, comparatively a further eleven players were regarded as being unlikely or very unlikely to achieve professional status but were re-signed for the 2020 season. Conversely, over a third of the academy cohort (39%) were assessed to have a high potential and were likely or very likely to play professional football and therefore were re-signed for the next season. The remaining thirty-three players were perceived to possess a neutral potential, meaning they were perceived as having an equal chance of 'making it' as a professional footballer or not achieving professional status in the sport, these players were also re-signed to the academy.

Table 4.3: Number and percentage of deselected, low, neutral, and high potential academy

Deselected (DS)	Progressed low potential (LP)	Progressed neutral potential (NP)	Progressed high potential (HP)
11 (12%)	11 (12%)	33 (36%)	36 (39%)

Academy Recruitment: Analysis of Relative Age Effect
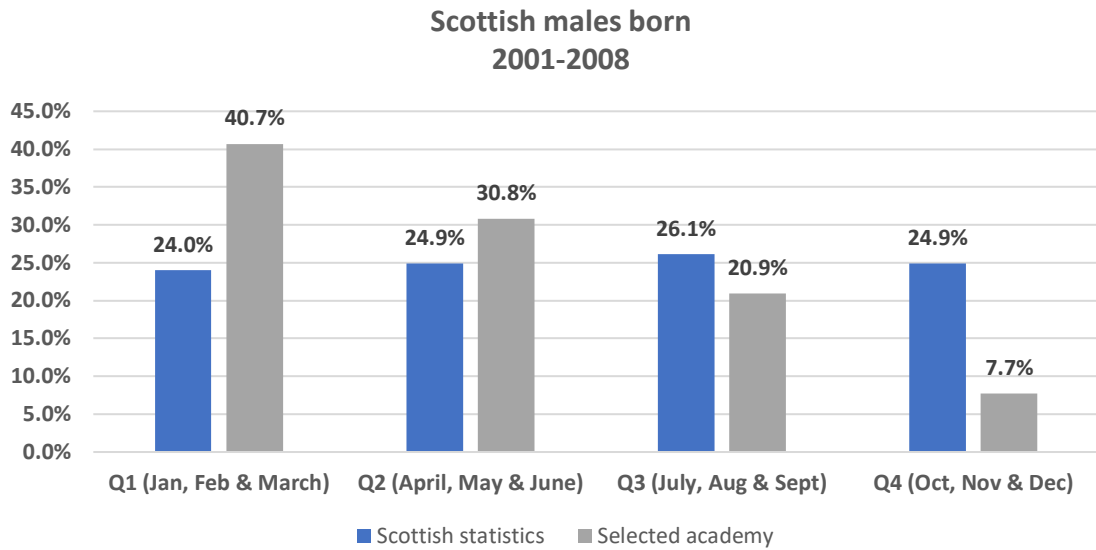
Figure 4.1: The birth quarter dispersion of the general Scottish male population and academy players born 2001-2008

The categorisation of age groups in Scottish football aligns with the calendar year, therefore, those born from the 1st of January to 31st of December in the same year will be assigned to the same age group. Of the 91 academy players, 40.7% were born in the first quarter of the year (January, February and March) and 30.8% were born in the second quarter (April, May and June). Therefore, more than 70% of the players signed to the football academy were born in the first six months of the selection (and calendar) year. As such, approximately 30% of the academy cohort were born in the second half of the year of those a mere 7% were born in October, November and December.

Comparatively, the distribution of Scottish male births during the same time period (2001 – 2008) followed a relatively even distribution across all four quarters of the year (figure 4.1). A chi-square goodness-of-fit test was conducted on the birth quarters of academy players. There were statistically significant differences in the number of academy players born in each quarter of the selection year when compared to the spread of male births in Scotland during the same period ($\chi^2(3) = 23.530$, p = .000).

Thus, confirming the hypothesis that there would be a skewed dispersion of births of players born earlier in the calendar year (making them relatively older than their peers born in the same year) during the talent identification and recruitment phases within the academy.

Table 4.4: Number of Scottish males and players born in each quarter of 2001- 2008

Scottish males born 2001-2008	Q1 (Jan, Feb & March)	Q2 (April, May & June)	Q3 (July, Aug & Sept)	Q4 (Oct, Nov & Dec)
Scottish statistics	53,938	55,951	58,680	55,871
Selected academy	37	28	19	7

Perceptions of High Potential in the Academy: Analysis of Relative Age Effect

The recruitment of academy players has been established as containing a bias towards those born early in the selection year (January, February and March), a bias that is not present within the Scottish male population. Of the 36 players considered as possessing high potential, 43% were born in the first quarter of the selection year (January, February or March), 25% were born in the second quarter (April, May or June), 22% were born in July, August and September (Q3) with 8% of HP players born in the final three months of the year (Q4). Thirty-three players were perceived to possess neither high or low potential (NP), ten (30%) of those players were born January, February or March (Q1), 36% of NP were born in the second quarter of the selection year (April, May or June), with a further 24% and 9% born in the third and fourth quarters respectively.

Within the academy there were eleven players who were resigned but were considered as 'unlikely' to progress to professional status (LP), of which 45% (5) were born in the first three months of the year, with a further 27% (3) born in the second and third quarter and no players were born in the last three months of the year. Lastly, over half (54%) of those who were deselected from the academy were born in the first quarter of the year (January, February and March), 36% were born in the second quarter of the selection year (April, May and June). There were no DS players born in the third quarter of the year and only 1 player (9%) born in the final three months of the year. Figure 4.2 demonstrates the comparative spread of HP, NP, LP and DS players born in each birth quarter, actual player numbers are presented within the figure.

Across all four categories of potential a coherent pattern emerged that indicated a greater number of academy players were born early in the selection year (Q1 and Q2) and fewer born towards the end of the year (only 8% of all academy players were born in October, November and December). Several data points did not adhere to

assumptions required for Chi-Squared homogeneity testing (lower bounds equated to zero), therefore Fisher's Exact Test was conducted as an alternative (Cochran, 1964). The multinomial probability distributions of births per quarter for all four potential groupings were not significantly different (p = .678). Therefore, as previously presented, those born towards the start of the selection year were more likely to be recruited to the academy. *However*, the quarter of which a player was born did not influence the academy director's judgement on their likelihood of becoming a professional football player.

Percentage of Births per Quarter Categorised by Potential

	Q1	Q2	Q3	Q4
Deselected	54% (6)	36% (4)		9% (1)
Low Potential	45% (5)	27% (3)	27% (3)	
Neutral Potential	30% (10)	36% (12)	24% (8)	9% (3)
High Potential	44% (16)	25% (9)	22% (8)	8% (3)

■ Q1 (Janurary, February & March) ■ Q2 (April, May & June)
■ Q3 (July, August & September) ■ Q4 (October, November & December)
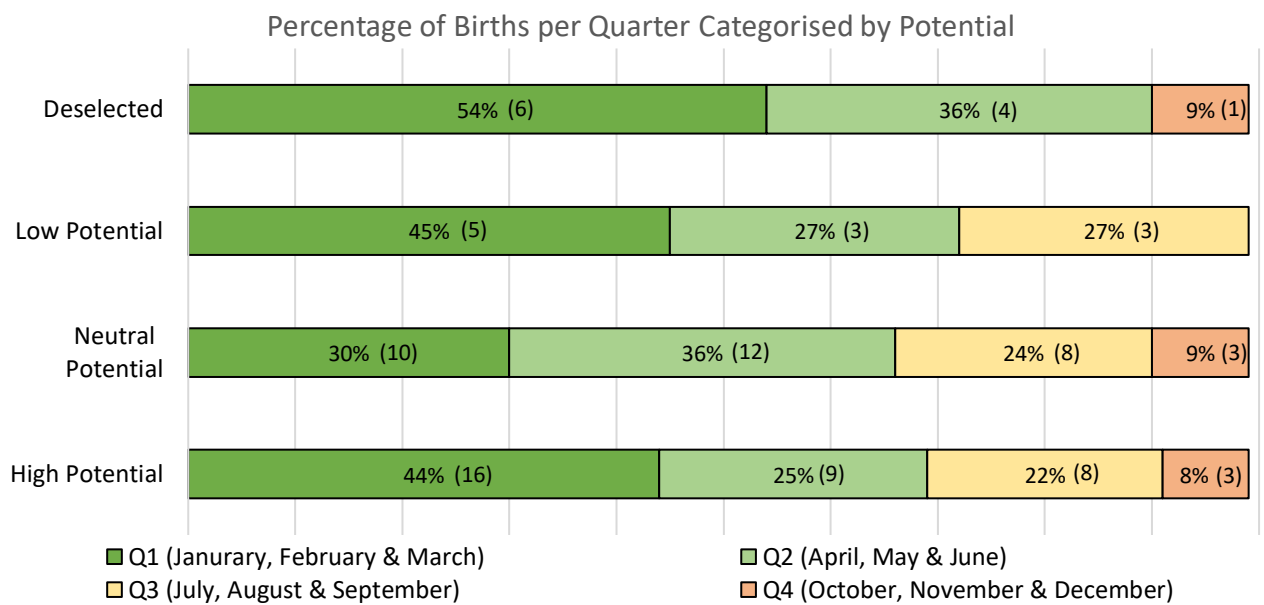
Figure 4.2: The birth quarter composition of all four groupings of progression and potential

Academy Self-Regulation Skills: Analysing the Variance Between High and Low Potential Players

High potential players reported the greatest level of engagement with the overall self-regulatory process (3.64 ± 0.49) during football development activities compared to their peers. With a decrease in perceived potential, a reduction in the level of engagement with the self-regulation process was apparent. As such, deselected players self-regulated their learning the least out of all four groupings of potential (3.18 ± 0.34). No significant differences were reported for overall self-regulation between-participant groupings, $F(3, 71) = 1.98$, p = .125, η_p^2 = .077. Overall, although potential showed a positive linear trend in relation to overall self-regulation, it was not statistically significant and therefore the null hypothesis is accepted. However, pairwise analysis between individual categories reported HP players invested a significantly greater (p =

.023) volume of time in the overall self-regulation of their learning compared to their peers who were deselected (DS) from the academy (HP – 3.64 ± 0.49 vs. DS – 3.18 ± 0.34). No further significant differences were present within participant groups for overall self-regulation of learning (p>.05). A subsequent one-way MANCOVA was conducted to assess the variance of self-regulation behaviours between groupings of potential and progression with age accounted for as a co-variant. Means and adjusted means for each self-regulation variable do not appear dissimilar (table 4.4). The one-way MANCOVA reported a statistically significant (p = .033) difference between groupings of potential on the combined dependent variables after controlling for age group ($F_{(9, 165)} = 2.09$, $p = .033$, $\eta_p^2 = .084$). Follow up one-way ANCOVAs were performed to analyse variance across potential and progression groupings within each individual self-regulation factor when age group was accounted for, results can be found in the proceeding sections.

Table 4.5: Overall self-regulation, factor means and standard deviations categorised by groupings of potential, adjusted means and standard errors presented where age grouping has been accounted for

	Deselected		Progressed: low potential		Progressed: neutral potential		Progressed: high potential	
	M (SD)	M_{adj} (SE)	M (SD)	M_{adj} (SE)	M (SD)	M_{adj} (SE)	M (SD)	M_{adj} (SE)
Overall self-regulation	3.18 (0.34) *2	-	3.38 (0.54)	-	3.54 (0.63)	-	3.64 (0.49) *2	-
Reflection	3.44 (0.35)	3.48 (0.19)	3.46 (0.52)	3.39 (0.21)	3.78 (0.75)	3.75 (0.11)	3.88 (0.55)	3.92 (0.11)
Evaluation	3.23 (0.45) *1, *3, *4	3.25 (0.19)	3.46 (0.65) *1	3.43 (0.22)	3.85 (0.75) *1, *3	3.83 (0.12)	3.92 (0.50) *1, *4	3.94 (0.12)
Planning	2.80 (0.64)	2.82 (0.21)	3.21 (0.59)	3.18 (0.24)	2.95 (0.56)	2.94 (0.13)	3.09 (0.75)	3.12 (0.12)

*1 denotes significant difference between all players (p = 0.01)
*2 denotes significant difference between DS and HP groups (p = .023)
*3 denotes significant difference between DS and NP groups (p = .008)
*4 denotes significant difference between DS and HP groups (p = .003)

Figure 4.3: Means and standard deviations for overall self-regulation and FSRL-SRS factors

[*1] denotes significant difference between all players (p = 0.01)
[*2] denotes significant difference between DS and HP groups (p = .023)
[*3] denotes significant difference between DS and NP groups (p = .008)
[*4] denotes significant difference between DS and HP groups (p = .003)

Reflection

The volume of time players spent reflecting on their approaches to learning and their training experiences was associated with the level of perceived potential (see table 4.4 and figure 4.3 for means and standard deviations). As such, those assessed as possessing high potential reflected on their football learning more frequently than their peers. Between-participants' analysis reported no significant difference (($F_{(3, 71)}$ = 1.89, p = .138, η_p^2 = .07) in relation to reflective behaviours. Although potential was linear in relation to reflection, it was not significant and therefore the null hypothesis is accepted. No significant differences were present when individual groups of potential were analysed comparatively (p>.05). Furthermore, a follow up one-way ANCOVA was run to account for the age group of participants, this reported a non-significant variance within the reflection behaviours across the groupings of potential and progression, $F_{(3,70)}$ = 2.32, p = .083, η_p^2 = .09).

Evaluation

Engagement in evaluative behaviours increased with the likelihood that players would reach professional status as a football player (table 4.4, figure 4.3). Evaluation is the only aspect of the FSRL-SRS that reported a significant difference when between-

participant group effects were calculated, F (3, 71) = 3.90, p = .012, η_p^2 = .142. Therefore, the null hypothesis is rejected, pairwise analysis reported significant differences between DS and NP players (p = .008) and DS and HP players (p = .003) in relation to the volume of time they spent evaluating each training session. To account for the age group of the sample, a one-way ANCOVA was carried out which identified statistically significant variance in the adjusted means of the potential and progression groupings =, F (3,70) = 3.96, p = .012, η_p^2 = .145. Further pairwise analysis was conducted to on the adjusted means of each potential and progression groupings, this identified a statistically significant variance (p = .021) in the reflection behaviours between deselected and high potential when age group was accounted for.

Planning

Engagement with behaviours relating to the planning of activities intended to enhance the players' football development contrasted with previous factor trends, low potential players reportedly engaged most frequently with planning behaviours when compared to their peers (table 4.4, figure 4.3). When analysed on a within-participants basis, no significant differences were identified between all four groupings of potential and a small effect size was present; F (3, 71) = 0.84, p = .475, η_p^2 = .034. As a result, the null hypothesis can be accepted. Similarly, no statistically significant differences were reported between potential group pairings (p>.05). Age group was accounted for and identified as a covariant that facilitated the use of a one-way ANCOVA to assess possible variances in planning behaviours across the potential and progression groupings. Following analysis of the adjusted means, no statistically significant variance was evident in the planning behaviours across the groupings when age was accounted for, F (3, 70) = .848, p = .472, η_p^2 = .035.

Considering the unexpected frequency of which LP players engaged in the planning of behaviours relevant to their football development, compared to their peers who are perceived to possess more potential, further item by item analysis was conducted to identify potential sources of discrepancy. From the academy cohort, players perceived as possessing low potential spent the greatest amount of time planning which skills to work on before sessions (FSRL-SRS Q17; table 4.5), planning their actions relative to their practice goal (FSRL-SRS Q19; table 4.5) and using information from written media to

inform their approach to improving their football skills (FSRL-SRS Q20; table 4.5). Differences between those of varying potential did not differ significantly (p>.05).

FSRL-SRS Items 21 and 22 relate to the level of commitment a player demonstrates to additional training opportunities, arriving early and staying after structured sessions to work on specific skills. The difference between groupings of potential were statistically significant for both items (FSRL-SRS Q21 – $F_{(3, 71)} = 3.99$, $p = .011$, $\eta_p^2 = .144$; FSRL-SRS Q22 – $F_{(3, 71)} = 3.06$, $p = .034$, $\eta_p^2 = .115$). Subsequently, HP players scored significantly higher on both items compared to their NP peers (FSRL-SRS Q21 – $p = .001$; FSRL-SRS Q22 – $p = .004$) and those less likely to make it as professional football players (DS and LP), however not significantly (p>.05).
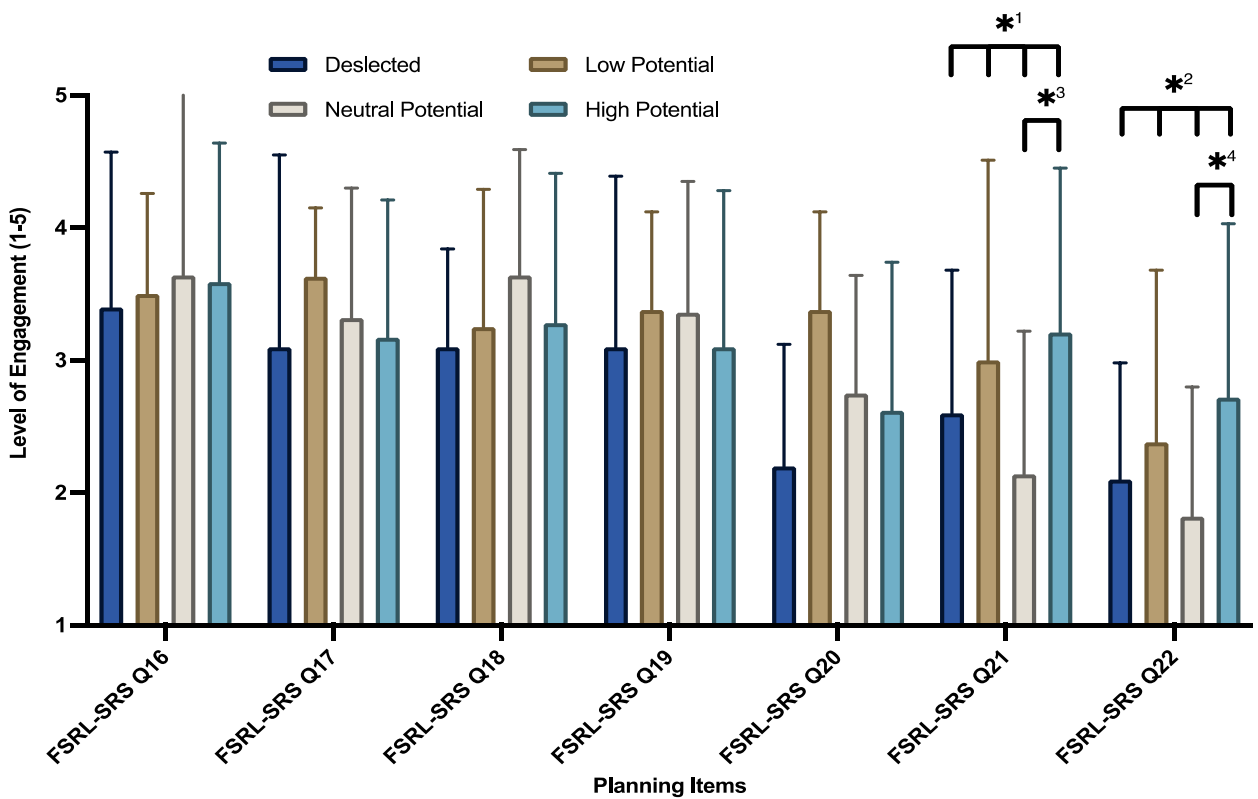
Figure 4.4: Means and standard deviations for planning items

*[1] denotes significant difference between groups (p = 0.011)
*[2] denotes significant difference between groups (p = 0.034)
*[3] denotes significant difference between HP and NP groups (p = 0.001)
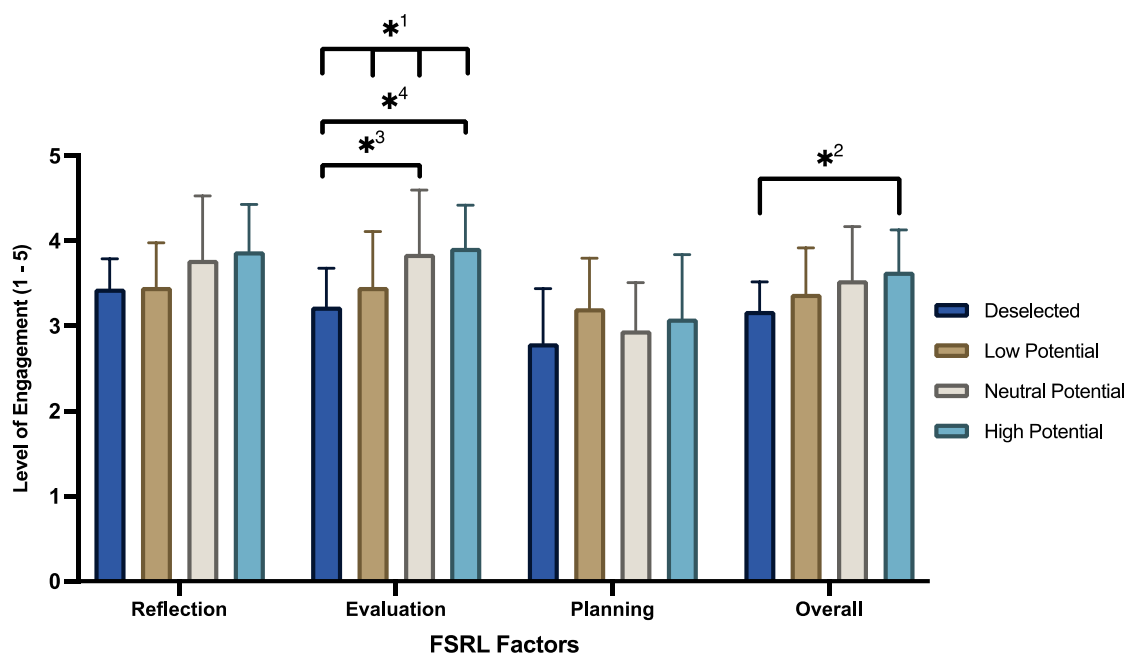*[4] denotes significant difference between HP and NP groups (p = 0.004)

Table 4.6: Planning items

FSRL-SRS Q16	I have a clear goal for each practice session.
FSRL-SRS Q17	Before each practice session I plan which skills I want to work on during the session.
FSRL-SRS Q18	Each practice session I use information from TV/internet/live football matches to become a better football player.
FSRL-SRS Q19	Before each practice session I plan my actions relative to the goal I want to attain during the practice session.
FSRL-SRS Q20	Each practice session I use information from books, magazines, and interviews about elite players to develop myself as a football player.
FSRL-SRS Q21	I come early for each practice session in order to work on specific skills.
FSRL-SRS Q22	After each practice session I stay to work on specific skills

Perceptions of the Academy Environment: Analysing Variances in Perception and The Impact on Perceived Future Potential

Players regarded as most likely to become a professional footballer reportedly perceived the development environment to be of a higher quality than their peers. A multivariate analysis reported no significant difference ($p>.05$) between the perceptions of the overall environment across the four groupings of potential $F_{(3, 71)} = 1.69$, $p = .177$, $\eta_p^2 = .067$. Therefore, the null hypothesis is accepted. However, a pairwise analysis highlighted a significant difference between the perceptions of HP and DS players relating to the overall quality of their development environment ($p = .041$), no further significant differences ($p>.05$) in the perceptions of the overall environment were reported. MANCOVA analysis, when age group was accounted for, reported no statistically significant variance on the combined dependent variables (TDEQ factors) across the groupings of potential and progression, $F_{(15, 183)} = 1.01$, $p = .445$, $\eta_p^2 = .071$. Greater depth of analysis was achieved by conducting one-way ANCOVAs (where age group was the covariant) for all environmental factors.

Table 4.7: Overall quality of the development environment means and standard deviations categorised by groupings of progression and potential, adjusted means and standard errors presented where age grouping has been accounted for.

	Deselected		Progressed low potential		Progressed neutral potential		Progressed high potential	
	M (SD)	*M$_{adj}$ (SE)*	*M (SD)*	*M$_{adj}$ (SE)*	*M (SD)*	*M$_{adj}$ (SE)*	*M (SD)*	*M$_{adj}$ (SE)*
Overall	4.39 (0.58) *2	-	4.51 (0.51)	-	4.64 (0.54)	-	4.79 (0.52) *2	-
Long-term development	4.68 (0.67)	4.71 (0.17)	4.56 (0.39)	4.50 (0.18)	4.94 (0.53)	4.89 (0.10)	4.91 (0.54)	4.95 (0.10)
Holistic quality preparation	3.86 (1.29) *1, *3	3.91 (0.24) *4	4.41 (0.49) *1	4.32 (0.27)	4.28 (0.81) *1	4.23 (0.15)	4.66 (0.58) *1, *3	4.71 (0.15) *4
Support network	4.57 (0.50)	4.59 (0.19)	4.56 (0.56)	4.51 (0.22)	4.71 (0.68)	4.68 (0.12)	4.85 (0.60)	4.88 (0.12)
Communication	4.50 (0.60)	4.57 (0.23)	4.41 (0.78)	4.29 (0.26)	4.69 (0.73)	4.62 (0.14)	4.80 (0.83)	4.87 (0.14)
Alignment of expectations	4.46 (0.67)	4.51 (0.24)	4.63 (0.70)	4.55 (0.27)	4.65 (0.79)	4.61 (0.14)	4.77 (0.77)	4.82 (0.14)

*1 denotes significant difference between all potential/progression groups (p = 0.044)
*2 denotes significant difference between DS and HP groups (p = 0.041)
*3 denotes significant difference between DS and HP groups (p = 0.007)
*4 denotes significant difference between DS and HP adjusted means when accounted for age group (p = 0.035)

Those who are regarded as most likely to progress to professional status (HP) rated the environment highest on all factors apart from long-term development. Players perceived as being neither likely or unlikely of becoming a professional football player (NP), reportedly viewed the long-term nature of development within the academy stronger than their peers and scored homogeneously with their HP peers in all other factors excluding holistic quality preparation. Deselected players scored the environment weakest on holistic quality preparation and alignment of expectations compared to their peers who progressed. Those who were considered low in potential rated the environment lowest in long-term development, support network and communication compared to other academy players (Table 4.6).

Long-Term Development

Factorially, perceptions of the provisions within the academy environment that promote the long-term development of players did not significantly differ between the groupings of potential, $F(3, 71) = 1.42$, $p = .245$, $\eta_p^2 = .057$. Therefore, the null hypothesis is accepted. Perceptions of HP and NP players were closely related (NP= 4.94 $\pm$ 0.53 vs. HP= 4.91 $\pm$ 0.54), LP players scored the quality of the environment to support long-term development lowest in comparison to group of their peers (4.56 $\pm$ 0.39). Pairwise

analysis reported no significant differences in perceptions of long-term development between grouping pairs (p>.05) (figure 4.5). One-way ANCOVA analysis reported no statistically significant variance in players' perceptions of long-term development across the four groupings of potential and progression when age group was accounted for, $F(3, 70) = 1.78$, $p = .159$, $\eta_p^2 = .071$.

Alignment of Expectations

High potential players perceived their expectations were aligned with that of their coach and other major stakeholders within the development environment (4.77 $\pm$ 0.77). Deselected players scored lowest in this factor (4.46 $\pm$ 0.67), which may demonstrate why they were not retained within the environment. Across the four groups of potential, no significant difference was detected, and a small effect size was present; $F(3, 71) = 0.45$, $p = .719$, $\eta_p^2 = .019$). Therefore, the null hypothesis is accepted. Post hoc tests revealed no significant difference between the perceptions of the groups when analysed comparatively (p>.05) (figure 4.5). Accounting for age group, a one-way ANCOVA analysis identified no statistically significant variance across the groupings of potential and progression for the factor, alignment of expectations ($F(3,70) = .682$, $p = .566$, $\eta_p^2 = .028$).

Support Network

Deselected and low potential players similarly scored the quality of the support network within the TDE (DS= 4.57 $\pm$ 0.50 vs. LP= 4.56 $\pm$ 0.56). High potential players rated this aspect strongest compared to their peers (4.85 $\pm$ 0.60). There were no significant difference between the groups for perceptions of the support network within the academy; $F(3, 71) = 0.78$, $p = .512$, $\eta_p^2 = .032$. Therefore, the null hypothesis is accepted. No significant differences were present following post hoc ANOVA analysis (p>.05) (figure 4.5). One-way ANCOVA results reported no statistically significant variance for perceptions of support network across the groupings of potential and progression when age group was accounted for ($F(3,70) = 1.097$, $p = .356$, $\eta_p^2 = .045$).

Communication

Similarly, sub scale scoring of the communication factor represented a coherent pattern with that of support network. High potential players perceived the quality of communication within the environment was of a quality that was greater than was

perceived by their peers (4.80 ± 0.83). Multivariate analysis reported no significant differences between the groupings of potential and a small effect size; F (3, 71) = 0.78, p = .511, η_p^2 = .032. Therefore, the null hypothesis is accepted. Post hoc testing reported no significant differences within-participants for the communication subscale (p>.05) (figure 4.5). With age group accounted for as a covariant, a one-way ANCOVA identified the variance between adjusted means scores of communication across the groupings of potential and progression were not statistically significant (F (3, 70) = 1.501, p = .222, η_p^2 = .06).

Holistic Quality Preparation

Multivariate analysis revealed statistical significance was present between the subscale scores from all four categories of potential; F (3, 71) = 2.83, p = .044, η_p^2 = 0.107. Therefore, the null hypothesis is rejected. Interestingly, low potential players felt that the environment holistically prepared them for professional football to a greater extent than their NP peers did (LP= 4.41 ± 0.49 vs. NP= 4.28 ± 0.81). However, high potential players (HP) scored strongest on the holistic quality preparation subscale (4.66 ± 0.58) and those who were deselected scored significantly lower (3.86 ± 1.29) (p = .007). No further significant differences were detected during post hoc analysis (p>.05) (figure 4.5). Considering the significant variance identified within the MAONVA analysis, a further one-way ANOCOVA was carried out with age group accounted for. Results demonstrated a statistically significant level of variance did exist across the groupings, F (3, 70) = 1.99, p = .023, η_p^2 = .127. Further pairwise analysis indicated significant variance between the adjusted means of deselected and progressed, high potential players (p = .035).

Considering the significant, within-participant and between-participant, variance within the high-quality preparation data, further analysis was conducted to establish the items within the factor that contributed to the variance and explore any plausible practical insights. Of the seven items that comprise the high-quality preparation factor, pairwise statistical significance was identified between at least one pair within four of the seven (figure 4.6). Statistical significance was found between the perceptions of HP and DS players (p = .017) and HP and NP (p = .000) relating to the degree that academy coaches took an interest in their lives outside of football (TDEQ Q5), with HP scoring higher than other potential groupings. Between-participants' tests reported a large effect size (ηp2

= .183) for this TDEQ item. Coincidently, HP also perceived academy coaches dedicated significantly (p = .042) more time to discussing the player's well-being than DS peers (TDEQ Q13). Those who were deselected felt they were given significantly less (p<.05) help to develop their mental toughness (TDEQ Q11) than their neutral (p = .035) and high (p = .008) potential peers with a medium group effect ($\eta p2$ = .095). Lastly, statistical significance was present (p<0.05) between the perceptions of HP and NP players (p = .028) relating to the frequency with which their age group coaches discussed their progress with other academy coaches and members of support staff (TDEQ Q12)

Figure 4.5: Means and standard deviations for holistic quality preparation items
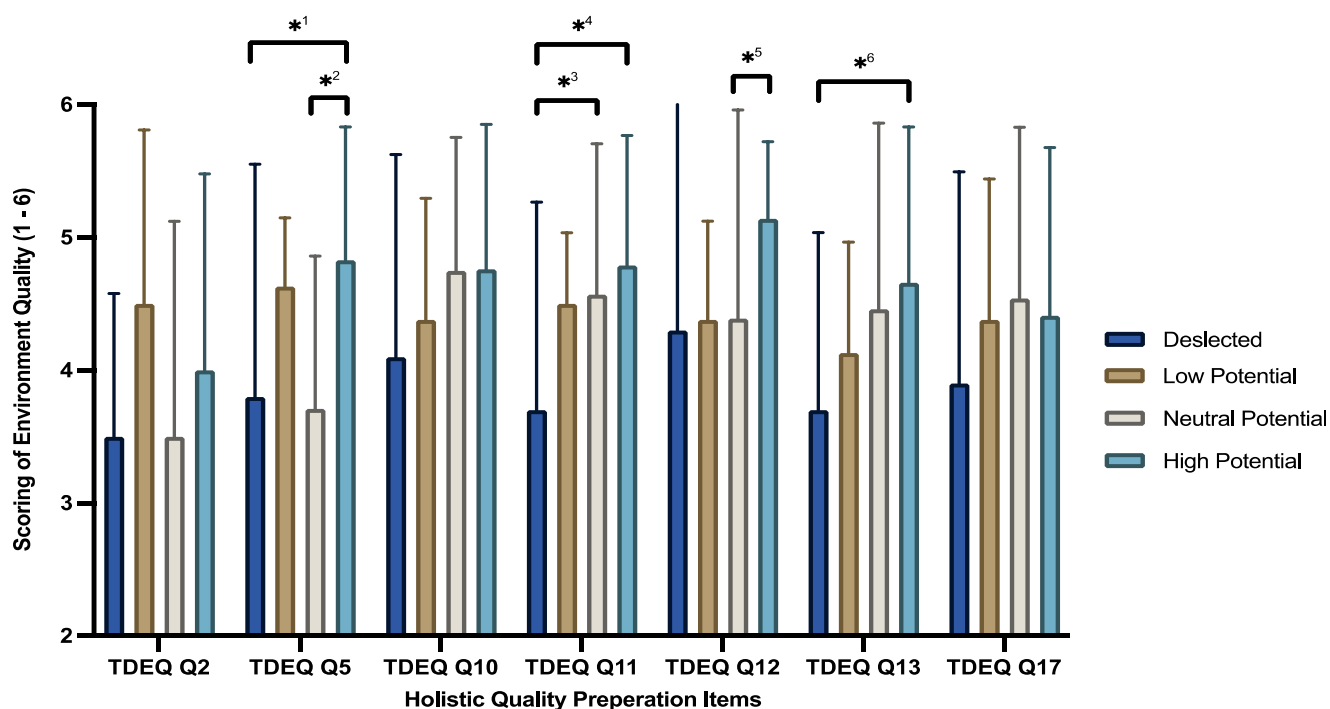
*[1] denotes significant difference between DS and HP groups (p = .017)
*[2] denotes significant difference between NP and HP groups (p = .000)
*[3] denotes significant difference between DS and NP groups (p = .035)
*[4] denotes significant difference between DS and HP groups (p = .008)
*[5] denotes significant difference between NP and HP groups (p = .028)
*[6] denotes significant difference between DS and HP groups (p = .042)

Table 4.8: Holistic quality preparation items

TDEQ Q2	I am rarely encouraged to plan for how I would deal with things that might go wrong
TDEQ Q5	My coach doesn't appear to be that interested in my life outside of sport
TDEQ Q10	The guidelines in my sport regarding what I need to do to progress are not very clear
TDEQ Q11	I don't get much help to develop my mental toughness in sport effectively
TDEQ Q12	My coach rarely takes the time to talk to other coaches who work with me
TDEQ Q13	My coach rarely talks to me about my well-being
TDEQ Q17	I am not taught that much about how to balance training, competing and recovery

Discussion

The aims of the study were two-fold:

1) To examine the impact of relative age on recruitment to an elite Scottish football academy and perceptions of long-term potential within the academy cohort

2) To examine differences in self-regulatory behaviour and environmental experience between players of varied potential and progression status

The Prevalence and Influence of Relative Age Effect

Findings relating to the birth month analysis of the current academy cohort demonstrates a significant skewed distribution, with a prominent bias (> 70%) towards players born in the first half of the selection (and calendar) year. From previous literature (Dugdale, McRobert, et al., 2021a; Gutierrez Diaz Del Campo et al., 2010; Helsen et al., 2005; Hill et al., 2020; Lovell et al., 2015), the prevalence of a RAE bias within the analysed academy is somewhat unsurprising due to the inaccurate perceptions of what 'potential' is (Abbott et al., 2005), the importance placed upon current performance and the pressures experienced by coaches to achieve short-term success (Hill & Sotiriadou, 2016). The RAE findings from the elite academy within the current study are typical of Scottish football as they almost exactly mirror those of Dugdale and colleagues' (2021a) who analysed the prevalence of RAE across the entirety of Scottish football, exploring amateur, elite youth and professional domains.

The asymmetry of birth months within the academy cohort indicates the likely influence of relative age as a contributing factor due to the misconception that current performance, which is influenced by maturation, precedes, and indicates future potential. Findings from research suggest that the effects and short-term physical and anthropometric *advantages* associated with chronologically earlier births are recognised as contributing factors that influence talent identification and (de)selection decisions that afford increased opportunities to earlier born players within professionalised development programmes (Cripps et al., 2016; Furley & Memmert, 2016; Till et al., 2014; Vaeyens et al., 2005). As a result of the value placed upon performance and current ability parameters, which are heavily influenced by maturational and relative age (dis)advantages, within the talent identification and recruitment processes, later born and/or later maturing players are not afforded the

same development opportunities due to non-selection or de-selection from professionalised development programmes (Cumming et al., 2017; Martindale et al., 2005). Research (McCarthy & Collins, 2014) has demonstrated that later born and/or later maturing players possess a greater likelihood of navigating the talent pathway, transitioning to senior sport and 'making it' as elite players. Therefore, the biased recruitment of early maturing players born early in the selection year, who may possess better *current* ability and perform better within youth age groups, may be counterintuitive and limit the ability of the football academy to identify and recruit players that possess long-term potential to succeed at the professional level. The work of Martindale, Collins and Daubney (2005) and others (Vaeyens et al., 2008, 2009) support the notion of post-maturational selection and the long-term provision of appropriate development opportunities over early selection within talent development programmes. The suggestion of postponing selection to football academies until after maturation has occurred may not be practically appropriate due to the volume of training required for players to be competent enough to participate and excel at the professional level following graduation from the academy environment (Ericsson et al., 1993; Ford et al., 2020). However, the key decision makers within football academies may seek to consider the timing of the onset and subsequent effects of maturation when identifying talent and making (de)selection decisions. Re-evaluation of (de)selection criteria where *potential* is considered, rather than current performance, in a more holistic, long-term manner will also inform more accurate decisions within the talent identification process and hopefully limit the value placed upon current characteristics and performances (Vaeyens et al., 2008, 2009).

Interestingly, although the academy recruitment was influenced by relative age, the month in which players were born did not influence the academy director's perceptions of player potential. This is interesting because previous research has demonstrated that coaches can subconsciously/implicitly associate some relative age effects with higher levels of potential (Furley & Memmert, 2016). However, the current study utilised a single, experienced talent evaluator, the football academy manager, who knew the players well, to assess the future potential of all academy players. This is an important methodology step to maximise the chances of gaining accurate and consistent ratings across a highly subjective area. For example, Kite and colleagues (2021) demonstrated

a high degree of variance of perceptions within the talent identification and recruitment processes of one football academy. Variance that exists within football academies may be explained by a number of reasons, including the subjective appraisal of what talent is, the expertise or experience of the talent raters, and/or the nature of available opportunities to assess potential. Recruitment specialists are often limited to viewing potential in short, snapshots of players performing in a small number of competition exposures, and therefore may be unwittingly more influenced by relative age effects and short-term performance. Coaching staff (i.e., academy managers, head of coaching) are afforded much longer, more insightful opportunities to assess potential within training, competition and non-sport environments. This, coupled with the extensive recruitment and development experience of the academy director may inform his perceptions of potential, and contribute to the use of a more holistic, experientially informed identification criteria that does not attribute excessive value to current ability and performance.

Self-Regulation: Role in Learning and Academy Variance

One aspect of the second aim of the study was to examine the differences in self-regulatory behaviours between players at different progression statuses and perceived levels of potential. Study findings support the discriminatory role of reflective practice *to an extent*, with ascending levels of engagement with reflection associated with increasingly higher levels of perceived potential. Although no significant difference was reported from within participants and between progression and potential level groupings, a medium effect size was detected. Although different instruments were used, in comparison to the work of Jonker, Toering and colleagues (2019; 2009; 2012) within elite football future potential. The self-regulatory behaviours assessed via the FSRL-SRS related to players' level of engagement with planning, evaluation, and reflection. Positive, linear trends were present within the overall engagement with self-regulatory behaviours, and also reflection and evaluation subscales. From an overall self-regulation perspective, high potential players who progressed, regulated their learning significantly more frequently than those who were deselected from the academy. Considering the recognised role that self-regulation plays in underpinning and optimising learning experiences, this significant variance in overall engagement

between deselected players and high potential academy players is important, albeit perhaps unsurprising (Jonker et al., 2012, 2019; Toering et al., 2009, 2012).

Reflection is recognised within self-regulation research as one of the most predictive, discriminatory aspects of elite and non-elite performers (Jonker et al., 2012b, 2019; Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012). Findings from the current academy cohorts, the academy players in the current study dedicated less time to reflecting on their football learning experiences. For players who 'make it' to the professional level, the frequency and quality of engagement with reflective thinking is understood to intensify prior to, and during periods of significant transition within the development pathway (Jonker et al., 2019). With the transition from the academy to the professional ranks identified as one of significant difficulty (Morris et al., 2015; Stambulova et al., 2009), coupled with the importance to the academy's objective of developing homegrown senior players. Teaching and developing reflective thinkers may aid the players' ability to transition and enhance the club's success rate of academy to first team transitions (Jonker et al., 2019).

Within the theoretical context of Toering et al.'s (2009, 2011; 2012) research and FSRL-SRS tool development (2013), stemming from the work of Zimmerman (1986, 2006), self-evaluation is primarily associated with the metacognitive process of post-competition and -training evaluation against a pre-set goal(s) and/or expected performance outcome. The findings from the current study demonstrate significant differences in frequency of engagement with self-evaluation between-participants on a group level and at a pairwise level between deselected and neutral potential and deselected and high potential players. Comparatively, the grouping means for self-evaluation engagement align with the findings of previous research (Cumming et al., 2018; Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012). Although an important tenet of self-regulation, within research self-evaluation does not frequently emerge as an aspect of the process that possesses the ability to discriminate between levels of performance and/or potential (Cumming et al., 2018). Therefore, the findings from the current study support the findings of Cumming and colleagues (2018) who found later maturing players who reached the professional level were more likely to engage in self-evaluation than earlier maturing academy players. Self-evaluation relies on the intentional setting of goals, objectives and/or performance standards prior to

training and/or competition experiences, therefore the significant differences in the current study may be explained by the frequency and quality of the goal-setting processes of academy players who were deselected and those who progressed. Unfortunately, understanding the goal-setting behaviours of the academy players extends beyond the scope of the current study, however the proceeding chapter seeks to explore this process further by understanding the learning and coping experiences of the academy players. Lastly, the effectiveness of self-evaluation is underpinned, and intertwined with the learner's degree of self-awareness and the ability to accurately perceive and appraise learning experiences (Chow & Luzzeri, 2019; Ravizza & Fifer, 2014). This high degree of self-awareness and ability to critically evaluate performance and competition experiences facilitated the development and elite performance of Olympic and World Champions, this ability to critically evaluate was heavily utilised within the investment years where athletic development intensifies (Durand-Bush & Salmela, 2002) (much like the players towards the latter stages of the academy).

Informed by reflection and self-evaluation, strategic future planning behaviours, that incorporate the setting of goals, is positioned within the forethought phase of Zimmerman's model of self-regulation (1986, 2006). The findings from the current study contrast findings from previous research (Bartulovic et al., 2017; Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012), with lower potential players engaging in planning behaviours more frequently than those perceived to be more likely to reach professional status. Although differences in engagement levels were not statistically significant and a small effect size was present between the groupings, this unexpected trend is interesting. The 'planning' factor within the FSRL-SRS is comprised of items relating to tangible preperformance behaviours and cognitive processes (goal setting), therefore an item-by-item analysis was conducted to identify the source of the variation within the 'planning' subscale.

The level of engagement with tangible training behaviours such as arriving early and staying after academy sessions to work on specific skills was significantly different ($p < 0.05$) between all players. Higher potential players were more likely to dedicate time outside of formal academy activities to develop specific skills and competencies. The correlation between time spent deliberately practicing and developing sport-specific skills and sporting attainment is recognised within the literature (Ericsson et al., 1993;

Ford et al., 2009; Ford & Williams, 2012). This commitment to additional practice demonstrates the motivational sub-components of self-regulation and other psychological competencies such as discipline, commitment and dedication that are believed to discriminate between 'good' and 'poor developers' and those who 'make it' and those who do not (Gledhill et al., 2017; Ivarsson et al., 2020; MacNamara et al., 2010a, 2010b). However, practice without direction, intention, and objectives to facilitate in-action and post-action self-evaluation may not yield optimal learning or development, further emphasising the importance of all aspects of the self-regulation process and related abilities to optimise the learners experience within additional practice situations.

Although high potential players engage more in additional practice, discrepancies still exist as low potential players reported higher levels of engagement with the 'planning' factor of the FSRL-SRS. This unexpected level of engagement with planning from low potential players is explained by their heightened engagement with the setting of training and competition goals and the cognitive planning of behaviours that aim to achieve the pre-set goals. The scope of the FSRL-SRS does not extend beyond the frequency of engagement and therefore is not capable of demonstrating the processes and quality of the academy players' planning behaviours. The quality and appropriateness of each individual players' goal-setting process may contribute to the heighted/lack of engagement with pre-performance goal-setting, in that, the planning of unrealistic and unattainable goals may require regular disengagement and/or readjustment which may explain more frequent engagement with goal-setting and planning behaviours (Healy et al., 2018; Nicholls et al., 2016). Goal readjustment is understood to inform effective task-orientated coping and is positively associated with well-being (Nicholls et al., 2016). Use of inappropriate goal-setting strategies that result in the setting of unattainable goals that later require disengagement, can negatively influence the effectiveness of the self-regulatory process due to their key role within self-evaluation and -monitoring processes (Schunk, 1983; Zimmerman, 2006), and therefore negatively influencing learner motivation and well-being (Nicholls et al., 2016; Schunk, 1983). Higher potential players may utilise more effective goal-setting strategies that result in the setting of appropriate, attainable, and robust goals of both a short-

(single training session/game) and long-term (season) nature that require less frequent disengagement and then readjustment.

The findings demonstrate that higher potential players engaged more frequently with reflection and evaluation aspects of the self-regulation process and low potential players appeared to spend more time planning future development intentions and behaviours. Considering self-regulation as a cyclical process (Zimmerman, 1986, 2000, 2006), sub-components are intertwined and informed by one another, therefore this requires the efficient deployment of competencies that underpin the effective engagement with all processes to inform effective self-regulation of the learning experiences. Therefore, high potential players' greater levels of engagement with the overall self-regulation process demonstrates their ability to continuously self-regulate by utilising the required competencies and engaging with the appropriate behaviours in an efficient, orderly manner. Low potential players demonstrated heightened levels of engagement with the planning factor which may be the result of ineffective planning behaviours and therefore requires more frequent re-planning or general high levels of planning engagement. The disparity in engagement levels of low potential players with the evaluation subscales suggests that frequent planning and goal setting does not inform the proceeding steps within self-regulation process (self-evaluation and reflection). This inability to effectively 'close the loop' negatively influence the effectiveness of the self-regulation process.

Environmental Perceptions: Equality of Provisions or Favouritism…

The second aspect of the study was to examine any differences in the perceived quality of the academy environment between players at different progression status and levels of future potential. There was no significant variance of the overall perceived environment quality detected between the four groupings, although significant variance did exist between those players who were deselected and those who progressed and were regarded as high potential players. From a factorial perspective, only one factor (holistic quality preparation) demonstrated significant, between group differences. Further analysis highlighted a statistically significant difference between the perceptions of deselected players and high potential players who progressed for the holistic quality preparation factor. Although no significant difference was found between the groupings for the other four factors of the environment (long-term development, communication,

support network, alignment of expectations), high potential players did score highest on all but one factor (long-term development). The significant variance between groupings, predominantly high potential and deselected players, may be a result of those who are perceived to possess more future potential experiencing preferential treatment from the academy environment (i.e., staff, availability of provisions, quality of provisions). Another possible explanation for the significant variance in the perceived quality of the development environment between players may be explained by the mediating role that perceived competence plays in the appraisal of the quality of the talent development environment (Wang et al., 2016).

Variance of environmental perceptions is to be expected, however significant variance is interesting and may be explained further by a singular or combination of environmental and/or players' sociological, psychological and/or personality factors. Findings relating to the environmental aspects measured by the TDEQ5 (long-term development, support network, communication, and alignment of expectations) were all found report similar patterns with deselected and low potential players scoring the environment lowest and higher potential players perceiving the environment to be of a higher quality.

Although no significant difference was detected between the groupings' perceptions of long-term development, communication, support network and alignment of expectations, differences in perceived quality of the environment may relate to the trait and environmentally influenced personality and psychological characteristics of the academy players (Wang et al., 2011, 2016). For example, the quality and presence of environmental structures and provisions that facilitate long-term player development are understood to nurture more longitudinal, task/mastery motivational orientations (Wang et al., 2011, 2016). The adoption of task and mastery goal orientations can influence the development of mentally tough athletes which can aid the pathway navigation of players and therefore positively influence the likelihood of 'making it' (high potential players) (Li et al., 2019; Zuber et al., 2015). Therefore, the alignment with long-term development and motivational dispositions may explain why high potential, task/mastery orientated, players view this aspect of the environment more favourably compared to deselected and lower potential players who may possess different motivational orientations. Furthermore, while effect sizes were small in communication,

support network and alignment of expectation factors, high potential players scored highest which may be explained by sociological factors such as the quality of the coach-athlete relationship and/or the degree of available parental involvement which may help the players to interpret and perceive environmental aspects, experiences and relationships in a more positive manner (for review see Reeves et al., 2018).

The ability of the talent development environment to prepare players for life inside and outside of the football academy (holistic quality preparation) was identified as the only factor that perceptions varied significantly across all groupings of potential and progression. Significant pairwise differences were detected across a variety of items within the factor, two items related to the (lack of) interest coaches appeared to take in the lives and well-being of academy players. The quality of the coach-athlete relationship, specifically the perceived closeness between each co-actor, may contribute to this variance with higher quality relationships facilitating the ability of coaches to deeply discuss and take interest in the players' lives outside of the academy (Jowett, 2005, 2007; Jowett & Nezlek, 2012; LaVoi, 2007). Furthermore, deselected players also reported the environment (and coaches) provided significant lower levels of support to help develop mental toughness. The relational satisfaction and quality of the relationship between academy players and coaches plays an important role in the development of mental toughness within the development environment (Gucciardi et al., 2009; Rodahl et al., 2015). The quality of the coach-athlete relationship may therefore be central to the players' perceptions of the environment caring for and satisfying their basic, human needs.

Developing effective, coach-athlete relationships with all athletes within team sport environments is challenging and requires a significant time investment from both coach and athlete (Rhind et al., 2012). Within professionalised development environments this is especially challenging as coaches are burdened with demands and pressures to achieve short-term success and accomplish the ultimate objective of developing senior players (Dixon & Turner, 2018). Therefore, coaches may dedicate more attention and time to developing relationships and nurturing those players that demonstrate high levels of competence and/or future potential. Focusing more time and resources on the development of players that the coaches perceive to 'have a better chance of making it' and taking away from those who are perceived to be less likely to reach the professional

level. This may also explain the variance in perceived holistic care and preparation experienced by deselected and lower potential players.

The scope of the current study did not extend to examine the quality of relationships the players have with the academy coaches, therefore further, qualitative research is required to examine the interactions between the learner, the surrounding physical environment and those within the environment in greater depth.

Conclusion

The aims of the study were twofold, 1) To examine the impact of relative age on recruitment to an elite Scottish football academy and perceptions of long-term potential within the academy cohort, and 2) To examine differences in self-regulatory behaviour and environmental experience between players of varied potential and progression status. Findings demonstrate a bias towards players born in the first half of the selection year, asymmetrical dispersion of academy birth dates exists with 70% of players born in the first six months of the calendar and selection year. Although a bias towards those born early in the selection year was detected within the academy's' TID and recruitment processes, month of birth was not found to influence the academy director's perceptions of potential or progression status.

High potential players who progressed within the football academy engaged with the overall self-regulation process significantly ($p<0.05$) more frequently than those who were deselected from the football academy. The frequency with which players self-evaluated training and competition performance was identified as the only factor that demonstrated significant variance ($p<0.05$) between all players. Interestingly, low potential players were found to engage more frequently (but not significantly ($p>0.05$)) with planning behaviours compared to their higher potential peers. Therefore, higher potential players appear to be more frequently engaged with the complete self-regulation process, more specifically with evaluation and reflection behaviours.

Within the academy cohort, the overall quality of the environment was not perceived to differ significantly ($p>.05$), however high potential players did perceive the overall environment quality to be of a significantly higher ($p<.05$) standard than those players

who were deselected. From a factorial analysis perspective, the quality of the academy environment was perceived homogenously ($p > .05$) across four of the five variables assessed within the study (long-term development, communication, support network and alignment of expectation). However, the ability of the academy environment to prepare players in a holistic manner, for life in and outside of the academy, was perceived by all players to differ significantly ($p < 0.05$). Variance within the academy players' environmental perceptions may suggest that higher potential players receive favourable treatment and more access to high quality provisions and/or the psychological learning and coping competencies (self-regulation) may allow for greater extraction of development from the available provisions.

Theoretical and Academic Considerations

The current study builds upon the work and findings from the preceding chapter, adopting a more focused, prospective quantitative approach to examine potential environmental and self-regulatory variance between academy players of different progression and potential statuses. This work continues to build upon previous work (Dugdale et al., 2020; Dugdale, McRobert, et al., 2021a; Dugdale, Sanders, et al., 2021) and explore further the untapped domain that is Scottish football through an in-depth investigation of an elite tier football academy.

From a methodological perspective, the research takes an 'in the moment' snapshot of the environmental perceptions and self-regulatory engagement levels of academy football players at the start of a season, categorises players by perceived potential and then attaches tangible, progression/deselection outcomes following the completion of the season. The cross-sectional nature of the collection of environmental and self-regulatory data is recognised as a limitation as this does not afford an opportunity to track the dynamic change of the data over the season. Also, considering the objective of the football academy is to develop the holistic skills and competencies of players over the course of a season, there would be an expectation that self-regulatory skills and behaviours would improve accordingly. Therefore, future research would benefit from examining the quantity and rate of change of self-regulation skills, competencies, and behaviours over a longitudinal period.

The instrumentation utilised within the current study demonstrate a high degree of psychometric and practical suitability to assess the players' environmental perceptions and self-regulatory behaviours (Li et al., 2015; Toering et al., 2013). Li and colleagues (2015) redevelopment of the original TDEQ (Martindale et al., 2010) provided a psychometrically robust, yet more practically appropriate version of the questionnaire to efficiently gather data from young players within their busy academy schedules. Toering and colleagues' (2013) FSRL-SRS effectively gathered data pertaining to the level of engagement with three self-regulatory behaviours; planning, reflection and evaluation. The scope of the instrument enables the assessment of the engagement level with each self-regulation behaviour, however, the findings from the current study demonstrate that a high degree of engagement may not equate to a high quality of engagement therefore the findings of the current study are limited to *frequency* of engagement and do not capture the *quality* of engagement. Capturing the quality of engagement is however extremely challenging and may extend beyond the scope of a self-report questionnaire and quantitative study (Toering et al., 2011).

Lastly, the study assessed environmental and self-regulation variables using self-report instruments, the potential influence of social desirability was recognised and accounted for within the study design and procedure. Social desirability is extremely prevalent within competitive, football academies where players seek to gain the coaches favour as an approach to avoiding deselection and aiding their progression towards academy graduation and professional football (Clarke et al., 2018; Cushion & Jones, 2006). As a result, it is expected that players may 'hide' or exaggerate perceptions and levels of engagement to 'impress' coaches and stakeholders (Gerber et al., 2019; Van de Mortel, 2008). Steps were taken within research design and procedure to ensure academy players were aware that only the researcher would have access to data, anonymity would be ensured, and coaches would only be provided with anonymous, summary data of the entire academy cohort.

Practical Considerations

Findings from the current study offer several practical considerations that relate to three prominent areas of the talent development environment: recruitment processes, development of self-regulation competencies and behaviours and the development experiences of academy players of differing levels of perceived potential.

The identification of talent and recruitment of players to the football academy is significantly influenced and biased by the effects attributed to an early birth within the selection year. With over 70% of the academy cohort born in the first six months of the selection year, academy TID and recruitment processes appear to value the current ability of players which is heavily influenced by maturation and associated physical and anthropometric characteristics. Therefore, allowing current ability to influence (de)selection decisions within the football academy will result in the asymmetrical dispersion of births where relative older players are more likely to demonstrate high levels of current ability, physical stature and performance in competition. In order to avoid disregarding later born players, the academy may look to avoid early, pre-maturation selection where possible to ensure relate age effects do not skew the perceptions of potential. However, the challenge of attaining the required training volume prior to entering senior football is recognised. To ensure later born, and maybe later maturing, players are not causalities of early, pre-maturation selection, the academy should look to develop a talent identification criterion that adopts a holistic perspective that accounts for the effects of relative age and early/late onset of maturation in conjunction with other physical, psychological, and sport-specific competencies. Additionally, the academy director demonstrated that relative age did not influence their perceptions of potential which seems to oppose the views of the academy recruitment staff. Therefore, developing a holistic criterion of talent and developing closer working relationships between coaching and recruitment departments will aid the coherency of subjective opinions of what future potential looks like.

Secondly, the findings show some variance within the self-regulatory behaviours and levels of engagement within the academy cohort. Previous research (Cumming et al., 2018; Jonker et al., 2019; Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al.,

2012) demonstrates the importance of and discriminatory capabilities of specific self-regulation behaviours, the academy should look to develop these behaviours further through an off- and on-pitch intervention programme. Findings point to the engagement with evaluation behaviours as a key self-regulatory component that significantly differed across the deselected, low, neutral, and high potential players. These findings may encourage the academy stakeholders to focus on developing the players' ability to evaluate against set criteria and encourage the engagement with self-evaluation post training and competition. Findings relating to future planning, and more specifically goal setting were unexpected and therefore require further investigation, however the academy may look to consider the goal setting strategies of the young players to ensure these are effective, appropriate, and developmentally informative.

Lastly, the players' perceptions of the overall environment quality did not differ significantly between all players, however high potential players did view the overall environment quality in significantly higher regard than those players who were deselected. Factorially, the quality of the development environment was homogenous across four of the five TDEQ variables with significantly different perceptions across all players of the environment's ability to prepare players holistically. These findings suggest that high potential players may receive favourable provision in the environment, and/or they may view the environment more favourably due to personal traits and characteristics and/or receive greater sociological support which may also contribute to their ability to navigate and optimise the challenges of the development environment. Therefore, to ensure all players are provided with an opportunity to develop holistically and player well-being is accounted for and monitored, stakeholders should look to ensure that provisions relating to holistic quality preparation are available to all players to prepare them for the next step, inside and outside of football (Larsen et al., 2014). Practically, this may include the development of coaching provisions and behaviours to equip coaches with the abilities and knowledge needed to develop the holistic qualities of the academy players. Although the variance in environmental perceptions may be a result of the favourable treatment and availability of provisions on offer for higher potential players, this may also be an intentional approach to strategically position developmental resources with those players who are 'more likely to make it'.

Future Considerations

The quantitative nature of the study offers a clear insight into the presence of relative age and demonstrates the level of engagement with behaviours that underpin the self-regulation process. Findings from the current study are insightful and interesting, some findings are unexpected, and therefore require further exploration to explain and account for their presence within the data. For example, the high levels of planning engagement demonstrated by low potential players is an anomaly that extends beyond the scope of quantitative research. Therefore, a deeper line of inquiry is needed, to explore the planning and evaluation processes of academy players and how over time such processes are developed and refined. The current study offers a snapshot of the environmental perceptions and self-regulation engagement with the inclusion of tangible, progression outcomes. Future research should look to examine the development of self-regulation competencies over a longer period, investigating how behaviours and competencies are developed and utilised by learners as they encounter and try to overcome challenges presented by the talent development pathway.

To gain such clarity, longitudinal, qualitative exploration is required to investigate the dynamic nature of learning and development within a highly competitive and challenging environment of a football academy. Therefore, in response to the need for a qualitative study that offers a longitudinal research perspective, the proceeding chapter aims to explore the interaction between the learners (academy players), the learning environment (football academy) and those within the holistic learning environment (parents, coaches, peers) over a full football season.

Chapter 5: A Qualitative Exploration of the Lived Experiences of Academy Football Players: A Season Long Investigation

Introduction

Achieving sporting excellence and reaching the pinnacle of sport is a dream of many but achieved by few. Less than 0.5% of players who enter an English football academy at the age of nine will 'make it' and play at the professional level. Of those who are 'unfortunately' not signed to a professional football academy, the odds of 'making it' are considerably lower, 0.012% to be exact (Romeo, 2017). Acknowledging the very small number who succeed in reaching elite, professional sport, it would be appropriate to suggest the talent development (TD) process is a tough challenge for young players. Talent development has also been shown to be a complex, dynamic process and is influenced by a diverse array of factors, over a long period of time (Abbott et al., 2005). As a result, football academies were created to try and account for and manage the complexities of the TD process within a controllable and pliable environment that affords opportunities for intensive, sport-specific developmental experiences and offers wide-ranging specialised learning provisions (Ford et al., 2020).

Ericsson's deliberate practice framework (1993) does appear to suggest that developing expertise is a linear function related to time spent in practice, longitudinal research has however illustrated the non-linear, idiosyncratic nature of developing talent and achieving sporting excellence (Gulbin et al., 2013). The time required to develop talent contributes to the complexities and potential idiosyncrasies of the TD process (Abbott et al., 2005). Furthermore, as detailed within both Bloom and Côté models (Bloom, 1985; Côté et al., 2009), aspiring athletes must successfully navigate and transition between the proposed stages of the TD process. Navigation and transition between stages has been found to present a variety of dynamic challenges that possess the potential to derail the progress of young athletes if inappropriate approaches are employed or if athletes do not possess the ability to develop and use suitable coping competencies and behaviours (Collins & MacNamara, 2012, 2017b; MacNamara & Collins, 2013; Van Yperen, 2009).

Collins, MacNamara and colleagues (Collins et al., 2016a, 2016b; Collins & MacNamara, 2012, 2017c) have demonstrated and explored the complexities of the TD process

through their research termed 'The Rocky Road'. The 'rocky road' describes the non-linear development trajectories that athletes experience as they seek to attain sporting excellence. The research also proposes the highs and lows, traumas and triumphs that appear along this TD journey are both potential stumbling blocks and catalysts to progression (Collins & MacNamara, 2012, 2017c). Perceived challenges along the TD journey predominantly appear as sport related, for example, incidence of injury, missed selection/deselection and poor performance (Savage et al., 2017). A variety of stressors and challenges have been found to emerge from within and relate directly to the football academy environment (e.g. individual and team performance, coach evaluations, selection/deselection, contractual issues) and from general adolescent life (e.g. family stress, social opportunities and experiences, peer social perceptions and evaluations) (Reeves et al., 2009). Considering the 25% annual turnover rates within football academies, deselection is a very real pressure that looms over players (Güllich, 2014), in an already extremely stressful environment (Cooper, 2021). Collins and MacNamara (2012) propose that the inclusion of challenge and/or 'trauma' is an essential tenet on the TD journey, in that appraising, tackling and overcoming challenging experiences offer opportunities for young athletes to develop the necessary (psychological) competencies and coping strategies that will be required to navigate future challenges including the significant challenge of transitioning from youth to senior sport. Facing challenge and the subsequent experiences were found to result in an immediate drop in "perceived performance potential" which was followed by a 'rebound' in perceived potential that outweighed the experienced decline (Savage et al., 2017). Interestingly, an athletes' ability to rebound improved as they experienced more challenges, suggesting that the personal resources that the athletes bring to challenge is important for subsequent progression.

In order to successfully navigate the TD journey, the challenges that emerge from the process of learning and refining sport specific competencies must be appraised, approached and overcome effectively. The attitude which players adopt when encountering challenge within their development may play a significant role in the likelihood of overcoming and learning from stressful experiences (i.e., Growth Mindset – Dweck, 2006). Additionally, the 'toolbox' of psychological skills possessed by young athletes support and facilitate the ability to perform and learn but also to overcome the

challenges that precede and initiate athlete development (Collins et al., 2016a; MacNamara et al., 2010a, 2010b).

Gledhill, Harwood and Forsdyke (2017) systematically reviewed the psychological factors affecting TD in football, identifying a number of characteristics that aid the likelihood of persevering and overcoming challenging experiences; commitment, determination, intrinsic motivation, resilience and the ability to delay gratification. Additionally, psychological competencies such as self-regulation underpin and encourage adaptive behavioural responses to challenge which allows the learner to adjust their behaviours in relation the environmental demands to maximise learning (Zimmerman, 1986; Zimmerman & Kitsantas, 1997). The frequency of reflection on experiences and ability to utilise reflections to inform future approaches to learning has been found to discriminate between elite and non-elite academy football players (Toering et al., 2009) and was positively related to the likelihood of reaching the professional level (Jonker et al., 2019). Van Yperen (2009) offers a longitudinal perspective of the psychological factors that differentiate those who 'make it' and those who do not become professional football players; goal commitment, engagement in problem-focused coping behaviours and social support seeking were found to predict future footballing success. As players become accustomed to the stressors and challenges experienced within the academy environment and progress through the academy age groups, a greater arsenal of coping strategies are developed and utilised (Reeves et al., 2009). Specifically, in response to elevated levels of challenge, older academy players (15–18 years old) used more problem- and emotion-focused coping strategies and less avoidance strategies than younger academy players (12–14 years old) (Reeves et al., 2009).

Research suggests that successful developers who reach the elite level must *bring* a range of psychological competencies that inform the appropriate behaviours and coping strategies to ensure athlete survival and subsequent further development as a result of overcoming the challenging experiences (Collins et al., 2016a, 2016b; Savage et al., 2017). Therefore, highlighting the need for TD programmes and environments to teach a variety of psychological competencies to facilitate more independent coping and progression in the face of challenge. Additionally, the quality of the learning

environment and the availability of a comprehensive support network has been identified as a key contributor to the success of an athlete developing from a talented youth to an elite athlete (Henriksen et al., 2010a, 2010b, 2011; Martindale et al., 2007, 2013).

The quality of the immediate talent development environment (TDE) and the available provisions on offer play an important role in the effectiveness of the TD process and therefore the likelihood of prospects fulfilling their sporting potential (Henriksen et al., 2010b; Martindale et al., 2007, 2013). Research has highlighted the importance of high quality environments for athletes achieving desired outcomes, such as progression, well-being, intrinsic motivation and protection from burnout (Ivarsson et al., 2015; Li et al., 2019; Martindale et al., 2013; Thomas, Gastin, et al., 2020; Wang et al., 2011).

The position of the TD process sits not only within the immediate TDE but also the wider social and cultural milieu. Therefore, it would be appropriate to examine the lived experiences and athlete's interactions across the wider environment (Henriksen et al., 2010a, 2010b, 2011). This ecological and holistic perspective has led to in-depth understanding of several academy football environments (Aalberg & Sæther, 2016; Larsen et al., 2013).

Larsen et al., (2013) observed and interviewed academy players signed to a renowned Danish club, identifying a cohesive environment embodied by a strong and open culture based on integrated values (hard work, self-awareness and responsibility for personal development) that transcended the football specific and academic domains (Larsen et al., 2013). Similarly, Aalberg and Sæther (2016) reported the presence of a holistic focus on development that encouraged and facilitated academic participation by establishing close, cooperative links with local schools to aid the effectiveness and functionality of a dual career approach. Both academy environments provided a variety of accessible sources of support for the players and worked closely with other stakeholders (e.g., parents, school) to develop a cohesive support network (Aalberg & Sæther, 2016; Larsen et al., 2013). The qualitative approach adopted by both authors highlighted the nuanced challenges within the respective academies, transitional barriers were reported across both studies, a lack of cohesion and connectivity between academy and senior

environment resulted in the misalignment of objectives and inefficient and stressful transition experiences for the academy players.

Considering the complex and non-linearity of the TD process, coupled with the idiosyncrasies that exist across all successful and unsuccessful developmental journeys, adopting a qualitative lens of exploration affords the opportunity to unearth information rich insights into the interactions and hidden nuances of the TD process. Savage, Collins and Cruickshank (2017) highlighted the appropriateness of qualitative inquiry to examine and monitor ecological interactions through their examination of the interactions between the experiences of challenge and the developing athletes' behaviours, psychological competencies and coping strategies. Given that the majority of current research explores the developmental journeys of athletes in a predominantly retrospective manner, commonly involving only athletes who have 'made it', it seems pertinent to adopt a semi-longitudinal (one season) approach, with multiple integrated data collection opportunities, to capture the 'live' experiences of academy football players.

Study Aims

The singular aim of this research is to understand the lived experiences of academy players, with specific attention paid to the nature and influence of challenge, the behavioural approaches taken to overcome pathway challenges and, the pressures and naturally occurring difficulties within the talent pathway.

Methodology

Study Design

A longitudinal methodology was employed to enable an investigation of the experiences of elite football academy players across a season. Qualitative investigations, such as one-to-one interviews, rely heavily on the ability of participants to retrospectively recall and articulate their thoughts, feelings and perceptions relating to a specific event or time in the past. Thus, in an attempt to overcome the limitations of participant recall and to enhance the accuracy of the retrospective insights; quantitative graphing of recent progression and development was conducted, and qualitative data was collected at three points throughout the competitive academy football season (April, August & November 2019). The selected methodological design and procedure

aims to overcome limitations of retrospective recall and hindsight bias by encouraging participants to actively relate their lived experiences to actual events and/or memorable outcomes (i.e., specific competitions) to increase the accuracy and veracity of recalled experiences (Drasch & Matthes, 2013).

Participants

Fifteen youth players aged between 11 and 15 (12.86 ± 1.41) who were signed to a professional Scottish football academy were recruited to participate in the study. Participants were recruited from a male only football academy therefore, all participants identified as male. All academy players from the under 12 to under 16 age groups were approached to participate in the study. Of those invited to participate, seventy-two academy players (and their parents/guardians) agreed to voluntarily participate in the study. From this initial pool of seventy-two, three players were randomly selected from each academy age group; U12, U13, U14, U15 and U16 with names drawn from a box. The sampled participants represented 15% of the players within the selected academy. Participants reported to having spent a minimum of two years and a maximum of seven years in the current development environment.

A typical week within the TDE saw participants spend an average of 10.57 (± 2.79) hours within the academy environment. All participants were involved in a minimum of <u>3</u> football training sessions per week, with many completing more which resulted in an average of 8.57 (± 2.79) hours per week spent developing their football specific abilities. Participants undertook 2 hours of physical development training in the academy gym and on the training pitch in an average week. Players were involved in an average of 1.71 (± 1.59) competitive fixtures per week. Sampled academy players all reported to having started structured football activities between the ages of 3 and 7, subsequently accumulating an average of 8.29 (± 1.89) years' experience in structured football training. The selected football academy had an established agreement with a local secondary school that assumed the role of a 'performance school' where selected players were schooled and provided with additional training opportunities on top of their regular academy sessions. Performance school players were actively involved in four on-pitch training sessions and one additional physical development session per week, this attributed to an additional 400 hours of development over the course of an academy season compared to non-performance school academy players. Performance

school sessions were commonly conducted prior to or during the school day, the academy therefore facilitated additional study time between the school day ending and evening academy training commencing for the performance school players.

Interview Design and Procedure

Ethical approval was provided by Edinburgh Napier University's School of Applied Sciences ethics committee prior to commencement of the study. The academy director of the Scottish football academy was approached via email to grant permission for the researcher to recruit academy players as study participants. Prior to the commencement of the 2019 CAS season; players and guardians were invited to attend an information evening that aimed to provide details of the study aims and methodology. Academy players and guardians were extended invitations to voluntarily participate in the study. Attending parties were also offered opportunities to question the researcher to ensure the participation requirements were fully understood. Written informed consent was collected from academy players and parents/guardians at the information evening and the weeks following. Consenting academy players were then randomly selected to participate in the study, with three players randomly sampled from each academy age group (U12, U13, U14, U15 and U16). Parents/Guardians of selected players were contacted via email (from an official academy email account) to notify them of their selection and provide details of the upcoming data collection. Additionally, the email outlined how parents/guardians and players were free to withdraw from the study at any point and that participation was entirely voluntary.

Further meetings with the academy director provided an opportunity to gain an insight into the academy structure, the development opportunities available to players and any additional provisions that aim to enhance the effectiveness of the TDE. Establishing existing academy structures and provisions for TD was key to developing interview schedules that could efficiently capture information-rich data relating to the specific academy environment. Understanding the micro and macro structures that operate within the TDE and the development opportunities they afford to players allowed for the inclusion of context specific prompts within the interview process. A variety of probing methods (detail-orientated, elaboration and clarification) were considered as an effective approach to enhance the quality and depth of responses (Patton, 2015; Sparkes & Smith, 2013). The researcher was aware that the age of participant may limit

their ability to articulate and conceptualise thoughts, feelings and perceptions of their development surroundings. Therefore, the line of questioning was designed to include appropriate vocabulary and terminology that was understood by the participants (Gratton & Jones, 2010; Kortesluoma et al., 2003). Additionally, participants were encouraged to tell descriptive stories of their experiences within the academy, which facilitated the use of questioning strategies that aimed to encourage further exploration and elaboration from the interviewee (Irwin & Johnson, 2005; Ponizovsky-Bergelson et al., 2019).

The interviews were semi-structured in nature; therefore, the line of investigation and nature of the interview dialogue contributed to the richness of insights generated from the interview process (Patton, 2015; Tenenbaum & Driscoll, 2005). Interviews were conducted in a semi-public meeting suite within the academy buildings, of which all academy players were familiar with. Conducting one to one interviews in a familiar location to the participants may offer an opportunity to ease the perceived power hierarchy that can develop between interviewer and interviewee (Elwood & Martin, 2000), thus enhancing the richness of interview responses.

Prior to each interview, participants were asked to quantitatively graph their perceived progression and development across the previous three months using a standardised grid (figure 5.1). Participants were provided with a timeline of recent competition opponents and encouraged to use this information to locate and place their recent experiences. Anchoring experiences, thoughts and perceptions with memorable events seeks to aid the accuracy of participant recall during qualitative interviewing (Collins et al., 2016b; Drasch & Matthes, 2013). The perceived progression and development graph was utilised to guide interview questioning and include individualised probes and prompts to enhance specificity and richness of participant responses. Prior to each interview, participants verbally consented to continue participating in the study.
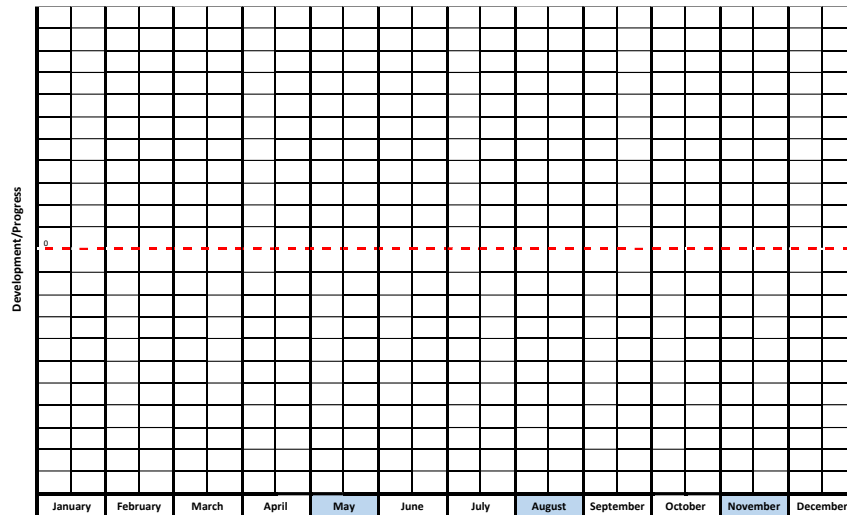
Figure 5.1: Progression graphing instrument

Preliminary, qualitative interviews were conducted three months into the 2019 season (April – T1) with 14 participants (one participant was deselected from the academy prior to T1). Initial interviews aimed to generate a holistic picture of the experiences and challenges present within a football academy and the anticipated challenges/experiences that lay ahead of the participants. Furthermore, interviews looked to unearth the mechanisms and strategies deployed by participants to cope with and overcome the experienced challenges presented within their development environment. Initial interviews were all audio recorded using a Dictaphone with the permission of each participant. The T1 interview process lasted 22 to 42 minutes (31.43 $\pm$ 6.49).

Further interviews were conducted at the midpoint (August – T2) and end of the season (November – T3). Secondary and tertiary interview aimed to capture the evolution of 'challenges' faced, and the strategies employed by participants to navigate, cope and learn from these experiences. Frequent collection of data provided an opportunity to 'catch' the live experiences of the academy players, learning in action and the nuanced changes in the perceptions and approaches of players throughout the season. Therefore, T2 and T3 interviews were less structured to allow lines of investigation to emerge from the participants' progress graphs and the general interaction between interviewer and interviewee. The richness and depth of data will be contingent upon the rapport established between the interviewer and the interviewee (Wilson & Powell, 2012) and the use of appropriate probing questions (detail-orientated and elaboration) (Patton, 2015). Interviews conducted in August (T2) lasted 17 to 35 minutes (22.78 $\pm$ 5.19) with the final interviews concluded in 12 to 31 minutes (19.73 $\pm$ 6.33).

The role of the interviewer is central to the facilitation of qualitative research interviews and the subsequent quality of the data collected from participants (Smith & Caddick, 2012; Sparkes & Smith, 2013). Therefore, it is imperative to outline how the interviewing researcher's personal values, beliefs and experiences may have enhanced or constrained the data collection process. The researcher is a recognised member of coaching staff within the participating football academy, however the researcher does not actively engage with or coach the academy players participating in this research. Therefore, the perceived power dynamic that could exist within and negativly influence the openness and depth of the interview process was reduced, but not negated completely due to the nature of the social mileu that exists (Cushion & Jones, 2006). The role of the researcher as a coach within the academy had the potential to positively influence the quality of the interview, across several years of employment the researcher has developed a positive reputation within staff and player groups which allowed for a high degree of trust and rapport to be established with the participating players (Wilson & Powell, 2012). The researcher's prior experience and knowledge of the academy environment was accounted for and beneficially utilised to aid robustness and quality during the data collection process. A research approach was adopted that sought to challenge interviewees to provide clarity and depth of response when discussing environmentally and culturally specific processes or ideologies. To encourage the extraction of insightful data, participants were asked and probed to provide explicit responses that stripped away any assumed understanding of the interview areas. Thus, seeking to provide an opportunity to demonstrate greater clarity and transparency within the data interpretation phases, reducing the degree of researcher understanding that may seek to 'fill the gaps' within participant responses. Lastly, the researcher was also cognisant of the need to approach the interview process with an open mind, seeking to encourage the evolution of open and authentic discourse that may unearth culturally or environmentally alien participant perceptions or experiences.

Data Analysis

Thematic analysis (TA), specifically *reflexive* TA (Braun & Clarke, 2019, 2021a) was selected as the most appropriate analysis method to address the aims of this study. Although containing some similarities with other widely used qualitative analysis methods, the underlying processes and assumptions associated with reflexive TA allow

for a deep analysis of data and also recognise the role of the researcher within the data collection and analysis procedures (Braun & Clarke, 2006, 2019, 2021b). Reflexive TA places a great emphasis on the role of the researcher as a 'co-creator of knowledge'. The researcher plays an active role within the TA process due to their own historical and preconceived biases and experiences which contributes to their interpretations of, and the decisions made within the analysis process (Braun & Clarke, 2019, 2021c). Reflexive TA emphasises the need for deep, consistent introspective thought from the researcher throughout the analysis process.

As documented earlier in this thesis, the researcher is cognisant of their role and how their personal beliefs, values and biases contribute to every step within the research process. Braun and Clarke (2006, 2019, 2021c, 2021a) recognise and support the centrality of the researcher as a 'meaning-making machine' within the reflexive TA process, and therefore encourage the explicit documentation of the researcher's epistemological and philosophical stances to add context to the analysis process. Philosophically, the wider thesis has adopted a pragmatic approach to ensure research is conducted in a manner that supports the development of practically applicable findings and provides implications that support the enhancement of the talent development environment (Giacobbi et al., 2005). However, aware of the role as a co-creator of knowledge throughout the data collection and now reflexive TA process, epistemologically the researcher addressed the study from a constructivist perspective that recognises multiple realities exist and knowledge is constructed through social interactions between and within agents that inhabit diverse social milieus (Giacobbi et al., 2005; Lincoln et al., 2011).

Building on the researcher's active role, Braun and Clarke (2006, 2019, 2021c, 2021b) contend that it is impossible for data to be subject of reflexive TA and remain entirely inductive due to the preconceived ideas, values and experiences that implicitly influence the decisions made within the reflexive analysis process. As a result, Braun and Clarke (2021c) suggest that this analytical process should be viewed on a continuum anchored by inductive and deductive processes rather than a dichotomy as it so commonly is. Within reflexive TA, the identification of meaning is the result of a coding process that facilitates the simultaneous generation of both semantic (surface level, obvious, explicit)

and latent (underlying, 'hidden', implicit) codes (Braun & Clarke, 2006, 2019, 2021c). Which positively contributes to the width and depth of the data analysis process, capturing the nuances of the social interactions between the researcher and each participant.

Taking the above into account, reflexive TA was used to identify, analyse and report prominent themes that were developed and generated from the research data by the researcher. Braun and Clarke's initial 6-step TA process (1) familiarisation, (2) initial code generation, (3) theme identification, (4) theme review, (5) definition and naming of themes, (6) theme reporting was used as a foundational framework to guide the analysis process. However, incorporation of a reflexive TA approach resulted in a much more fluent navigation of the 'steps' where rather researcher reflexivity guided the overall analysis process.

(1) *Familiarisation*: Thematic analysis of qualitative data demands the researcher to become immersed in the raw data, thus fully familiarising themselves with the breadth and depth of raw data to be analysed (Braun & Clarke, 2006, 2019, 2021c). Throughout the data collection procedure, the researcher was an active participant in each interview by facilitating discussion and using appropriate probing questions to obtain data rich responses (Smith & Caddick, 2012; Sparkes & Smith, 2013). Thus, allowing the researcher to continuously develop a degree of familiarisation with the insights provided by the participants (Patton, 2015). The researcher became familiar with the collected data by transcribing all audio recorded interviews verbatim, producing 414 pages of single-spaced raw data (Riessman, 1993). All transcripts were re-read and compared to their audio recordings to ensure an accurate transcription of audio data had been conducted. The familiarisation phase, more specifically the transcription process can be recognised as an 'interpretative act' where meanings can be attached to raw data (Braun & Clarke, 2006, 2019; Lapadat & Lindsay, 1999).

(2) *Initial code generation*: Following a period of familiarisation with the data, primary coding was conducted with the researcher analysing and attaching meaning to segments of raw data. A code can be identified as "the most basic

segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon" (Boyatzis, 1998, p. 63). The code generation phase was initially 'data-driven' however, the researcher's role and biases determines that the generation of codes also contains a degree of theoretical deduction (Braun & Clarke, 2006, 2019, 2021c, 2021b; Patton, 2015).

(3) *Theme identification*: The generation of codes and attachment of meaning to extracts of raw data required further analysis to provide detailed insights into the constructs under investigation. Coded extracts were analysed and 'rearing regularities' or patterns in the data were identified and grouped together in accordance with their associated interpretations and meanings to form themes (Braun & Clarke, 2006, 2019; Patton, 2015). The generation of themes aims to "unite quotes with similar meaning and separate quotes with different meanings" (Scanlan et al., 1991, p. 698). A hierarchal thematic structure emerged from the categorisation of codes into low order themes which were encapsulated by an overarching, high-order themes (Braun & Clarke, 2006, 2019, 2021c).

(4) *Theme review*: A review and refinement stage followed the identification of initial themes that were generated from the data. Identified themes were subject to a bi-level analysis that involved reviewing all coded extracts within each theme to ensure a coherent pattern was present (Braun & Clarke, 2006, 2019, 2021c, 2021b). Following review and refinement of the coded extracts, the validity and representativeness of the identified themes in relation to the entirety of raw data are considered (Braun & Clarke, 2006, 2019; Javadi & Zarea, 2016). Identified – low and high order themes were reviewed against Patton's (2015) dual judging criteria: *internal homogeneity* and *external homogeneity.* The internal homogeneity of the identified themes concerns the extent to which the data extracts appropriately belong to a specific category and how the units of meaning attached to the data extracts can be associated in a meaningful manner (Javadi & Zarea, 2016; Patton, 2015). External homogeneity relates to the extent of which the proposed meaning

of each identified theme is differentiable from other high and low order themes (Braun & Clarke, 2006; Patton, 2015).

(5) *Definition and naming of themes*: Prior to the presentation of the analysed data, generated themes were *defined* and *refined* to identify the 'essence' of what each theme is about and to determine which aspects of the data are captured by the encompassing themes (Braun & Clarke, 2006, 2019, 2021c). Defining themes involved the organisation of coded extracts to present a "coherent and internally consistent" (Braun & Clarke, 2006, p. 92) message that effectively represented the raw data. The refinement procedure required an in-depth analysis of the hierarchical structure comprised of high and low order themes. Assessing the validity and structural appropriateness of the hierarchy of themes ensures complex, high order themes are effectively developed from a foundation of less complex, low order themes (Braun & Clarke, 2006, 2019; Javadi & Zarea, 2016). The naming of themes aimed to provide an immediate insight into the content and 'story' presented by raw data extracts.

(6) *Theme reporting*: Both high and low order themes, were utilised to provide the foundation for which a compelling tale (Braun & Clarke, 2006, 2019), that effectively explored the research questions and represented the challenges experienced by academy football players, could be built upon. The emergent themes aim to enrich the representational 'story' presented of life within a football academy and aid the effective illustration of the players' lived experiences. Inclusion of raw data extracts provides the reader with an opportunity to understand the researchers meaning-making and analytical thought processes during the analysis procedure (Morris et al., 2017), thus enhancing the analysis rigour. Additionally, raw data extracts present rich-examples of the players' experiences within a football academy environment, which aims to illustrate the meaning within the theme and adds to the narrative story being told (Braun & Clarke, 2006, 2019, 2021c). Composing and presenting the themes which emerged from the analysis procedure affords a final opportunity for further refinement of the 'story' that has derived from the raw data and has been composed by the

researcher. No high-order hierarchal changes were made during reporting of themes within the results section, the positioning of two lower-order themes (within the same high-order theme) were however amended (Smith & Caddick, 2012).

Rigour and Trustworthiness

Research rigour and trustworthiness were of paramount importance throughout study design, collection of data and data analysis processes. Many steps were taken to ensure validity of data and appropriateness of the reflexive TA; member checking, data triangulation and utilisation of an experienced critical friend. Considering the nature of reflexive TA and the crucial role of the researcher in the generation of research findings, it is impossible to assess the quality, validity and rigour from a rigid (post)positivist perspective. Therefore, the researcher made use of a variety of different methods and support structures to ensure the generated themes represented the data collected in an accurate manner.

Following the transcription of each interview, participants were presented with a short summary of the main codes and themes generated from their interview and asked to verify the accuracy of data. Participants were not presented with the full verbatim transcription as social desirability is prominent within academy football, players compete with their peers to impress coaches and staff in the hope of securing progression to the professional level (Smith et al., 2002). Therefore, returning full transcripts presented an opportunity for players to reconstruct their narrative through deletion and addition of extracts to achieve a more favourable account of their experiences, thus skewing the lived 'story' of the participants (Birt et al., 2016). All players agreed that the returned summaries accurately represented their thoughts and feelings generated from each interview.

Subjectivity and bias are consequential elements embedded within qualitative inquiry and embraced within reflexive TA. The researcher acknowledges the influential role their beliefs, values and experiences in the academy environment may have on the interpretation of data. For example, when interpreting data, the researcher had to ensure their prior experience as a member of coaching staff within the academy environment did not skew or contribute to the misinterpretation of raw data. The

researcher had to disregard any allegiances to the academy, staff members and the implemented development processes to ensure the participants' lived experiences and perceptions of the TDE were authentic and representative of the shared narratives. As outlined previously, the researcher's prior experience in the TDE appeared to enhance the quality and depth achieved within the data collection process. Furthermore, during the interpretation and analysis of data phases, the researcher was cognisant of how their own experiences and knowledge of the academy processes may enhance but also lead to misinterpretation of the raw data and development of a thematic structure that did not accurately reflect the data. Several, multi-layered procedures were implemented to ensure the researcher's own personal belief system and experiences positively contributed to the interpretation and analysis of data. Triangulation was employed not to eliminate subjectivity but to ensure researcher bias did not negatively influence the degree of representativeness of the generated themes (Jonsen & Jehn, 2009; Scandura & Williams, 2000). A critical friend was enlisted to challenge the researcher's perceptions and interpretations of data but also to contribute within the triangulation process, a senior researcher who was experienced and recognised within talent development literature was recruited. The critical friend presented an opportunity for critical dialogue and encouraged greater reflexivity on interpretations of data units and meanings (Smith & McGannon, 2018). Triangulation of data was conducted in three phases throughout the analysis process; *i) initial code generation; ii) theme review and definition; iii) naming of themes.*

Following the transcription of all interviews from T1 and subsequent member checking, the researcher met with the critical friend (who had some prior knowledge of this current research project) to independently code two, randomly selected transcripts (representing 14% of T1 data). Subsequent cross-checking of raw codes and meaning units was conducted to ensure there was some degree of coherence of interpretation between the researcher and critical friend. Triangulation of the initial code generation procedure was completed with a panel of three senior, sport science researchers who were supplied with two unique transcripts each, comparisons were made with the coding structure of the primary researcher, subsequent discussions ensured a level of agreement between all parties.

Further triangulation was undertaken when reviewing the thematic structure and during the refinement and naming of both high and low order themes, with the aim of identifying and recognising researcher bias and to ensure code and theme generation were empirically underpinned and representation of data. Regular meetings were held between the primary researcher and the critical friend during stage four and five of the analysis processes to discuss and review the thematic structure along with the associated raw data extracts. Following each phase of data collection and subsequent analysis, the primary researcher presented the proposed thematic structure to the panel of researchers. The panel were predominantly in agreement with the primary researcher's thematic structure, with small adaptions agreed to better represent the raw data.

Results and Discussion

Following the inductive coding of data and thematic analysis process, two overarching data domains emerged; *academy challenges* (with coping and learning strategies integrated) and *sources and functions of support*. Emergent high and low order themes within each dimension are presented and accompanied by explanatory descriptions and representative raw data extracts to exemplify the identified thematic meanings.

Dimension 1: Academy Challenges

Five high order themes were identified that related to the challenges faced by academy players as they attempted to navigate their talent development journey across the season; i) *learning from developmental peaks and troughs, ii) quality training opportunities, iii) pressure to satisfy football, academic and social demands, iv) quality competition experiences, v) pressure to stand out* (table 5.1).

Learning from Developmental Peaks and Troughs

The developmental journeys experienced by the players throughout the 2019 CAS season were idiosyncratic, predominantly due to the wide variety of individualised challenges encountered, how such challenging experiences were perceived, and the approaches utilised by players to generate learning from the challenges presented. All interviewed players reported that they were exposed to a variety of different experiences across the season, appraised as both developmentally facilitative and significantly challenging which attributed to positive periods of development and

challenging times that negatively influenced their perceived progression and development (figure 5.2 illustrates trajectories of three participating players).
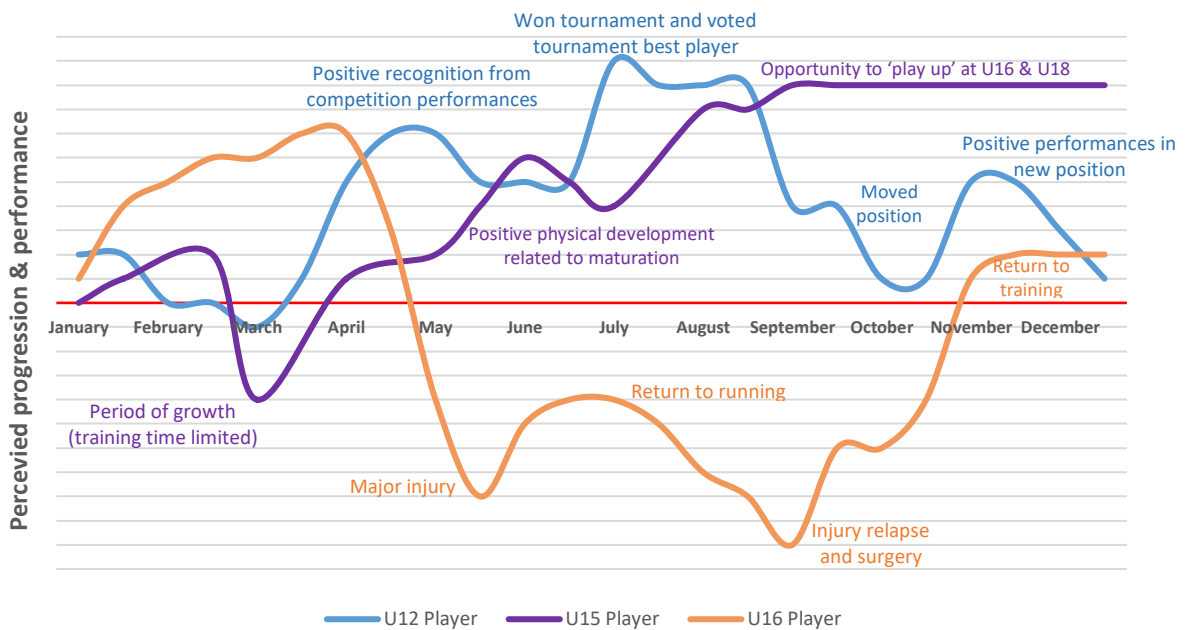
Figure 5.2: Self-reported progression and developmental trajectories of three participating academy players across the season

Many of the players reported that periods of challenge aided their development in the long term and provided opportunities to improve a variety of areas of performance.

> *"Well, it wasn't different because every season you have ups and downs, but it was kind of different because I've learned a lot—the different side of the game than I did learn last season. I learned about technical last, and this season I've learned mental and stuff like that and other things I need to do, more in-depth things towards the game"* **Under 13's Player A**

The ups and downs of the academy season has contributed to some players gaining a greater understanding of how they must behave and approach their footballing development if they wish to make it to the professional level. Taking responsibility for their own development and improving the ability to bounce back from mistakes and poor performances were two examples of lessons that were learnt from the ups and downs experienced during the academy season.

> *"If I just make it simple for myself, I won't make as many mistakes and if I did make a mistake, when I wasn't taking responsibility, I would just make the same mistake over and over again and I wouldn't be able to learn, I'll just be going in a circle. But if I do take responsibility, and I try and work over and round it, then I've got a lot better"* **Under 13's Player A**

The idiosyncratic and undulating nature of the academy players' development journeys reflect the biographies and career trajectories of elite athletes and other talented youth prospects in similar environments (Collins et al., 2016b; Howells & Fletcher, 2015; Savage et al., 2017). Research suggests the development of talent 'needs' periods of extensive challenge and difficulty (referred to as 'trauma') along the development pathway (Collins et al., 2016a; Collins & MacNamara, 2012). The 'peaks and troughs' along the journey are believed to catalyse development, *if approached appropriately*, by affording opportunities for self-reflection, behavioural readjustment and a renewed approach to tackling and overcoming the experienced challenge(s) (Collins et al., 2016a, 2016b; Collins & MacNamara, 2017c). The findings from the current study align with the ideologies and work of Collins and colleagues (2016a, 2016b; 2012, 2017c; Savage et al., 2017), in that the nature of the academy players' journeys are 'rocky' and the subsequent behavioural readjustments, following the 'peaks and troughs', appear to try and maximise the potential learning available from the emergent experiences and challenges from footballing activities.

Table 5.1: Emergent challenges presented by and within the footballing academy environment

Academy Challenges		Learning from Developmental Peaks and Troughs		
	Quality Training Opportunities	Holistic, Sport Centred Development Focus	Structured Academy Training Focused on Holistic Development	
			Additional Training Out-with Structured Academy Schedule	
		High Quality Learning Process	Academy Driven	
			Player Driven	Process of Reflection, Planning, Goal Setting and Evaluation
				Development Through Seeking and Offering Support
	Pressure to Satisfy Football, Academic and Social Demands	Energy and Recovery Challenges Presented from Intensive Academy Schedules		
		Academic Pressures		
		Subsequent Social Sacrifices		
	Quality Competition Experiences	Learning from High Quality Challenges	Necessity of Challenge to Drive Development	
			Source of High-Quality Competition Experiences	
			Adaptational Outcomes from Challenges within High Quality Competition	
		Increased Emphasis on Competition Outcomes	Welcome Introduction of Meaningful Competition Experiences	
			Losing Promotes Learning	
			Important to Learn 'How to Win'	
		Diverse Intentions and Behaviours Within Competition	Opportunity to Show Significant Others Ability	
			Catch the Coaches Eye to Unlock Higher Quality Competition Opportunities	
			Overemphasise on Competition Outcomes Can Trigger Avoidance Behaviours	
			Task and Mastery Focused Orientations	
			Dedication to Development Regardless of Outcome	Finding Enjoyment in Opportunities to Learn and Perform in Competition
				Continued Application of Effort
	Pressure to Stand Out	Perceived Need to Stand Out	Professional Contract Pressures Promote the Need to Stand Out	
			Pressure to Avoid Injuries Which Limit Opportunities to Stand Out	
		Approaches Adopted to Impress Academy Stakeholders and Stand Out	Competition Contributions and Demonstration of Complex Actions within Competition	
		Long-term Development Promoting Behaviours		

Quality Training Opportunities

The players experienced high quality training opportunities from a variety of sources, two prominent themes emerged from the data, a *holistic, sport centred development focus and a high-quality learning process.* In order to develop in a holistic manner, the players participated in structured academy training activities that endeavoured to develop a variety of on- and off-pitch capabilities. Additionally, players sought out and took part in unstructured, sometimes ad hoc, training opportunities that complimented their formal academy schedules. To maximise the learning achieved from partaking in a holistically focused training regime, both players and the academy stakeholders incorporated structures and behaviours which contributed to a high-quality learning process.

Holistic, Sport Centred Development Focus.

Structured Academy Training Focused on Holistic Development. The academy provided a very full training structure for both performance school and non-performance school players across a variety of age groups. Performance school pupils were exposed to 7.17 hours ($\pm$ 0.41) of on pitch sessions per week, and non-performance school players completed 4.55 hours ($\pm$ 1.66). All players are exposed to various on and off pitch development opportunities throughout the week.

> *"So on the Monday you train at [performance school] after school, Tuesday we train period two and three at the school then at night we go to the academy, we train Wednesday first thing before school and then at night in the [academy], Thursday is day release period six and seven and after school then a Friday is just after school, Saturday game and then Sunday we are off"* **Under 15's Player A**

The volume of training experiences afforded by the current academy mirror those of other top football academies across Europe (Ford et al., 2020). In order to achieve sporting excellence, players must accumulate a significant volume of sport-specific training in a variety of forms such as deliberate practice, deliberate play and free play (Ericsson et al., 1993; Haugaasen et al., 2014). This need to acquire such a significant volume of sport-specific development experiences demands academy players adopt a dual career approach to ensure mandatory academic requirements are accounted for and completed. The challenge of 'balancing' academic and footballing demands poses difficulties within both domains if the appropriate guidance is not provided to the players and adjustments are not made to maximise the potential success across both domains.

The training structure encompasses a holistic development curriculum focused on improvement through the four pillars of performance typically used by football academies: *technical*, *tactical*, *physical* and *psychological*. These included on pitch training sessions and practical activities related to performance analysis, strength and conditioning and sport science. It also included a variety of classroom-based workshops and exposure to competition experiences.

> *"Well I've usually got training on a Monday after school then I've got two training session on a Tuesday and either judo or some sort of sport science lesson on a Wednesday morning then training at night and I've got the gym before training as well then on the Thursday we have a double session as well with a Friday session after school and then a game on Sunday usually"* **Under 16's Player A**

Additional Training Out-with Structured Academy Schedule. Even with a busy academy training schedule, many of the players dedicate 'free' time prior to, between or following structured academy sessions to engage in play opportunities with teammates or purposefully focus on improving specific abilities which require further improvement. Players reported that consistently dedicating extra time to practice aided their development.

> *"Well before training sometimes we have like half-an-hour or 15 minutes when you work on something you're not great at, and I've done that a lot this year and I think that's helped as well"* **Under 15's Player A**

Furthermore, many players endeavoured to seek out and seize training opportunities at home. Some of which were planned training with parents, some of which were ad hoc opportunities while waiting to attend academy sessions.

> *"I made sure I stayed positive and I was just going out—every time I had spare time at the weekend, during the week, whenever, then working at it. My dad usually came with me or something or my siblings and worked on high balls, cross balls, kicking, stuff like that"* **Under 15's Player C**

High Quality Learning Process

Academy Driven. The players reported a variety of aspects that they believed contributed to high-quality learning process. Many of the participants commented that training sessions which progressed in pressure and complexity and ultimately replicated the demands of competition (playing form activities) were highly useful.

"I love goalie training as well and I love going in with the team because the team is where I can like put the things that I have done in goalie training into like a proper game because usually with the team we do a game or something like that… because in goalie training we don't really do actual game so you work on that bit to put into a game so I can like show what I have done in the training with the goalie and put in into that game" **Under 14's Player C**

Utilisation of both training and playing form activities are believed to be important in the development of technical and tactically proficient football players (O'Connor et al., 2018; Roca & Ford, 2020). Playing-form activities reflect the competition environment and aid the development of perceptual-cognitive decision making competencies (Fuhre & Sæther, 2020; Roca & Ford, 2020). The ability to make decisions on the football pitch in a quick and efficient manner is important for sporting excellence and can differentiate between skilled and unskilled football players (Roca et al., 2011, 2013; Vaeyens et al., 2007).

Supportive, critical and honest feedback from the coaches was also deemed to be highly value to help maximise the development gained from training. As such this type of feedback was perceived to inform and guide future the players development behaviours effectively. Specifically, honesty between coach and athlete plays a significant role in the development of closeness within the relationship dyad (LaVoi, 2007). Strong, close coach-athlete relationships positively contribute to developmental outcomes and progression (Jowett & Poczwardowski, 2007).

"Cos you're actually learning something. Say if they were always saying, "Oh you done amazing", when you didn't. Fine, they're being nice and stuff, what is good; but you want to know what wasn't good, like I could have done better; and then you can work on that and do it better the next time" **Under 12's Player A**

Utilising coach feedback, but importantly also being given the opportunity to work on weaknesses was perceived to be an important contributor to high-quality training opportunities.

"My coaches were saying like 'we are going to work on your weaknesses' so my weakness was to work on my left foot so I got a partner and worked on my left foot at the start of training" **Under 12's Player B**

While the participants did not explicitly connect the importance of all three elements working cohesively together, it would appear more effective for players to experience

pressurised training opportunities, honest but supportive feedback and dedicated opportunities to work on weaknesses.

Player Driven: Process of Reflection, Planning, Goal Setting and Evaluation.

Many of the players spoke about different elements of their learning process that encompassed reflective, planning, goal setting and evaluative behaviours. Said behaviours significantly feature in Zimmerman's model of self-regulated learning (2006) which suggests that learner's possess the ability to adjust behaviours and cognitions in response to environmental stimuli in order to maximise learning and performance outcomes. Examples relating to reflection were at times ad hoc and sometimes more systematic. Some players focused on short-term factors such as nightly training and others related to more extended periods of time, for example monthly or seasonal progression.

> "Well I have got a whole day to… I guess… In school there are times when I will drift off and I will think about what I have… probably done and what I can work on for training that night but yeah…" **Under 13's Player C**

> *"Well think about what like I'm going to do so how I am going to play and also maybe watch a video of another footballer and see what he does well and try to put that into the training yeah"* **Under 16's Player B**

The learners' ability to reflect and the frequency of engagement with the reflective process has been found to differentiate between the current level of youth football players (Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012) and the progression outcomes of academy football players (those who successfully graduate to the professional level and those who fail to reach the upper footballing echelons) (Jonker et al., 2019). In many cases, the quality of the reflective process influenced the planning and goal setting behaviours of players. The consistent engagement with reflecting on experiences, helped the players to set and adapt goals which underpinned the high standards of self-expectation set by players which in turn informed developmental behaviours (Gould et al., 2002). More challenging goals were utilised by players to drive motivation and effort.

> *"like having just certain goals that you can achieve because everything else is alright and just need to pick out a couple of main goals you need to work on because we do the sheets with your goals and every month you change and you hope not to try and get the same goals every month"* **Under 15's Player B**

More specific evaluations of training experiences contributed to the reflective and planning process. Interestingly, some evaluations were very systematic in nature and others were more ad hoc or opportunistic for example, lying in bed or on the car journey home.

> *"You mark after every session like out of ten like maybe an 8 if you are doing it fine and then you can look at the sheet and see if you are progressing or not as much as you want to then you might do the goal again or instead of doing three goals you might on one or two and focus on that one most"* **Under 15's Player B**

> *"I think back like I said in the training session and see what I have done well I always think back what I have done well and what I have not done well and just sort of think about it in the car and when I go home"* **Under 13's Player B**

Considering the intensive nature of the dual career approach players must adopt to ensure academic and footballing requirements are met, and excellence in both domains is strived for, structured evaluation opportunities following academy sessions may be difficult to undertake for numerous reasons. Therefore, an ad hoc evaluation process – although not ideal – does offer some degree of post activity, learning and progress evaluation.

It is important to note that there was significant variation in the extent to which players engaged with different elements of this process, and the depth and nature of this engagement. For example, only a handful of players reported that they undertook periods of in-action reflection (self-monitoring). This allowed players to evaluate current experiences in situ which contributed to the reflective process and thus allowed immediate adaptation of behaviours.

> *"there could be times where you notice you are not getting on the ball or passes you don't find are getting much success so I think you then got to realise… then you've got to think about why you are not getting success"* **Under 13's Player C**

> ***Player Driven: Development Through Seeking and Offering Support.*** Many academy players articulated the ease and willingness to seek help from coaches during periods of uncertainty or to enhance their learning experiences within academy development activities. Players commented that they sought the advice and support from coaches when they were unsure how to improve a specific area of performance.

> *"like if I was struggling with something during the session then I might ask [coach] what I can do to make it better"* **Under 15's Player B**

Help-seeking behaviours has been found to link with self-regulation of learning, in that learners who were more likely to seek help were also more effective self-regulators (Karabenick & Knapp, 1991). One prominent form of help-seeking involves asking questions to clarify coach instruction and feedback provisions. Specifically, research found that academy players scored higher on the evaluation subscale of self-regulation were also those who asked more questions (Toering et al., 2011). Additionally, the players reported that coaches were readily available to provide advice and guidance when additional support was needed. This aligns with the importance that the players placed upon coach feedback in contributing to high-quality training sessions. Therefore, it would be appropriate to suggest that having supportive and available coaches creates an environment that encourages players to seek help when required and thus promoting a collaborative development partnership between player and coach.

> "Just doing it in games and then asking coaches if I need help with anything, any tips or anything like that and it's nice to know that they are always there for you if you want to ask them something." **Under 12's Player A**

Another approach adopted by the academy players to maximise their development from training opportunities was to undertake a guidance/leadership role within their age group. The players believed that by aiding the development of their peers through the sharing of experiential knowledge and training guidance, they would further catalyse their own development. An academy player assigned to an older age group than their chronological age (Under 13's Player B), viewed the chance to train with those of a similar age (in the age group below) as a unique learning opportunity where he could share his knowledge and teach his new 'teammates' and experience consequential improvements in his own skills.

> *"It helps me because I've done it, it's good doing it in the under 13s but I have the opportunity to do it in the 12s as well and like teach other people how to do it as well. So then that's even better and if I'm teaching it to others that helps me learn it a bit better, if you know what I mean"* **Under 13's Player B**

Adopting a leadership role where coaching of teammates throughout a session is a common behaviour was found to be associated with effective self-regulators and learners high in self-efficacy (Toering et al., 2011). Aiding teammates through instruction and guidance also raises the teammates' awareness of task-relevant information that has potential to underpin peer development and team performance (Eccles & Tenenbaum, 2007).

Pressure to Satisfy Football, Academic and Social Demands

Energy and Recovery Challenges Presented from Intensive Academy Schedules.

Through their engagement with the variety of activities which comprises the academy training schedule, the players commit a significant percentage of their time fulfilling the footballing demands. Participating in demanding training sessions also required players to effectively recover, both physically and psychologically, to allow for repeated high-quality involvements in developmental activities. The combination of the academy training schedule and mandatory school commitments (i.e., homework) left very little time for players to effectively recover from their training sessions and prepare sufficiently for their next session. This lack of recovery time was particularly emphasised by performance school pupils who frequently trained before or during school resulting in multiple sessions a day at times.

> *"If I work hard at training and go home to finish homework then end up going to sleep at like at 12 o'clock at night there's no point in working hard because you'll go in the next day and be tired and you can't work as hard if you keep doing that you end up like wanting to work hard but you can't because you don't have time to rest and recover properly"* **Under 15's Player B**

> *"it's difficult, like I said because needing to manage your time but also going to bed late and then getting up early and travelling and stuff like that. Then training at school and then you'll be really tired going into your classes and stuff like that"* **Under 13's Player A**

The physical and cognitive loads experienced by academy players, particularly performance school players, is not unique to the current academy. Research has identified the difficulties in 'balancing' the exertion and load from intensive training sessions with the need for players to accumulate a significant volume of training hours (Christensen & Sørensen, 2009; Flatgård et al., 2020).

In an attempt to address the difficulties relating to the time and energy demands placed upon players, some sought support from parents to help find ways of replenishing their energy levels following sessions. Others planned ahead and focused on organising their equipment to ensure swift transitions between school and the academy, this also reduced feelings of worry and stress, allowing them to avoid rushing around in an already limited period of time.

"Well on Mondays like we don't really get food after so I asked my mum and dad because I was really hungry after if I could like get food from home and they said 'yeah that sounds like a good idea' so I take bars with me just to eat it after training" **Under 14's Player A**

Academic Pressures. All signed academy players are required by law to undertake full time education alongside their academy commitments. Players are commonly required to complete schoolwork at home to supplement their learning from structured classroom lessons. This poses a challenge, and induces additional stress (Christensen & Sørensen, 2009) for the academy players as they have limited free time, due to their involvement with the intensive academy schedule to complete additional schoolwork.

"Well, it's kind of difficult because like, homework and working with school, I need to try and work around football and try to make time. That is one thing I need to get better at is managing my time for homework and different things, like revising for tests and stuff at school, it's difficult" **Under 13's Player A**

Trying to manage the players time to ensure both academy and educational demands are satisfied extended beyond the players themselves, parents also found the process of balancing school and football to be stressful.

"Well it was my mum actually because she was like getting a bit stressed out sometimes I was missing homework but now I am not… that was like a few seasons ago but now I'm not as I'm doing it [homework] at lunch or after training" **Under 16's Player B**

The pressures and worries experienced by the parents of academy players who are attempting to balance schooling and academy demands have been highlighted and explored in previous research (Harwood et al., 2010; Harwood & Knight, 2009a). With parents of later stage academy players found to experience high levels of stress and pressure when helping their child balance and excel in both domains (Harwood et al., 2010). In an attempt to successfully perform in both learning environments, some players explained the approaches that they deployed to try and maximise their development in both domains. One player in particular articulated their experiences of trying to cope with school demands while training in the performance school; organising dedicated homework nights created a structured approach that allowed the player to complete homework on time.

"It's a been a lot better in terms of I'm managing to do my homework more, but I think it still need to just work how to manage my time, more with like homework and stuff. But I think I can do a lot better since I've been here two years, so I know what it's like, so I think that's been a lot better this year" **Under 13's Player A**

Achieving success in both domains of a dual career requires strategic planning and organisation from the developing athlete and stakeholders within the environments the athlete inhabit. Additionally, to function effectively, a high degree of coherency and communication is required between the athlete and domain stakeholders to ensure demands and requirements are explicit and achievable (Curran et al., 2021; Webb et al., 2016). Scientific investigations of the talent development process in football and general talent development environments have highlighted the need for coherency and coordination between school and sport, with many environments employing individuals to coordinate between the two domains (Aalberg & Sæther, 2016; Henriksen et al., 2011; Larsen et al., 2013). Thus far, the data from the current study and previous two chapters has not alluded to a formal coordination role or individual who mediates the relationship between the academy and performance school. Findings from chapter 3 (study 1) revealed a perceived lack of coherency between the academy environment and other domains the academy players inhabit (school and home), predominantly due to a lack of communication between the academy and other stakeholders. Interestingly, one football academy in Norway placed equal importance on school and football, going so far as to suspend academy sessions to allow players to complete homework during intensive academic periods (Larsen et al., 2013).

Subsequent Social Sacrifices. All players spoke of sacrificing time with friends and family in order to fully participate in the academy training programme and satisfy the homework demands placed upon them from school. However, sacrificing social time for academy sessions and games was perceived as worthwhile by the players who described football as their number one priority.

"I'd make sacrifices for football so, I don't always have to go out and see my friends, I'd rather do football-related stuff than go out and mess around. Although that's fun, football comes first and that's good" **Under 13's Player B**

"You don't really have a social life, or I don't really have a social life, which doesn't really matter to me but, that is probably one of the sacrifices, you're committing quite a lot." **Under 15's Player C**

Attempts to successfully navigate the talent development pathway and achieve sporting excellence appear to require talented prospects to forgo, or limit their engagement with, common aspects of childhood and adolescent life in order to acquire the perceived necessary hours of training and competition exposure. Like the findings from the current study, research has found talented youth players are able to delay gratification and justify the sacrificing of social opportunities with friends to aid their pursuit of achieving sporting mastery (Henriksen et al., 2011; Holt & Dunn, 2004). Sacrificing social activities and spending less time with friends was found to be associated with and positively predicted athlete burnout (Gustafsson et al., 2008; Li et al., 2017). As a result of the time players dedicate to their development within the academy, friendships and social bonds are commonly formed with teammates which offers a degree of socialisation (Henriksen et al., 2011). However, male developing athletes were found to primarily view teammates in a professional manner (Tekavc et al., 2015), with the competitive nature and possibility of deselection from the academy pathway limiting the formation of strong friendships (Adams & Carr, 2019).

Although sacrificing opportunities to socialise was viewed by many as an important step to helping fulfil their footballing potential. A small number of players believed that the chance to meet with friends allowed them to switch off from football and take part in others sports for enjoyment purposes.

> *"Well I go out with my friends quite a lot but not loads like well… on a Saturday that's probably only the free whole day that I have got so Saturday…. I just don't really think about the football I'm just kind of enjoying the moment rather than thinking about what's happened or what's going to happen in games"* **Under 14's Player C**

Engagement with friends and peers throughout childhood and adolescence is important for the psychosocial development and contributes to the adoption of a well-rounded social identity (Larsen et al., 2013). Spending time with friends away from intensive talent development environments offers an opportunity for players to relax and escape from the pressurised nature of professional talent development programs. Socialisation and the development of positive, peer relationships contribute to enhanced levels of motivation and achievement which may help sustain engagement and effort during periods of difficulty along the talent development journey (Wentzel, 2017).

Quality Competition Experiences

Learning from High Quality Challenges

Necessity of Challenge to Drive Development. In addition to participating in high quality training session, the players also sought quality competition experiences where they perceived such experiences to be difficult and challenging, yet crucial to their footballing development. Many of the players perceived that the level of challenge posed by opposition teams, and any mistakes that occurred due to competing against talented opposition, directly contributed to the level of learning that was gained from such competition experiences.

> *"if you are playing against someone who isn't challenging you then I'm not improving… I would rather play against a much better player and make a couple of mistakes and learn from them and just it's a lot better playing against them"* **Under 15's Player B**

Participation in competition experiences that were challenging and high in quality were positively appraised and perceived by the majority of academy players. High-quality training and competition experiences are essential components of an effective talent development programme and environment (English et al., 2018; Martindale et al., 2010). Challenging talented prospects through the exposure to high-quality competition experiences is a foci of effective development programmes, however sourcing diverse, challenging competition experiences can be difficult in nations and sports who possess limited high-quality player pools due to a lack of financial or operational resources (Douglas & Martindale, 2008).

Source of High-Quality Competition Experiences. A variety of oppositional attributes and factors contributed to the degree of quality that was experienced by players in competition. Such factors related to the opposition players' age, physical maturity, high levels of technical proficiency and the resultant speed of play and also specific cultural influences that brought a novel style of play to competition.

> *"Because it's a good experience playing against much bigger older boys that play with different teams that might be much better than you like <u>Liverpool</u> like <u>Juventus</u> and all these teams from different countries that might have a different playing style and you will need to adapt to that playing style and try and… like be as good as them and try and be as more better than them and stuff like that"* **Under 13's Player A**

Adaptational Outcomes from Challenges within High Quality Competition. The approaches utilised by players to adapt to and participate within high quality competition opportunities were diverse and varied. For example, when competing against older, physically more mature players, one academy player approached this challenge by trying to match the physicality and outwork their opposition. However, when faced with the same challenge, another academy player recalled their previous experiences of being physically disadvantaged and looked to a professional player who also was of smaller stature to gain an understanding of his approach to coping against taller and stronger players.

> *"I was thinking about it because quite often when I was younger I got brushed off the ball quite a bit and it came up in my review to use my body and so I started watching Messi because I realised he was very small compared to all these other players and he uses his body and guards the ball very well so I realised that what I should start bringing into my game and its worked"* **Under 16's Player B**

The data extract above reflects learning garnered from prior experiences, reflection and behavioural readjustment. The extract details how a player from the under-sixteen's age group recounted the learnings from a similar challenge previously encountered on their development journey, before intentionally planning how to tackle and overcome the current challenge by seeking guidance from an external source to inform their behaviours. Learning has occurred experientially, likely underpinned by an awareness of the lived experiences and consistent periods of reflection, evaluation and purposeful planning of development approaches (Jonker et al., 2019; Zimmerman, 2006).

Increased Emphasis on Competition Outcomes. As the players progressed through the academy age groups and towards the professional level, the role of competition evolved from a predominantly development focused endeavour that contributed to and tested the players' learning, into an opportunity to compete, win and triumph over opposing teams.

Welcome Introduction of Meaningful Competition Experiences. The older academy players commented on the anticipated introduction of leagues and participation in tournaments provided an opportunity to compete in meaningful competition and receive accolades/trophies for successful performances. Reflecting retrospectively, the older players attributed their early, development focused competition experiences to helping build a foundation that allowed competent

participation in meaningful competition opportunities. This additional focus placed upon competition outcomes was described by many players as motivating and helped to prepare them for the 'win-at-all-costs' environment of professional football.

> *"I think when we were young under 10s, under 9s I think it's all about development, getting us ready for the age that you're at now, but I think now it is important because we are at that age where we all want to start winning.* **Under 16's Player B**

> *"I'm looking forward to it [league starting] because it adds a bit of competition that we've not had. So you actually want to win now. It means something if you win"* **Under 15's Player A**

As the developing prospects progress through the academy age groups they become further immersed within the 'investment years' of the talent development pathway, dedicating increasingly more time to their footballing development as the prize of a professional contract becomes within reach (Bloom, 1985; Côté & Hay, 2002). Research identifies the importance of quality, meaningful competition throughout the investment years as an opportunity to apply and challenge the skills and competencies that have been developed on the training pitch and via other academy activities (i.e. gym, video analysis and classroom workshops) (Bloom, 1985; Durand-Bush & Salmela, 2002).

> ***Losing Promotes Learning.*** Following the introduction of meaningful competition where outcomes were a prominent focus, the experience of losing was unpleasant but was perceived to have a catalysing effect on learning. The negative feelings associated with losing helped to highlight areas of performance that required further development, these may have been overlooked if a positive outcome was achieved.

> *"It's not important to win games, as long as you take something out of the game and you learn something from each game"* **Under 12's Player A**

> *"Yeah, it's important that you win them [games] and it's important that you lose them [games], because like when you lose them [games] you learn from them mistakes that you've made"* **Under 12's Player B**

> ***Important to Learn 'How to Win'.*** As a result of the increased emphasis placed upon winning and losing in competition, players were exposed to experiences and demands that taught them 'how to win'. Nuanced abilities and behaviours such as managing games and developing a competitive nature were nurtured through the

player's involvement in meaningful competition in preparation for the 'win-at-all-costs' environment of professional football.

> *"Because it's like bringing on your game management and teaches you how to win games and it'll bring on your desire to win because you are playing for something that you want to win… like you know that you want to win it and everyone around you is wanting to win it then you can't let them down and everyone needs to work hard to win it"* **Under 15's Player B**

The organisational implementation of league and cup competitions and the systematic integration of 'meaningful' competition experiences within the academy development programme affords opportunities to teach nuanced sport-specific, situational competencies and behaviours that enhance the likelihood of attaining positive competition outcomes. Exposing young academy players to competition and placing increased value on competition outcomes will undoubtedly contribute to the development of ego orientated motivational dispositions which are believed to underpin competitive behaviours and attitudes (Ommundsen & Roberts, 1996; Roberts et al., 1995). In conjunction with developing specific competencies and behaviours aimed at positively influencing competition outcomes, and nurturing the competitive drive to best an opponent, players must also possess the ability to perform well under the pressure of competition in order to 'win games' (Holt & Dunn, 2004; MacNamara et al., 2010a).

Diverse Intentions and Behaviours Within Competition.

Opportunity to Show Significant Others Ability. Competition was perceived and approached by the players from a variety of perspectives, a diverse range of intentions and subsequent behaviours were articulated by the interviewed players. Players who were positioned closer to graduating from the academy, and potentially into senior football, viewed competition as an opportunity to demonstrate their level of ability to significant stakeholders within (i.e., academy manager, age group coach) and out with (i.e., scouts, national team coaches) the academy. The personal intentions that players bring to academy competition may influence their motivational dispositions and thus impact their behaviours in competition and their reaction following challenging experiences.

> *We all want to show the coaches that we are the best player there and also to win is just nice, a nice feeling, so yeah"* **Under 16's Player B**

"like there's scouts from other countries like better teams so it's like good because if you like do really good and you get player of the tournament then scouts from other countries are going to be asking 'what's his name?' and that" **Under 14's Player A**

Perceiving and utilising competition as an opportunity to extrinsically demonstrate sport specific competencies and the ability to out-perform others competently in 'meaningful', pressurised situations reflects an ego/performance-orientated learner (Ames & Archer, 1988; Zuber et al., 2016) . Talented prospects who are deeply ingrained in the 'investment years' are known to be highly motivated, demonstrating both high levels of intrinsic and extrinsic motivational orientations (Chantal et al., 1996; McNeill & Wang, 2005). Intrapersonal competition between teammates to gain favour from and impress academy stakeholders stems from high annual academy turnovers and the precariousness of coveted academy places (Clarke et al., 2018; Güllich, 2014). This, therefore, contributes to the development of a peer-created-ego-orientated-climate where players use peer comparisons as references to define success. This can lead to intense intrapersonal competition and ego-orientated behaviours where players seek opportunities to impress coaches and stakeholders with the hope of avoiding deselection (Clarke et al., 2018; Cushion & Jones, 2006).

Catch the Coach's Eye to Unlock Higher Quality Competition Opportunities. Many of the players aimed to impress influential stakeholders within the academy environment – by achieving positive competition outcomes and via competent performances in competition – in an attempt to gain favour and hopefully 'play up' an age group. The majority of players aspired to train and play with an older age group, standing out from peers of the same age was believed to unlock access to these opportunities.

"Because you must be standing out in your own age then you need to try… it's a new target because you maybe think that your first target was to start in your own team and be one of the best players and then a new target might be to step up and be one of the best in the older team" **Under 15's Player B**

A large majority of the participating academy players articulated their ambitions to 'play up' with an older age group. Individual performance and positive competition outcomes were believed to help a player stand out from their peers and receive recognition and favour from coaches (Cushion & Jones, 2006). This further supports the assumption that a peer-created-ego-orientated culture exists within the academy and within each age

group. Literature reflects the perceptions of the current academy players in that the demonstration and possession of high levels of technical and/or tactical competencies appeared to differentiate between those players who were invited to 'play up' and those who were not (Kelly, Wilson, Jackson, Goldman, et al., 2020). Furthermore, additional research reinforces the value the academy players in the current study placed upon 'playing up', with more challenging training and opposition perceived to lead to developments in sport-specific and psychological abilities (Goldman et al., 2021).

Overemphasis on Competition Outcomes Can Trigger Avoidance Behaviours.

With the introduction of meaningful competition and an increased focused placed upon competition outcomes, the behaviours demonstrated by some players during competition subsequently shifted. Failure-avoidance behaviours were present during highly competitive competition experiences. In order to preserve a positive score line or maintain feelings of competence, players looked to execute low risk actions that allowed them to avoid executing difficult skills with the aim of limiting potential criticism from coaches, damaging stakeholders' opinions of the players ability and potentially negatively impacting the score/outcome.

> *"Sometimes when we are like winning a lot like… like 8-2 if we are wining that much I will try and take risks but if we are winning 3-2 against a really good team I will just keep possession and not try challenging stuff"* **Under 14's Player A**

> *"when I play deeper I'm scared to receive it because I scared if I lose it then they are right in front of goal and I don't want to lose it there because if they do I am going to get shouted at"* **Under 14's Player A**

The motivational orientations of the players underpin their behaviours and the coping/learning strategies they employ (Ames & Archer, 1988). Avoidance coping strategies have been found to be associated with ego orientations and a fear of failure (Sagar et al., 2009, 2010). Findings previously presented in the current study introduce the emergence of players demonstrating more prominent ego-orientations as they are exposed to more meaningful competition experiences. As the players near graduation from the academy, greater scrutiny is placed on their ability, competencies and behaviours by academy and wider club stakeholders (i.e., first team manager, academy manger, sporting director) to ascertain their suitability of 'making it' as a professional football player. The increased scrutiny and greater emphasis placed on competition performances and outcomes may challenge the motivations and subsequent behaviours

of players, therefore the emergence of avoidance behaviours is perhaps unsurprising considering the older academy players are attempting to perform flawlessly and prove their potential to gate-keeping stakeholders. Recent research demonstrated developing athletes who employed avoidance-coping behaviours were less successful than those who self-regulated the utilisation of various psychological characteristics for developing excellence (Hill, MacNamara, & Collins, 2015; Taylor & Collins, 2019).

Task and Mastery Focused Orientations. In contrast, some players placed little importance on the outcome of competition and chose to adopt a more task-orientated approach that centred around the continuous personal improvement. Competition was therefore viewed as an environment that challenged the players' learning and provided motivation for the continued development of footballing capabilities.

> *"I always want to improve more and more, so I think I'm not really at a level where I'm – I'm at a level I'm happy with, but there's like I'm getting another level like I'm really happy, but when I get to that there's always a kind of another one and another one"* **Under 14's Player A**

> *"and I can do better so I've always got that bit more to do which is good because I won't stop like that because I won't be the best and there will always be bits I can improve on which I like"* **Under 14's Player A**

Although all players embraced the introduction of 'meaningful' competition, some players resisted the temptation to assume heightened ego-orientated dispositions in favour of a continued emphasis on intrapersonal development towards sporting mastery. The adoption of a mastery orientated approach, where mastery of task and competence are featured, and subsequent use of mastery focused goals are known to have positive effects on intrinsic motivation, enjoyment, effort and satisfaction (Gardner et al., 2017; Morris & Kavussanu, 2009; Puente-Díaz, 2012). Developing and adopting an internalised, task focused approach to competition was found to be an important psychological variable in the development of football talent and also significantly enhanced the likelihood of being selected for a youth national team (Gledhill et al., 2017; Zuber et al., 2015).

Dedication to Development Regardless of Outcome: Finding Enjoyment in Opportunities to Learn and Perform in Competition. Aligning closely with mastery and task-orientated approaches to competition, deemphasising competition outcomes allowed players to perform freely, learn effectively (from applying past learning and learning experientially within moments) and enjoy the experiences.

> *It is a really good feeling to win and you always want to win, but you can't always win all the time. And it's not really about the score of the game, sometimes it's about how you're playing, learning and enjoying the game"* **Under 13's Player A**

From the presented data extract, positive competition outcomes as expected result in feels of satisfaction and pleasure. However, firmly evaluating success against subjective, intrapersonal measures exemplifies mastery-goal orientations and affords opportunities for the players to participate in competition with the sole intention of intrapersonal development. Mastery-goal adoption and attainment positively predicts enjoyment and results in positive perceptions of competence (Morris & Kavussanu, 2009). The increased level of challenge and pressure associated with participation in meaningful competition experiences can be positively associated with enjoyment if approached with the appropriate motivational orientation and high degrees of competency (Abuhamdeh & Csikszentmihalyi, 2012). Enjoyment is crucial in fuelling persistence and dedication within the talent development process (Fraser-Thomas et al., 2008; Scanlan et al., 1993). Considering the magnitude of difficulties that have the potential to emerge from the talent development pathway, enjoyment is a primary reason why adolescents remain in the sport (Fraser-Thomas et al., 2008).

Dedication to Development Regardless of Outcome: Continued Application of Effort. Regardless of the outcome from competition, working hard was a constant expectation highlighted by the players. The ability to work hard was believed to contribute to the level of learning achieved and thus allowed learning to occur irrespective of competition outcomes.

> *"Work hard in the training sessions before that and just keep my head like I do and not change my mindset from any other game 'like I'm gonna go work hard and do the best I can be… be the best version I can be'"* **Under 13's Player A**

Periods of limited competition success will inevitably result in some degree of negative feeling and possible reduced perceived competence. Therefore, players found that

maintaining a high level of effort and adopting a positive, optimistic perspective was important to ensure that learning was sustained.

> *"No, you can't always play well every game, but it's as long as you put a good shift in on the park and off the park I think the majority of the time you will have a good game. But if you don't have a good game it's always good to keep your head and look at the positive things coming up"* **Under 13's Player A**

The act of learning is deliberate and purposefully, requiring the application of effort to fuel the development process. To ensure progression, talented prospects must be active participants within the learning process through the application of effort (Ericsson et al., 1993). Recent research of a similar football academy cohort also articulated a similar degree of importance placed upon effort within the football learning process (Clarke et al., 2018). Interestingly however, Clarke, Cushion and Harwood's (2018) findings also identified effort as a "rhetorical device" that reflected socio-environmental conformity rather than an indication of player motivation. Findings from the current study appear to parallel the perception of effort as 'rhetorical' with players seemingly alluding to high levels of effort as an essential and expected behaviour across all academy training sessions and competitions. The academy players in Clarke's research were also found to be using 'effort' as a measuring instrument to compare themselves with their academy peers in order to justify individually perceived social and selection/deselection hierarchies (Clarke et al., 2018).

Pressure to Stand Out

Perceived Need to Stand Out. Gaining access to and progressing within a football academy is controlled by stakeholders (e.g., academy manager, sporting director and age group coaches) and their subjective perspectives of talent and potential. Therefore, academy players believed that they must gain the favour of coaches and stand out from their peers in order to enhance the likelihood of progressing within the academy and achieving positive development outcomes (i.e., 'playing up', securing a professional contract).

> *"Because this and next season are the ones that you push your hardest like you leave your teammates behind and you don't really like you care for them but you want to be the one who gets the place over them"* **Under 14's Player A**

The primary objective of a football academy is to develop individual players for the senior professional team, therefore little emphasis is placed upon the development of

proficient academy age group teams (Aalberg & Sæther, 2016). Individualisation of development is an important component of an effective talent development environment (Henriksen et al., 2010a; Martindale et al., 2007). However, the limited opportunities for accelerated progression and the scarcity of professional contracts on offer, coupled with high annual academy turnover results is the development and promotion of an 'every-man-for-themselves', individualistic culture. Academy coaches and stakeholders act as gate-keepers in relation to major decisions pertaining to player recruitment, progression/deselection and professionalisation (i.e. awarding professional contracts), as a result of the symbolic power they possess within the academy environment (Cushion & Jones, 2006). The evaluation of player behaviours, performances and competencies is subjectively assessed by both parties, in order to gain cultural capital and favour with the academy coaches, players are required to adhere to and demonstrate behaviours that align with predetermined values of the capital assigning coaches (Cushion & Jones, 2006). Emphasising and reinforcing the perceived need to 'stand out' from peers in order to gain capital from coaches that may reduce the likelihood of deselection from the academy environment.

Professional Contract Pressures Promote the Need to Stand Out. As players progress through the older age groups within the academy, the lure of professional football becomes far more attainable given the proximity to graduating from the academy. Consequently, the need and pressure to stand out from their peers intensifies for those in their last years within the academy, as squads of players compete for a limited number of professional contracts.

> *"Yeah, because you're either going to get it [contract], or you're going to have to leave or take the part-time. So obviously you want to be one that's getting a full contract. So everyone's going to be working hard, but you need to be the one that stands out the most"* **Under 15's Player B**

The competition to secure a professional contract is fierce within academy football, predominantly due to the sheer size of talent pools within academies (15-20 players per age group) and the limited number of professional contracts on offer. Impending contract decisions and future footballing directions are known to be one of the main stressors and pressures experienced by academy players nearing the end of the academy age group structure (Reeves et al., 2009; Swainston et al., 2020). With the introduction of meaningful competition where *teams* of academy players have the

opportunity to win trophies and accolades, it may seem appropriate to anticipate an increase in group cohesion and collective support. However, the emergence of competing pressures, such as professional contracts, appears to further develop instances of interpersonal competition between teammates and promotes a peer-created-ego-orientated environment. Previous research contradicts the individualisation that seems to foster within later stage academy players, the importance of demonstrating team facilitative behaviours and being a good teammate was articulated and emphasised in research (Mills et al., 2012). Separation from the peer group through highly competent performances in competition and demonstration of 'professional' behaviours (i.e., high levels of effort) was perceived by the players in the current study as an important step to securing a professional contract with the football club. Which aligns with approaches taken by late stage academy players in other environments (Swainston et al., 2020).

Pressure to Avoid Injuries Which Limit Opportunities to Stand Out. The perceived pressure to stand out within an academy squad intensified for players when an injury was suffered. Spending time on the side-lines impacted the exposure to development enhancing activities and thus allowed peers to gain developmental advantages over the injured players. Injuries also constrained the volume of time spent in competition, the environment that was deemed as providing the best opportunity to stand out.

> *"I was just really annoyed because I could see everyone…. everyone training and like they were all training and I was sitting on the side-lines and I was desperate to go and play because they were getting more minutes than me of getting better and I was just sitting there injured... at times I felt useless sitting at the side"* **Under 15's Player B**

With the professionalisation of talent development in football, early specialisation is now increasingly common. This early specialisation and the subsequent involvement with intensive, football academy schedules contribute to a heightened susceptibility to injury (Brink et al., 2010). Experiences of injury are perceived to be instances of bad luck that have the potential to significantly impact the development of talent and progression (Gulbin et al., 2010; Savage et al., 2017). Instances of injury, especially serious injuries with extended recovery periods, can limit the development opportunities available to talented prospects, this is especially prominent within

professionalised talent development programmes and sports that recruit large numbers of young athletes with a limited number of competition spots (Taylor & Collins, 2019). Therefore, the limited academy availability a youth player has and the pressure to avoid deselection by standing out from the crowd is only exacerbated when players are injured and experience extended periods of time in recovery and rehabilitation.

Approaches Adopted to Impress Academy Stakeholders and Stand Out.

Competition Contributions and Demonstration of Complex Actions within Competition. Many of the players believed that what they did in competition and how they contributed to the outcome of competition was an effective way to stand out from their peers. For example, attacking players perceived that scoring and setting up goals was something that the coaches valued when selecting players to play and when making progression/deselection decisions.

> *"If I score more goals then I'll get picked to start more if I'm scoring goals and other people aren't and I'm like an attacking player, they'll play me over people who've not scored as much"* **Under 14's Player A**

Similarly, all players who believed that their position on the pitch (goalkeepers and defenders) limited their ability to contribute to at the attacking end during competition, perceived that they must also stand out from their peers by other means. Approximately a third of these players who were interviewed believed to stand out and impress the coaches they were required to demonstrate 'higher risk', more complex actions in games. Completing simple actions, that the players were highly competent in, was viewed by some as 'too safe' and did not allow them to differentiate themselves from their peers.

> *"Just again like keep working in every session and every game and try and like be more creative and don't always just do the simple passes or the simple dribble, but like try to impress and do like special things and stuff"* **Under 15's Player B**

Seeking approval from coaches and aiming to stand out within competition clearly demonstrates the ego-orientations of academy players towards competition. Striving to impress with competent performances and influential actions that contribute towards positive competition outcomes exemplifies the adoption of performance-approach goals (Ames & Archer, 1988). The introduction of 'meaningful' competition allows players to demonstrate values and behaviours that are celebrated at the professional level but within a more secure academy environment. Espousing these professionally

valued behaviours may demonstrate the future potential of academy players and align with the values, behaviours and actions desired by academy coaches and stakeholders. Resulting in the enhancement of social capital with the age group and wider academy, thus gaining favour from coaches and increasing the chances of progressing within the academy and/or to the professional level (Cushion & Jones, 2006).

Long-term Development Promoting Behaviours. A different perspective to 'standing out' was adopted by some of the players and focused more on the long-term, consistency of behaviours that catalysed their development rather than the short-term outcome focused approaches presented previously. Demonstrating a determination and willingness to work hard was a prominent thread throughout the lives of the academy players. The ability to work hard was perceived by players as a long-term ingredient to ensuring their continued development and success within football.

> *"Hard work I think, I think talent there's a wee bit of talent got to be in it, but I think hard work and show the coaches that you're determined. If you're bad at something going and working on that in training, try and use it as much as possible, for example my left foot, just try and use it and use it in games"* **Under 16's Player B**

> *"Working hard because you have got to have a big work ethic because you could be good now but if you don't work hard then you might not be there for much longer"* **Under 13's Player C**

As previously presented, the application of effort and working hard was described as a 'rhetorical device' and used more frequently as a measuring stick by academy players to assess social standing in Clarke et al's., research (2018). The current academy cohort perceive coaches place great value on the application of effort, this may therefore render 'effort' rhetorical if all players seek to consistently give their all in training and competition to impress the academy coaches. However, appropriate motivational orientations and application of effort to the learning process is a key component of a learner's ability to drive forwards and self-regulate their own learning experiences (Zimmerman, 2006; Zimmerman et al., 2017).

Secondly, being 'coachable' – the player's receptiveness to feedback and their ability to action the coaches' feedback – was an additional behaviour that ultimately aided the player's long-term development and consequently may allow players to *stand out*.

"Because as well as being a good footballer you need to have good attributes to make you coachable and I think I'm coachable because I take on the advice they give you and… like try to make myself the best possible player I can be" **Under 13's Player B**

Demonstrating 'coachability' and being a 'coachable' athlete are prominent themes within research that regarded these behaviours as development conducive psychological competencies and personality traits (Gould et al., 2002; Gulbin et al., 2010; Larkin & O'Connor, 2017). Toering and colleagues (2011) identified listening intently as a key behaviour of players being receptive to information, which was associated with planning and effort components of self-regulation. Chapter 4 (study 2) aimed to highlight the importance of self-regulation competencies in the progression and perceived future potential of players in the current academy.

Adopting leadership roles within academy age groups and demonstrating a willingness to improve their leadership qualities were perceived by some players as development enhancing and such behaviours were desired by academy coaches.

"Just like folk trying to be leaders and just like everyone, we're all like working together, we're all trying to get better ourselves and bring everyone on as well. So they [coaches] want like leaders and people that want to work" **Under 15's Player B**

Although the football academy environment is highly individual, the data extract above articulates a belief that coaches value leadership qualities and behaviours. Peer leadership behaviours are dependent on specific psychological competencies (expressiveness), quality of peer relationships and feelings of social and sport specific competency (Glenn & Horn, 1993; Moran & Weiss, 2006). The expression and demonstration of leadership qualities are valued within professional team sports, the ability to motivate and organise teammates to achieve highly skilled performance and positive competition outcomes is a crucial role within a successful, cohesive team (Cotterill & Fransen, 2016).

Lastly, many of the players believed that coaches looked for those who could demonstrate a level of consistency throughout their academy activities (competition performances and training application). The ability to quickly bounce back from negative performances or experiences allowed players to maximise their development and minimise any 'lost' learning opportunities.

"that's kind of what the coaches are looking for, being consistent, not having loads of ups and downs. They kind of want you having good performances or quite good performances most of the time, like all the time" **Under 15's Player C**

Consistent high-quality performance within competition is evidently preferential within the academy cohort. However, the pathways to sporting excellence are very rarely linear, with developing athletes experiencing extreme highs and lows as they seek sporting excellence (Collins & MacNamara, 2012; Savage et al., 2017). The trajectory data collected form the academy players throughout the season highlight the prevalence and magnitude of the experienced 'peaks and troughs'. In order to preserve in and overcome the developmental challenges that contribute to the inconsistencies of the talent development pathway, prospects need to develop and utilise a comprehensive 'toolbox' of psychological competencies, commonly termed the Psychological Characteristics for Developing Excellence (Collins et al., 2016a; MacNamara et al., 2010a, 2010b; Savage et al., 2017).

Data Dimension 2: Presence of a Functional Support Network

The academy players identified a vast network of supportive agents who fulfilled a diverse variety of different supportive functions that positively influenced pathway navigation and footballing development. From the data, three high order themes were generated: i) sources of support, ii) functions of support, and iii) the important role of parents.

Sources of Support

Within the support network that was available to the academy plyers, a variety of individuals were credited with supporting and providing guidance along the talent pathway to the talented young players. This support network was vast and contained six main supportive agents from a variety of domains; football specific (e.g., coaches and teammates), familial (e.g., parents/guardians and siblings) and non-football related (e.g., teachers and non-football peers).

Table 5.2: Emergent themes relating to the players' support network

General Data Domains	High order themes (level 1)	Low order themes (level 2)	Lower order themes (level 3)
Presence of a Functional Support Network	Sources of Support	Familial	Parents Siblings
		Football specific	Coaches Teammates
		Non-football related	Teachers/School staff Non-football Peers/Friends
	Functions of Support	Sport-Specific Player Development	
		Balancing Challenge and Support	
		Socialisation Opportunities	
	The Important Role of Parents		

Functions of Support

The six social agents within the players' support network served three main supportive functions, these functions directly supported the development of footballing competencies, challenged and supported the players and offered opportunities to socialise with academy peers. The supportive functions which emerged from the data shared similarities with dimensions of social support identified previously in literature; *esteem, tangible, informational and emotional* (Cutrona & Russell, 1990; Rees, 2007; Rees & Hardy, 2000). Although similarities are present, functions identified within the current study differ slightly due to the contextually specific nature of the theming and naming of functions.

Sport-Specific Player Development. Unsurprisingly, the academy coaches play a significant role in the development of football specific competencies (technical, tactical and physical) through their provision of instruction and interactions with the players during on-pitch training sessions and formal feedback activities. The guidance and support that was supplied by the academy coaches was however individualised for each player. One player commented on an experience where the coach provided specific feedback and worked individually with the player to implement the feedback in a practice setting.

> *"They like give you like finer details so like 'left like take three steps' or like 'cover inside the goal post' or something like that so it's finer details that help you more than just in general details"* **Under 13's Player A**

Academy coaches were primarily responsible for leading and guiding the development of the academy players' sport specific competencies. Rees and Hardy's (2000) conception of informational support aligns closely with the supportive behaviours demonstrated by the academy coaches. The availability of appropriate informational support in the form of technical or tactical guidance was found to buffer the development of stress by reducing negative feelings of performance within training and competition situations (Rees & Hardy, 2004). The data extract demonstrates an academy coach offering tangible support by facilitating an opportunity for the player to individually develop a specific skill/competency (Keegan et al., 2010). Tangible support was found to function closely with informational support in buffering the development negative outcomes from exposures to stressors, but was also found to limit the negative impact of stressors on positive performance states (Rees & Hardy, 2004).

The responsibility to promote and support the players' development of psychological characteristics was predominantly placed upon the academy coaches. Additional support was provided by an academy psychologist who introduced concepts/skills in line with the academy curriculum and guided coaches with approaches to developing psychological competencies.

> *"our coaches help us with like mindset and like keeping active… and like being resilient and things like that and [the sport psychologist] used to do the [academy psychological curriculum] stuff in the classroom where like we learnt resilience and discipline and not going out with your friends before training and stuff like that. He also spoke to our coaches and sometimes helped our coaches with things on the pitch, he would talk to us during breaks in training"* **Under 13's Player A**

From the data extract, the football academy appears to have systematically developed and implemented a psychological curriculum aimed at developing selected competencies that aid development and performance. Data details the supportive role of the academy psychologist in delivering and nurturing the development of psychological competencies away from the training pitch. Academy coaches tangibly and informationally supported the implementation of the psychological curriculum through on-pitch activities and guidance which was in turn was supported and guided by the academy psychologist. This integration and chain of support demonstrates cohesivity between academy coaches and the academy psychologist, ensuring the psychological curriculum is delivered and supported appropriately to benefit the long-term development of the players.

Interestingly, the school environment and the teachers also contributed to the development of psychological skills that were found to translate to a footballing context and thus positively impacted the players ability to perform and learn during academy activities.

> *"The school has helped quite a lot because I used to kind of be a bit of a… I get angry quite easy so like just stupid things like I ask someone for a rubber and they say "naw mate can't have it" and I'm like "why not?" and for the rest of the day it's not like I will get in trouble but the rest of the day I won't have a good day which impacts my football"* **Under 14's Player C**

The support provided by educational stakeholders in the academy players' lives will predominantly focus on character and academic development. Beyond the academic curriculum, the social interactions experienced at school and the subsequent support provided by teachers appear to play a small role in the development of transferable psychological competencies that can be utilised to positively influence footballing development. Previous research has documented the challenges associated with attempting to sustain participation and excellence in both academic and footballing domains due to the demands placed upon academy players and the potential consequences of early identity foreclosure (Christensen & Sørensen, 2009; Mitchell et al., 2014). The current finding may therefore indicate experiences outside of the academy, particularly at school where social and academic learning opportunities are rife, may compliment the development of transferable psychological and psychosocial competencies if demands are managed and coordinated appropriately (Aalberg & Sæther, 2016; Larsen et al., 2013).

Balancing Challenge and Support. The nature and diversity of the challenges that players face during their developmental journeys has already been established. Such challenges may emerge organically from the experiences that players are exposed to, others however are intentionally engineered by the academy coaches through the manipulation of demands placed upon the players. Coaches continually sought to challenge players in order to further develop their footballing capabilities.

> *"They're always challenging me to; so if I've done something well they're always looking for what's next to make sure I've got something always to work on, and always to prove"* **Under 14's Player B**

From the data extract, the academy coaches appear to encourage and continually push the developmental capacity of the academy players through the consistent placing of demands and exposure to challenge. Reinforcing the perceived need to expose players to a magnitude of different stressors and invoke situations that demand the deployment, refinement and effective utilisation of coping strategies. Collins and colleagues highlight the need for players to seek and receive the appropriate support from knowledgeable and caring stakeholders during these periods of challenge and stress (Collins et al., 2016a; Collins & MacNamara, 2017c; Savage et al., 2017).

In conjunction with manipulating and facilitating challenging experiences for the developing players, coaches offered support during and post initial exposure to difficult experiences by providing encouragement in the form of esteem building praise. Receiving praise from coaches enhanced the feelings self-efficacy and encouraged players to attempt more challenging actions within competition.

> *"Because I can hear like my coaches shouting "well done" at me and that gives me like more like freedom like I feel like… when I get complimented I feel like I'm really good so I don't like I'm not worried about the defenders I feel like they are not there"* **Under 14's Player A**

The provision of praise from stakeholders, with significant social capital and power, such as academy coaches can fulfil all four of Rees and Hardy's functions of support (informational, tangible, esteem building and emotional) (Rees & Hardy, 2000). Esteem building support from a coach is positively associated with adaptive motivational aspects and behaviours (Keegan et al., 2010). With the constructiveness and valence (praise – criticism) of verbal coach feedback contributing to the nature and degree of influence on the behaviours and detriments of motivations (competence and relatedness) of the academy players (Conroy & Douglas Coatsworth, 2007; Keegan et al., 2010). The previously established associations between the prevalence and functions of coach support and positive developmental outcomes are present within the current study.

Furthermore, a small minority of academy players explicitly described how their coaches took an interest in them as a young people by asking questions about life outside of football. Understanding the individual person behind the player may allow coaches to

build stronger relationships with their young players and thus better support them throughout their academy journey.

> *"They just like, kind of just chat about; but if you get into a conversation they'll ask you, how did you do at school, what did you do there? … and It's good cos that means they're interested in what you do outside of football as well"* **Under 14's Player B**

Teammates and academy peers also significantly challenged player development by contributing to the intensity and volume of challenging experiences that were experienced. On the pitch training sessions provided an opportunity for teammates to challenge and improve each other by working hard to develop their own skills, which forced their peers to match this level of improvement and produce similar performances. To maximise the benefits from consistent competition within the training environment, players were required to contribute a constant high level of effort and performance. Outside of academy training activities, teammates challenged each other by arranging informal training opportunities where they could work cooperatively in an attempt to address any weaknesses identified by the academy coaches.

> *"Well, because we're all at pretty much the same level we can go against each other. We can put the effort in like, match to match and then like, you're getting better and better together, you pull each other on. That only works if you're both going at each other, you're both trying, it can't just be one person because then the other one is going to fall too far behind"* **Under 13's Player C**

Aligning with the findings of Keegan and colleagues (2010), this collaborative approach has the potential to be developmentally conducive if accompanied by emotional and esteem building behaviours such as consoling, motivating and praising (Keegan et al., 2010). Furthermore, teammates also appeared to offer support throughout challenge by sharing honest, yet constructive criticisms and informational guidance that aimed to help their teammates make technical changes and adjust their behaviours to aid their footballing development.

> *"Just at like half time and that, may be give me like a couple of tips and stuff, or if I got like a good pass and that, they would let me know I'd done well and stuff. It makes you feel a lot better, especially when you're playing like a couple of years up"* **Under 15's Player B**

Some of the players were fortunate enough to have siblings who facilitated additional, ad-hoc training opportunities at home. One participating player had two younger siblings who were also signed to the same academy, this presented a unique opportunity

to engage in deliberate play activities with *high quality* 'opponents'. The availability of training peers who have experienced similar developmental experiences may enhance the learning that this player achieves from these ad-hoc sessions.

> *"Well, with my brothers being at [the academy] too, they're twins and they're three years below me. I guess they're not quite at the level I am, that sounds a bit—but it's like—they're still good enough to train with, they are good, so, I can do like, 1v1s slightly. It's probably better them going against each other but yeah, so, I can do a few 1v1s with them but it's easier if I'm with them, I usually do stuff like pinging balls, like working on strikes—weak foot or something like that"* **Under 13's Player C**

The presence and quality of sibling dyads can play an important role in development of talent (Blazo & Smith, 2018; Hopwood et al., 2015). Sibling competition has the potential to promote and facilitate the development of sport specific competencies in part due to elevated levels of motivation and the proximity and availability of a willing training partner(s) (Taylor, Carson, & Collins, 2018). Sport-specific sibling socialisation opportunities, such as deliberate-play and -practice represents a form of tangible support aimed improving the competencies of one, both, or all, participating parties (Taylor et al., 2018).

Siblings, although not commonly involved directly in academy activities, were also sources of informational support and guidance. For example, older siblings had the capacity to share experiences that helped shape the way that their younger, academy signed siblings approached potentially challenging situations.

> *"Because he's experienced more games than me and then bigger goals and different kind of play, so he can always help me; has something to say since he's being doing it for quite a long time, so he could just say it to me, and I'll write it down, and then I always know it and maybe use it. And some of the stuff won't help you, but then at least some of the stuff will help you in one of your games or training sessions"* **Under 12's Player A**

The cooperative nature of the adaptive dyadic, sibling relationships has the potential to extend beyond tangible, practicing facilitative support mechanisms. Elder siblings possess the ability to adopt a unique 'teacher' role where informational support is provided to the younger sibling in the form of sport-specific guidance and advice (Davis & Meyer, 2008; Kramer & Conger, 2009). The development of a mentor-mentee relationship that aids development is governed by the strength of the sibling dyad which is underpinned by the dyadic composition (brother-brother, brother-sister), closeness

of birth dates, sport-specific competency levels and the perceptions of the sibling rivalry (i.e. adaptive or maladaptive) (Blazo & Smith, 2018; Davis & Meyer, 2008; Taylor et al., 2018).

Socialisation Opportunities. The opportunities for academy players to socialise away from football are scarce due to their restricted schedules. However, players reported that friendships were developed within the academy with teammates and older/young academy peers which were both viewed as social outlets. The presence of friendships within the academy environment encouraged a greater level of emotional and esteem building support, players believed that their academy friends were likely to offer support and comfort following challenging experiences. Spending time with siblings allowed the players to switch off from football and embrace the social opportunities presented from familial engagement and time together.

> *"Teammates as well because they pick you up when you're down and obviously, you get a good friendship with them and as well as teammates on the pitch, they're obviously friends off the pitch"* **Under 13's Player B**

Within talent development contexts, the nature of peer support and the resultant 'supportive' behaviours can be described as developmentally positive due to the adoption of a collaborative learning approach or developmentally limiting when peers behaved altruistically (Keegan et al., 2010). When positively supporting the development of peers, teammates were most likely to support from an emotional and esteem building perspective. Commonly fulfilling supportive functions such as helping to deal with competition pressures prior to and during competition and also the outcomes of competition (Rees & Hardy, 2000). Relational closeness and friendship quality is positively associated with the prevalence and availability of support from teammates and other academy peers, positively influencing athlete motivation, peer acceptance, positive emotional responses and elite sport continuation (for review, see Sheridan, Coffee, & Lavallee, 2014). However, building deep, trusting relationships within a competitive environment such as a professional football academy has been described as extremely difficult, with peers primarily viewed in a professional capacity as teammates (Adams & Carr, 2019; Tekavc et al., 2015). The competitive, individualistic nature of the academy environment offers opportunities for 'shallow' socialisation opportunities and support but does not promote the development of authentic,

emotionally-proximal, deep trusting friendships between academy peers (Adams & Carr, 2019). The scope of the current paper does not extend to examine the quality and depth of the articulated friendships within the current academy cohort. Therefore, it would be inappropriate to assume the nature and quality of the academy 'friendships' and subsequent peer provided support received by the interviewed academy players.

The Important Role of Parents.

Naturally, parents provided the academy players with a significant volume of help and guidance through various supportive functions applied to both football and non-footballing domains. The support provided by the academy parents aligned with the traditional responsibilities associated with parenthood. Parents assumed a facilitative role in the players' development, on and off the pitch, by providing tangible support in the form of purchasing equipment and kit, transportation to and from training and by supplying nutritional food provisions.

> *"Mainly my parents, like taking me to training sessions and helping me with homework if I'm finding it difficult or stuff like that and also giving up their time to take me to training and doing stuff with us"* **Under 13's Player B**

> *"They put quite a bit of money into it. They have to take me to places, which costs petrol, they buy my boots, shin pads, clothing"* **Under 13's Player C**

Parents play a key role in facilitating and encouraging the athletes' initial engagement with a specific sport (Bloom, 1985). The findings from the current study reflect those previously established in research; one of the most prevalent and significant influences parents have on the development of young talent is in the form of tangible support (Lauer et al., 2010; Wolfenden & Holt, 2005). Specifically, parents of young football players perceived there to be an increased responsibility on them to facilitate their child's development due to the enhanced status attributed to their child's identification as being 'talented' and recruitment to a professional academy (Clarke & Harwood, 2014). The specific functions and examples of tangible support articulated in the current study parallel with those identified in earlier research (Garcia Bengoechea & Strean, 2007; Lauer et al., 2010; Wolfenden & Holt, 2005). Tangible support predominantly relates to transportation and financial contributions facilitate young talents' participation in development opportunities and influence the consequential development sport-specific competencies (Garcia Bengoechea & Strean, 2007; Keegan

et al., 2010). The provision of appropriate tangible support from parents allows the talented athlete to experience reduced worry and the alleviation of pressures which in turn frees them to focus on developing and navigating the challenges of the academy pathway (Rees, 2007; Rees & Hardy, 2000).

Additionally, parents also contributed to the academy players' footballing development by offering honest feedback and esteem building, encouragement. Many of the players sought a high degree of honest feedback from their parents as this was perceived to inform future practice behaviours and also helped to ground players following periods of extreme highs. The deliverance of honest feedback was commonly accompanied by positive encouragement which helped to increase player esteem and aided motivation.

> *"Encouragement at home. If I wasn't doing well, they'd be like, "Oh, come on, you need to do better than that" I try and take it on board. If I'm doing something well, they'll be like "Really well done, I'm proud of you" or stuff like that and it just kind of boosts your confidence and lifts you a wee bit"* **Under 13's Player A**

Parent feedback is perceived as "useful and necessary for sport improvement" (Tamminen et al., 2017, p. 325). The 'honest', evaluative feedback that players received from parents was perceived by many as supportive and encapsulated a variety of supportive functions such as informational, emotional and esteem building. Within an talented Australian youth football cohort, Elliot, Drummond and Knight (2018) identified the perceived value and the resultant desire to receive honest feedback from parents, particularly fathers. The work of Sutcliffe et al., (2021) effectively highlights the role of fathers as more prominent providers of evaluative feedback and technical guidance, with mothers adopting a more, esteem building, encouragement centred role. The provision of honest, most likely critical, feedback from parents was welcomed and sought by talented youth athletes as this was believed to indicate levels of competence which contributed to the enhancement of motivation and helped to guide future effort (Elliott et al., 2018; Garcia Bengoechea & Strean, 2007; Keegan et al., 2010).

Concurrently, parents also play a significant role in developing the character and life skills of the academy players by helping to guide them through adolescence and prepare them for adulthood. Challenging the young players to be more responsible off the pitch was a prominent approach adopted to help develop life skills and prepare the players for adulthood. Considering the significant energy and time demands placed upon the

young people from both a football and academic perspective, the parents were predominantly responsible for ensuring that the players physical health, happiness and well-being was maintained.

> *"They'll help you with your emotional side too, it's just like kind of making sure that your mental health is alright"* **Under 13's Player C**

Johnson and colleagues' (2013) review within competitive youth swimming identified associations between adolescent sport participation and positive youth development outcomes, specifically the development of psychosocial competencies and essential life skills. Additionally, the prevalence of appropriate parental support and positive, parental behaviours such as praise, understanding and directive guidance were also found to positively relate to youth football players' perceived development of life skills through their engagement with football activities (Mossman & Cronin, 2019). This highlights the important role that parents/caregivers have in encouraging and facilitating the development of generic life skills (Newman et al., 2020). The availability of opportunities to develop such skills and competencies is critical to ensuring the talented prospects experience a well-rounded, holistic upbringing that equips them with the appropriate skills needed to successfully adjust to life stressors and thrive on and off the football pitch (for review, see Holt et al., 2017).

Conclusion

The overarching aim of this qualitative inquiry was to examine lived experiences of talented, youth football players over the course of an academy season, with a specific focus on the challenges, coping mechanisms and learning strategies employed. Several prominent sources of challenge and pressures appeared within the data set, pertaining specifically to challenges associated with seeking out and maximising high-quality training and competition experiences, adopting and maintaining a dual career approach to excel in both football and academic domains and the pressure to 'stand out' from peers in a highly competitive development environment. Additionally, findings indicate the presence of a complex, multidimensional athlete support network where individual sources of support serve and fulfil a diverse array of supportive functions that aid sport-specific and holistic development.

Quantifying the players' perceptions of progression and development highlighted the non-linear, idiosyncratic nature of the development journeys the young academy players are currently embarking on. One of the most significant sources of challenge within the academy players' lives stemmed from the pressure to adopt and maintain a balanced dual career where the needs and demands of compulsory schooling and the football academy were met and exceeded consistently. The intensive nature of the football academy schedule restricted the volume of 'free time' players possessed to study for academic test and exams and to complete mandatory homework activities.

One of the most prominent academy specific challenges was primarily associated with seeking out and optimising high-quality development opportunities (training and competition). Players attempted to optimise the learning and development available from each academy activity by implementing learning strategies and adopting an array of behaviours such as reflective thinking, strategic future planning, goal setting and regular performance and learning evaluations. Seeking out high-quality competition experiences was perceived by players to be crucial in facilitating and catalysing their sport-specific development. Specifically, competing against players of similar or better ability was believed to represent 'high-quality' opposition.

Placing more value on competition and the introduction of meaningful competition experiences was welcomed by older academy players as this provided opportunities that replicated the professional level and also allowed for external recognition of an individual's ability which helped players stand out from their peers. As a result, players utilised either or a combination of both adaptive, task and mastery orientated behaviours and maladaptive, ego orientated, avoidance behaviours. Consequentially, with a greater value placed upon competition performances and outcomes, players perceived there to be a greater pressure to perform in 'high stakes' games which resulted in the demonstration and development of both adaptive, task and mastery orientated behaviours and maladaptive, ego orientated, avoidance behaviours.

The pressure to 'stand out' from peers within the highly competitive academy environment contributed to the presence of a peer-created, ego-orientated culture that prompted players to behave in a way that sought to 'out do' peers and gain the favour of the academy coaches. To 'stand out', players employed adaptive, long-term

development facilitative behaviours (i.e., applying effort and addressing weaknesses) and maladaptive, ego-orientated behaviours (i.e., failure avoidance). As players progressed towards the upper echelons of the academy age group structure, the pressure to separate themselves from their peers was amplified by the close proximity of graduation from the academy and potential offer of limited professional contracts.

The academy players look for and receive support from six main sources: parents, coaches, teammates, siblings, teachers and peers, who fulfil a diverse array of functions and roles: facilitation of sport-specific player development, balancing the provision of challenge and support for the player and offering socialisation opportunities. Parents were also identified as one of the central sources of support in the academy players' lives through their provision of various types of support (tangible, informational, esteem building and emotional) that fulfilled a variety of different functions.

Theoretical and Academic Considerations

The current study investigates a previously under-researched, yet professionalised, talent development environment in a Scottish football academy. Therefore, the research qualitatively examines an untapped source of academic and practical insight. Although the current study does focus on a singular football academy and therefore offers limited generalisability of findings. However, the emergent findings demonstrate a high degree of agreeability with and build upon the findings from research within similar footballing environments in other nations (Aalberg & Sæther, 2016; Flatgård et al., 2020; Gledhill & Harwood, 2019; Larsen et al., 2013; Mills et al., 2014a).

To examine the lived experiences of individuals effectively and efficiently within a dynamic and complex talent development environment, the research utilised a novel methodological approach. Employing an ongoing, three phase data collection procedure, afforded the research a degree of flexibility and an opportunity to capture the *live and* lived experiences of academy players throughout the competitive season. The design and utilisation of this novel methodological approach is one of the main strengths of the research. This approach takes significant strides in reducing potential retrospective recall and hindsight bias that commonly exists within single-time-point interview-based research. Conversely, the frequency and proximity of the data

collection phases may have limited the depth of knowledge that the developing athletes were able to articulate about their experiences within the academy. With the development of knowledge and understanding constructed from an individual's social and environmental interactions and grounded in their lived experiences *over time* (Birt et al., 2016; Crotty, 1998; Gray, 2013).

The findings from this current study highlight the presence of a peer-created-ego-orientated culture within the academy cohort, where players seek to outdo one another to gain favour and acceptance from the academy coaches in the hopes of aiding their chances of progression. Therefore, considering the nature and culture within the football academy, self-preservation and social desirability biases are likely to be extremely prevalent. Such biases were predicted and accounted for in the study and methodological designs, steps such as building rapport and engaging in non-judgemental discourse were utilised throughout the data collection phases to attempt to limit the influence and presence of biased data. Although the utilisation of multiple phases of data collection throughout the season was predominantly focused on capturing live experiences and limiting the influence of retrospective biases, the ongoing nature also afforded an opportunity to build rapport with the participating academy players.

Practical Considerations

The breadth and depth of findings generated from the current study provide academy stakeholders with an abundance of information rich, contextually specific insights relating to the players' perceptions of the challenges and experiences within talent pathway experiences and the nature of the support network available to academy talents. The insights presented within this study afford academy stakeholders with a magnitude of opportunities to enhance the efficacy of the talent pathway through the evidence-based development of learning provisions and support structures.

The pressure of adopting and thriving in a dual career approach to football and schooling was identified by players as one of the most prominent within their academy tenure. Therefore, from a practical perspective, academy stakeholders may look to adjust the footballing schedules of academy players during particularly intensive periods of schooling such as during the transition to high school and during mandatory

examination periods. Additionally, possessing an awareness of the demands placed upon the academy talents, academic and footballing stakeholders may seek to develop closer working relationships with clear communication channels to aid the navigation of a dual career. Developing cohesive, working relationships where information relating to player progress, behaviour and achievements is shared freely and frequently can positively influences cognitive, emotional, and physical well-being.

The findings from the current study provide a comprehensive overview of the approaches and behaviours the academy players adopted to try and maximise the learning gained from on-pitch training sessions, gym workouts and classroom workshops. Practically, these insights allow academy stakeholders to monitor the effectiveness of the identified behaviours and in future look to implement and develop the teaching of adaptive learning behaviours within the academy curriculum, both on and off the pitch, to develop more effective learners.

The perceived importance of challenge within competition is strongly articulated throughout the data, these findings offer stakeholders with an insight into how players view competition as a key catalyst to the development of talent. Understanding the variables and nuances that contribute to perceived 'high-quality' competition may allow stakeholders to manipulate competition and systematically integrate more diverse and challenging competition experiences into the development journey of players.

The current study identifies a transformation in competition intentions and motivational dispositions as meaningful competition is introduced and peer competition increases resulting in the pressure to avoid deselection intensifying as players near contract offerings. Within the data set, players identified a variety of approaches and behaviours that were utilised across the season in competition. Such insights possess the potential to the inform the academy's communicated approach to competition and may aid the coaches' ability to identify and challenge the development of maladaptive, ego-orientated avoidance behaviours. Nurturing players to develop intrinsically derived, task/mastery focused behaviours that facilitate long-term development will result in more resilient, robust learners that can effectively cope with the peaks and throughs of the talent pathway.

Lastly, the importance of cohesive and highly functioning support network is presented in the study findings. Academy stakeholders can utilise these findings to create and develop cohesive communication networks between all major supportive agents within each player's support network, where all stakeholders are available to share coherent and complimentary supportive provisions. Furthermore, the importance of parents to the sport-specific development of the talented academy players should be a focus of the academy coaches and stakeholders, with the potential for the implementation of parental education workshops to enhance the efficacy of parental support away from the academy environment.

Future Considerations

The current study offers a comprehensive overview and insight into the coping behaviours and lived experiences of talented, developing academy football players. At present this piece of research is the first of its kind, a qualitative investigation of a Scottish football academy, therefore further research is essential to advance the findings and to explore the field in greater depth. The current project has tracked the behaviours and experiences of academy players over a single academy season using a novel research methodology. The selected design and methodology offer an opportunity to witness the development and manifestation of challenges and pressures in real time. Considering the long-term nature of talent development, future research that utilises the current study's methodology over a longer period of time would provide a more comprehensive, and potentially more insightful, overview of the talent development journey within academy football. The findings presented within this chapter are the personal views, perceptions, and experiences of young academy footballers as they attempt to navigate the peaks and troughs of their talent journeys. To further deepen the understanding of the experiences and coping behaviours utilised by the academy players, future research should (and will – see chapter 6) look to obtain data from academy stakeholders within the immediate talent development dyad (player and coach).

Chapter 6: A Qualitative Exploration of the Academy Development Processes and Player Development Behaviours: The Coaches' Perspective

Introduction

The centrality and significance of a high-quality environment on the talent development (TD) process has been presented, emphasised and demonstrated throughout the previous three studies within this thesis. Henriksen et al., (2010a, 2010b, 2011) provide an ecologically derived framework of the cultural, social and physical components of the environment that athletes directly interact with and are indirectly influenced by. Within the micro-environment and inner most talent development environment (TDE) – which contains and directs the athletes' TD opportunities and directly facilitates athletic development – a variety of stakeholders (coaches, family, peers and managers) that contribute to the overall quality of the holistic environment are positioned. The effective development of talent is a multifaceted, collaborative process that requires coherence and cohesion between all major, and minor, stakeholders (Curran et al., 2021; Martindale et al., 2007; Webb et al., 2016).

The presence of family, particularly parents, as a stakeholder within the TD process is a significant support structure in both the athletic and non-athletic domain. The quality of support and appropriateness of supportive behaviours and functions can significantly influence the ability of a developing athlete to navigate the ebbs and flows of the TD journey and fulfil their sporting potential (Collins et al., 2016a; Savage et al., 2017). Coaches and support staff also play a central role in the development of talent via their expertise and provision of specialised knowledge and skills, facilitation of development opportunities and informational feedback and guidance (Côté & Gilbert, 2009; Henriksen et al., 2010a).

The inclusion and position of the club/academy coaches within Henriksen's 'Athletic Talent Development Environment' (ATDE) framework (Henriksen et al., 2010a) highlights their prominence and the influence they possess within the development environment and process. The role of the coach extends beyond the design and delivery of training sessions, the International Sport Coaching Framework describes six main functions of coaching; designing and developing a long-term vision, moulding an effective environment, building relationships with athletes and stakeholders,

conducting practice and preparing and managing competition, reading and reacting to developing events on and off the field and lastly, learning and reflecting on their coaching processes (International Council for Coaching Excellence, 2018). The Danish national 49er sailing team viewed the role of the coach as a facilitator of learning and development, offering an accessible source of knowledge but also attempting to create independent learners by encouraging autonomy supportive, peer learning experiences (Henriksen et al., 2010a). Cooper's (2021) research with academy football players reinforced the significance of the coach and quality of coaching on the development of talent, specifically, "coaching was the strongest influence on player development" (Cooper, 2021, p. 1).

Staff, Didymus and Backhouse (2017) propose that coping in the face of challenge is an interpersonal, dyadic like process which is stimulated and facilitated by close coach-athlete relationships. Therefore, as research demonstrates (Adie & Jowett, 2010; Jowett & Nezlek, 2012; Staff et al., 2017), the quality of the coach-athlete relationship plays a central role on coaching and TD effectiveness, and several other outcomes that underpin positive developmental experiences (Jowett, 2017). Close, effective coach-athlete relationships are defined by dyadic principles of *closeness* (interpersonal feelings), *commitment* (interpersonal thoughts), *complementarity* (coach and athlete interpersonal leadership and cooperation behaviours) and *co-orientation* (interdependence of similarity in relational perceptions and understanding) (Jowett, 2005, 2017). Specifically, within academy football, the quality of the coach-athlete relationship was found to directly result in greater athlete psychological need satisfaction which subsequently contributed to more positive goal setting experiences, leadership opportunities and better emotional self-regulation (Taylor & Bruner, 2012). The quality of the coach-athlete relationship within an English football academy appeared to be an important predictor of mastery achievement goals (Nicholls et al., 2017). Therefore, developing and maintaining close, adaptive relationships affords opportunities for the coach to provide a range of invaluable supportive functions which facilitate coping and the overcoming of challenge that subsequently contributes to positive developmental outcomes (Staff et al., 2017).

Clearly, the coach plays a considerable role in TD process by supporting and nurturing young, talented prospects throughout the journey towards sporting excellence. Within

specialised TD programs and environments, coaches and administrators (academy managers, heads of youth) play an integral role in shaping and determining the quality of the learning environment (Henriksen et al., 2010a; Martindale et al., 2007). Considering this significance that the role of the coach in the TD process and the uniqueness of their lived experiences, therein lies a rich source of insight into the perceptions, experiences and experientially learnt knowledge of the TD process and the player characteristics that are required to negotiate the journey towards success.

Studies which have specifically explored the TDE of football academies (Aalberg & Sæther, 2016; Larsen et al., 2013), have employed both of Henriksen's models (2010a, 2010b) to examine and investigate the environmental quality from a holistic, ecological perspective and attempted to understand the factors and characteristics that influenced the effectiveness of each TDE. Mills, Butt, Maynard and Harwood (2014b) aimed to gain a deep understanding of the contributing factors that optimise the TDE by qualitatively tapping into the perceptions of coaches within elite English football academies, findings demonstrated a focus on four key aspects; organisational functionality (e.g. stability, adaptability), effective operating systems (vision, identity), the psychosocial architecture (e.g. key stakeholder relationships, challenge, discipline) and elements of the physical environment (e.g. quality training and accommodation facilities) (Mills et al., 2014b).

Stakeholders within the TD process, such as coaches, offer a unique perspective of the lived experiences and observable behaviours of players as they attempt to navigate the challenging, developmental pathway. Research designs which recruit and investigate phenomenon from a singular, athlete only perspective are susceptible to potential self-preservation, social desirability and retrospective, recall biases (Gratton & Jones, 2010; Van de Mortel, 2008). Therefore, research that examines athletes and their interactions with the TD process from an external, yet intertwined perspective may offer an appropriate approach to reduce research biases, and also provide the perspective of experienced individuals who have been involved with developing young talented players over a number of years. Toering et al., (2011) and Hill, Collins and MacNamara (2015) both adopted such perspectives to qualitatively investigate the adaptive and maladaptive psycho-behaviours of developing athlete populations in professionalised,

academy settings. Both studies offer unique perspectives of the behaviours that were viewed by coaches as facilitative to developing talent and also those that possessed the possibility of derailing and inhibiting progression along the TD journey (Hill et al., 2015; Toering et al., 2011). Consequently, in recognising the integral and intertwined role the coach plays in the TD process and the unique vantage point that coaches assume when guiding and supporting developing athletes.

Study Aims

This research aims utilise the coaches' perspective to qualitatively examine the competencies and behaviours utilised by academy players in an attempt to successfully navigate the talent development pathway. More specifically looking to investigate the academy environment and the experiences, challenges and subsequent coping behaviours deployed by the academy players.

Methodology

Study Design

In order to achieve the research aims, a retrospective, semi-structured interview methodology, composed of one interview per participant at the end of the season, was devised to capture the coaches' perceptions of the challenges faced by their players, the coping mechanisms that were used by players in response and the behaviours that were demonstrated historically and throughout the current season.

Participants

Six coaches and an academy manager from a single 'elite' Scottish football academy were recruited to participate in this study. All seven participants were male and aged between 23 and 39 (M = 30.7 ± 5.79) at the time of data collection. Five of coaches were recruited from five of the six academy age groups (U12, U13, U14, U15 & U16) with one participant employed as the head coach of the under 18 age group (who are professional players) but supported the coaching of the age group below (U16). All of the recruited coaches had been employed in their current roles for at least one year, with an average of 5.42 years in post ($\pm$ 3.25). Five of the seven recruited participants held their UEFA A licence qualification, with one completing their UEFA Pro licence at the time of participation. Additionally, the remaining two coaches were UEFA B licence and Scottish FA national licence holders respectively. The academy manager and three

other participants were full time members of academy staff, the remaining three were employed on a part time basis and completed 8-12 hours of on field coaching per week. Between them the participants had amassed a total of 71 years of experience coaching at a variety of levels (10.14 ± 6.17). Four participants had previously or were currently professional football players, a further two had played semi-professionally and one had played at an amateur level. As such, the recruited participants had invested an average of 11.85 years (± 7.05) in playing and/or coaching football. Furthermore, five participants had engaged in higher education and had achieved bachelor's degrees. The remaining two coaches had graduated high school before pursuing careers as professional football players.

Research Procedure

The proposed research project was submitted to and scrutinised by Edinburgh Napier University's School of Applied Sciences Ethics Committee. Ethical approval was granted by the committee and the recruitment of participants began. Recruiting participants initially began by establishing contact with the academy manager via email and subsequent face-to-face meetings to explain the aims and research methodology before identifying a pool of academy coaches who were eligible for participation. The study aimed to recruit coaches from a variety academy age groups and an administrator employed within senior academy management. Academy coaches and senior management were invited to voluntarily participate in the research through face-to-face conversations, following positive conversations coaches and administrators were provided with the relevant study information (research aims, objectives and methodologies) before providing written informed consent.

Qualitative data was collected through the medium of 1-to-1, semi-structured interviews. Adopting a semi-structured approach to the interviews provided the researcher with a general line of questioning that aimed to explore the research objectives but still offered a degree of flexibility to explore the emergent data in increasing depth through relevant and appropriate probing questions. The researcher plays a significant role in the interviewing process, their personal attributes, personality traits and interviewing techniques influence the depth and richness of information that is generated from the interview procedure (Gratton & Jones, 2004). Participants were

offered the opportunity to dictate the location of their interview with all participants recommending a semi-public meeting space within the academy buildings. The location where an interview is conducted may contribute to the depth of narrative construction undertaken by the participants during the gathering of data. Therefore, meeting within the academy buildings could potentially enhance the participant's effectiveness of constructing meaning and making sense of the experiences that transpired within the physical environment and thus generate deeper and richer qualitative insights (Herzog, 2012).

Data was collected in December, following the completion of the 2019 Club Academy Scotland (CAS) season which all coaches were actively engaged in. Each participant was provided with a copy of the interview guide a week before they met with the researcher to conduct the interview, sharing the proposed line of inquiry with the participants afforded them an opportunity to reflect upon their experiences throughout the current and previous seasons, and construct their thoughts and perceptions in a coherent narrative prior the entering the interview. Interviews were recorded via a Dictaphone and lasted between 36 and 84 minutes.

Interview Design and Procedure

To ensure the research aims were explored effectively, the data collection interviews were semi-structured in nature and were guided by a comprehensive line of inquiry, however the nature of the interviews also allowed inquisitive flexibility for the researcher to gather deeper insights from the interviewee's responses. Establishing a pre-determined line of questioning helped to guide each interview and provide a level of structural coherency across all participant recordings. In order to investigate the aims and objectives of this study, four main areas were explored through the structured line of inquiry;

> *Ice breaker*: general reflections related to the 2019 season, identifying the high and low points from a coach's perspective and their perceptions of what the players would consider as highs and low.

> > *Example*: "What were the challenging points of your season?"

Aspect 1: exploring the developmental experiences of their players throughout the 2019 season, detailing their perceptions of the challenges and pressures that players face and highlighting specific examples of players who they deem as having successfully developed and those that may have developed less than expected.

> *Example*: "Are there any players who have had an especially challenging season?"

Aspect 2: identifying the developmental behaviours demonstrated by their players when they were faced with and/or in the midst of challenging experiences during the season and also their perception of such behaviours as develop enhancing or limiting.

> *Example*: What behaviours did you see from the players who developed the most/in your squad?"

Aspect 3: distinguishing the developmental behaviours and characteristics of players who successfully progressed through the academy into the professional level and those who were deselected form the academy in the past.

> *Example*: "From your experience, what characteristics do you see in players who have successfully progressed to the professional level?"

Aspect 4: unearth the coaches' perceptions of competition within talent development, explore the perceived role that competition plays in developing young players and identifying the player's behaviours in competition that were development conducing and inhibiting.

> *Example*: "What role do you think competition plays in the development of young football players?"

A variety of appropriate prompts were used throughout the interview process to ascertain a greater depth of insight from the interviewee responses. Prompts were used in various ways to encourage elaboration, to seek clarification and to elicit a greater level of detail from the participants (Patton, 2015; Sparkes & Smith, 2013).

Aspect 1 example prompts:

> "Why do you think this was such a significant challenge for [player x]?"
>
> "How do you feel this experience has influenced their overall footballing development over this season?"

Aspect 2 example prompts:

> "Were there any behaviours that you witnessed from an individual player when faced with a challenging experience that maybe differed from their peers?"
>
> "Can you recall any approaches that a player utilised to cope with challenge this season that maybe did not aid their ability to cope in the situation?"

Aspect 3 example prompts:

> "Have you witnessed players attempting to use [x behaviours] within your current group of players?"
>
> "What are some of the behaviours that you have witnessed players using this season that you felt were not helpful in aiding their development?"

Aspect 4 example prompts:

> "How have you used competition as a coach this season to help your players develop?"
>
> "How do you feel players perceive competition, does this align with the coaches and academy intentions?"

As outlined in the previous chapter, the researcher possesses a significant role in the design and actioning of all data collection procedures. Through the facilitation of the interview process, the researcher assumes the role as a 'co-creator of knowledge', helping the participant to apply meaning to their thoughts, feelings and experiences by actively listening and engaging in a two-way discourse. As a member of the academy coaching staff, and considering the nature of the participating individuals, the researcher was extremely cognisant of how their personal role, relationship with participants and personal feelings may restrict, or enhance the depth and quality of the gathered data. From a relational perspective, the researcher was aware of how prior

relationships with participants may limit their willingness to disclose personal perceptions or feelings that characterise or portray the academy environment, those within the environment or the development processes in use in a negative manner. Conversely, these prior relationships, and the possible trust developed between the researcher and participants can also enhance the openness within the interview process. Due to their own proximity to the environment and processes under inquiry in this study, the researcher was aware of how their own subjective perceptions, feelings and beliefs may influence the collection of data. The nature of qualitative research does however recognise the foundational influence of the researcher's subjectivity on the quality of the research process and data interpretation. Therefore, the researcher embraced and accounted for their own subjectivity within the data collection process to ensure personal thoughts, feelings and beliefs did not restrict the interview process but allowed for deeper, meaningful insights to emerge.

Data Analysis

A reflexive approach to thematic analysis (TA) was adopted to analyse the data collected from the interviews with the academy coaches. Thematic analysis was identified as the most appropriate method of analysis due to the ability of the approach to simultaneously identify and utilise both semantic and latent codes within the theming process (Braun & Clarke, 2006, 2019, 2021a). Additionally, Braun and Clarke (2019, 2021b, 2021c) recognise the significance and inevitable influence of the researcher (and their biases, values, philosophical stance, and experiences) on the analysis process. The nature of reflexive TA places the analyst/researcher at the centre of the analysis process, the researcher is active in the duty of attaching meaning to data in the form of codes and comprising themes of related codes (Braun & Clarke, 2019, 2021c). As an active participant in TA, the researcher generates knowledge and findings as a result of the decisions made within the coding and theming process and also as the researcher reflects on such decisions, before potentially adapting and adjusting previous analysis decisions (Braun & Clarke, 2019, 2021c). Reflexive TA recognises the epistemological and philosophical stance of the researcher, and also how personal biases, experiences and values may significantly influence the decisions made within the analysis process (Braun & Clarke, 2019, 2021c, 2021b). Therefore, this approach looks to utilise the experiences of the researcher in a positive, facilitative manner to aid the degree of

practicality within the research findings and potential implications for the football academy.

Throughout the data analysis and interpretation phases the researcher was acutely aware of their own subjective perceptions, beliefs and feelings towards the area under investigation. As an employed member of academy coaching staff, the researcher has previously developed and applied meaning to their own experiences within the academy environment. Reflexive TA celebrates and encourages the presence of researcher subjectivity within the coding, theming and narrative development phases (2019, 2021b, 2021c). However, the researcher sought to ensure that analysed themes were inductively anchored in the raw data and borne from the researcher's subjective interpretations of the coded data. Seeking to avoid a thematic hierarchy that was subjectively skewed and agreed with the researcher's own views and experiences in the academy environment.

Data was subject to a reflexive thematic analysis process that sought to generate high and low order themes from an initially inductive, theory driven perspective. However, recognising the role of the researcher in the analysis process and, the subsequent knowledge and experiences they possess, the analysis process cannot be exclusively inductive therefore a degree of deductive analysis will develop due to such influences within the decisions made and reflexivity within the analysis of data (Braun & Clarke, 2019, 2021c). Additionally, the early work of Braun and Clarke (2006) was used as a base analysis framework and will be utilised below to present the procedural steps taken within this data analysis (table 6.1). However, it is important to note the framework was not followed rigidly and was used as guidance to ensure the complete process was adhered to, utilising reflexive TA resulted in a more fluid approach to the TA and therefore resulting in a 'messier' analysis process (Braun & Clarke, 2019). Braun and Clarke (2019, 2021c) encourage researchers to adopt a methodological perspective that affords a high degree of fluidity within the thematic analysis process, allowing for reflexivity and critical dialogue to inform and refine the identified codes and themes within the data set. Therefore, a critical friend, who is an extensively experienced and recognised researcher within talent development and talent development environment

literature, was recruited to provide critical discourse and constructive guidance throughout the analysis and interpretation processes (Smith & McGannon, 2018).

	Procedural description	Procedural processes undertaken in the current study
Phase 1: *familiarisation*	Immersion and familiarisation with data, developing an appreciation for the breadth and depth of data	- Creation and development of interview framework - Active participation in conducting and leading 7 semi-structured interviews - Transcription of all 7 interview audio recordings - Initial checking and reading of transcribed interviews
Phase 2: *initial code generation*	Attachment of 'codes' or units of meaning to data extracts	- Use of rough notes taken during initial reading of transcripts - Connection of descriptive meaning codes to data extracts - Use of a critical friend to partially code two full transcripts of data and discuss coding format until reasonable agreement was reached
Phase 3: *theme identification*	Collation of related codes into potential 'themes' within a hierarchical structure	- Identification of codes with similar meanings throughout the data - Recognition of patterns within the data set (within and across cases) - Formulisation of an initial theme hierarchy/map - Presentation of initial themes and theme structure/map to critical friend followed by discussion relating to the themes and determined meaning attached to presented themes.
Phase 4: *theme review*	Reviewing the appropriateness of identified themes against the meaning of initial codes	- Re-reading and reviewing meaning of each data code within the identified themes - Constructive discourse with critical friend to ensure thematic structure/map and appropriately reflects the raw data extracts
Phase 5: *definition and naming of themes*	Explicitly defining and naming identified themes to effectively illustrate insights from the data	- Defining themes explicitly in order to accurately capture the meaning extracted from the raw data codes - Naming themes appropriately to capture the insights attached to high- and low-level codes - Utilisation of a critical friend to 'tell the story' of the data, engagement in constructive discourse until reasonable agreement was reached
Phase 6: *theme reporting*	Utilisation of compelling data extracts to demonstrate the insightfulness of the data and support the research narrative	- Clear reporting of the data within the identified thematic hierarchy - Integration of insightful data extracts to compliment the reporting of results

Table 6.1: Thematic analysis procedural definitions and process used in the current study, adapted from (Braun & Clarke, 2006)

Rigour and Trustworthiness

Throughout the methodological design, data collection and data analysis procedures of this current study, specific steps were taken to ensure credibility and replicability of the research process and trustworthiness of the research findings (Burke, 2016; Smith & Caddick, 2012). However, by selecting a reflexive approach to TA, it is therefore not

possible to completely remove the researcher's subjectivity from the analysis process rather the researcher's experiences and biases inform the decision making and knowledge generation process which is regarded as a strength of reflexive TA (Braun & Clarke, 2019, 2021c). Steps were however taken to ensure collected data accurately represented the social dialogue that was undertaken between participant and researcher. Following the transcription of each individual audio recording, participating coaches were provided with a short summary of the main points of their interview and asked to confirm these accurately reflected the contents of the research interview. The utilisation of member checking was employed to ensure the transcribed content and summarised findings of each interview were correct and therefore provided a credible foundation to analyse from (Thomas & Magilvy, 2011). All interviewed coaches agreed that the returned summaries accurately reflected the main points discussed in the research interview.

To add rigour to the analysis process, an experienced talent development researcher was recruited to the study to act as a critical friend that guided and constructively engaged with the analysis process (Smith & McGannon, 2018). The extensive methodological and analytical experience of the critical friend was an important asset to ensuring the appropriateness, validity and trustworthiness of the data collection and analysis processes. However, it is important to note that as with the researcher, the critical friend also possesses a unique set of personal believes, values, philosophical and epistemological stances and experiences within both applied sport and academia. Therefore, although the inclusion of a critical friend seeks to increase the accuracy and appropriateness of the interpretations and decisions made by the researcher within the analysis process, the critical friend does add another degree of subjectivity due to their own experiences and personal beliefs. Within the analysis process, the critical friend was initially utilised within phase two of the thematic process, where two transcripts were provided and coded in parallel with the researcher. The nature and type of codes were compared and discussed until satisfactory agreement was reached. The constructive dialogue and outcomes of engaging with a critical friend in this phase encouraged reflexivity and provided guidance for the continuation of the coding process. Latterly, the critical friend contributed significantly to phases three, four and five of the analysis process, frequent in person meetings and regular online dialogues were utilised to share

ideas and extracts of analysed data before engaging in extensive discussions to further refine and validate the analytical decisions taken by the researcher.

Results and Discussion

Following the inductive, thematical analysis process, six prominent data domains emerged from the data:

1. Indicators of Academy Success: Win Now or Win Later?

2. From Prospect to Professional: Providing an Appropriate, Individualised Development Pathway

3. Academy's Systematic Utilisation of Competition to Aid Development: To 'Stress and Stretch'

4. Pedagogical Approaches to Developing Talent: The Role of The Academy Coach

5. Psychologically Derived Behaviours and Traits: Commonalities of 'Good Developers'

6. Supporting the Developing Player: The Role of The Parent

The following section will present the emergent themes within each of the six data domains alongside descriptive explanations and exemplar raw data quotes to provide context and support for the identified themes.

Table 6.2: Thematic hierarchy of data relating to coach perceptions of the academy environment and development process

General Data Domains	High order themes (level 1)	Low order themes (level 2)	Lower order themes (level 3)	Lowest order themes (level 4)
Indicators of Academy Success	Longitudinal Outcome Measures			
	Outcome Milestones	Nested outcome milestones		
		Conflict of Agendas Relating to the Perceived Importance of Winning		
From Prospect to Professional: Providing an Appropriate, Individualised Development Pathway	Design and provision of an appropriate development pathway	Provision of Quality Opportunities		
		Individualisation of development	Recognising the Idiosyncrasies of Non-Linear Academy Development Journeys	
			Stage-Specific Academy Related Challenges	
			Normative Childhood and Adolescent Related Challenges	
			Instances of Serendipity on the Development Pathway	
Academy Approach to Effective Talent Development Through Competition: To 'Stress and Stretch'	Systematically Designing and Utilising Competition to Catalyse Player Development	Appreciation of How Stress and Challenge in Competition can Act as Developmental Catalysts		
		Competition as a Key Opportunity to Stress and Stretch Players		
		Evolution of Competition	Playing to learn	Development focused Intentions
				Cultural challenge
			Learning to win	Introduction to 'winning'
				Development of Highly Competitive Academy Players
			Playing to win	Experience and Exposure to Professionalised Competition Pressures
				Replication of the Demands and Pressures of Professional Football
				Utilisation of a 'Playing to Win' Approach to Inform Professional Contract Decisions
		Systematic Integration and Manipulation of Competition Stressors	Manipulation of Maturational (Dis)Advantages	
			Manipulation of Tactical Variables	

General Data Domains	High order themes (level 1)	Low order themes (level 2)	Lower order themes (level 3)
Pedagogical Approaches to Developing Talent: Role of the Academy Coach	Consistent Pursuit of Innovation and Reflection of TD Approaches		
	Developing Relationships to Know the Person to Develop the Player		
	Provision of Appropriate, Individualised Support		
Psychologically Derived Behaviours and Traits of Effective Developers	Internalised, Task and Mastery Motivational Approach		
	Relentless Desire to Maximise Development Opportunities	Relentless Need to Develop and Seek Learning Opportunities	
		Positive Appraisal and Embracing Challenge	
		Ability to Continuously Work Hard is Foundation Development	
		Self-Directed Additional Training and Learning	
		The Act of Seeking and Digesting Feedback to Inform Future Learning Behaviours and Approaches	
		Implementation of Feedback to Drive Development Through the Setting Goals and Reflection	
		Cognitive Engagement in All Academy Activities	
	Assuming Responsibility for Personal Development		
	Competition Behaviours	Competitive Nature to 'make things happen'	
		Team facilitating behaviours	Understanding of the Role and Importance of Being a Good Teammate. Leadership
Supporting the Developing Player: The Role of The Parent	Development Supportive Parental Behaviours	Supportive, Yet Constructively Critical Positively Inquisitive	
	Overly Protective Parental Behaviours		

Indicators of Academy Success: Win Now or Win Later?

The ultimate success of the football academy was centrally aligned with developing talented youth prospects into senior athletes. This section presents the indicators of long-term academy success and the pressures associated with producing professional players and the short-term milestones that allow coaches to monitor their progress towards this ultimate objective.

Longitudinal Outcome Measures

The participants outlined that the success of the football academy and their coaching competency is judged by the number of young players who graduate from the academy into the senior environment, particularly within the football club. The under 18s head coach expressed this strong belief which may influenced by his position at the top end of the academy and one step from the first team environment.

> *"See, for me, I am not judged on myself… it doesn't bother me not being judged on myself, I am quite happy for me to be judged on what kids come through here and how many progress and how many get into the first team here but also how many make progress to a first team elsewhere…. But our biggest goal is to get them into our first team and that's where I am judged and that's how I'll be, as a coach, that's where we should all be at this academy judged as if we are successful or not, if we can get players to the next level and the next stage because ultimately that is the goal and that's why we are here"* **[U18 head coach]**

The transition from youth to senior football is identified within research as a particularly complex and dynamic process that challenges young athletes to cope with and conform to sociocultural demands and expectations (Finn & McKenna, 2010; Røynesdal et al., 2018). Successful youth to senior transitions require athletes to possess and utilise appropriate psycho-behavioural characteristics and coping strategies (Finn & McKenna, 2010; MacNamara et al., 2008; Swainston et al., 2020). The academy environment, specifically coaches and the development curriculum, can prepare players to successfully transition by providing the required social support and opportunities to develop essential psychological competencies (MacNamara et al., 2010b; MacNamara & Collins, 2013; Morris et al., 2015).

The progression of players from youth to senior level through the academy age groups is one that is viewed by all coaches as a long-term process. This limits the immediateness of feedback provided to the academy staff and may not accurately represent the shorter-term progress made with the academy.

"the biggest marker for a clubs academy should be the players playing in the first team which isn't necessarily a representation of that 12 months in an academy setting but I think if you are not getting players through and playing in the first Team then…. how good is your academy?" **[academy director]**

Considering the stature of the football club, the academy plays a crucial role in the success of the senior team due to the limited transfer funds available to sign external players, therefore a greater emphasis is placed upon the 'production' of home-grown players. Over half of the interviewed coaches articulated some form of pressure associated with trying to achieve the ultimate aim of producing young players for the club's first team.

"Yeah there is always pressure, you are going to have to produce players at some point otherwise you are not doing your job properly. The challenge is it does take time, it takes years" **[U16 academy coach]**

Organisational pressures and stressors are a common consequence of coaching within high-pressured, professionalised environment (Olusoga, Butt, Maynard, & Hays, 2010; Thelwell, Weston, Greenlees, & Hutchings, 2008). Such pressures are more frequently associated with the elite, win-at-all-costs level, however academy football coaches are also known to perceive the performance and rate of development of athletes as a prominent, consistent pressure from senior stakeholders (Dixon & Turner, 2018).

Outcome Milestones

In order to monitor the academy's effectiveness in relation to the ultimate objective of developing players to compete in the senior squad, academy coaches highlighted various short-term, nested milestones that they used to determine how successful their current TD approaches were and how this would contribute to the longer-term success of developing professional players.

Nested outcome milestones. Full-time contracts are awarded to players deemed as possessing potential to play at the professional level upon graduation from the academy age group structure (U16). Academy staff utilise this milestone of full-time contracts as an indicator of how many players have successfully developed and transitioned through the academy structure. This milestone is also viewed as a predictor of how many players may reach the senior squad from a particular graduation year as senior squads are chosen from those that are under full-time contract to the club.

> *"I think the longer term is how many players can you get in that first team environment, how many players are going to get a full time contract whether it's here or whether it's a bigger club"* **[U13 academy coach]**

The number of players progressing to the next academy age group at the end of each season was highlighted by coaches as a measure of how successful the development of players has been within a specific year. Coaches seek to try and progress as many players as possible at the end of each season to ensure a pool of high potential players is available for coaches at the older age groups to develop further.

> *"I think that's one part of the success. But I think it's also having success of players moving up, I think that's the main one, it's having that consistence of when players are moving up together"* **[U14 academy coach]**

Research based in German football academies, appears to contradict the use of continued age group progression as an accurate indicator of the number and likelihood of players graduating from the academy to the professional level (Güllich, 2014). With the probability of remaining within a football academy for more than three years below 50%, those who reached the elite level in German football had experienced repeated procedures of selection and deselection from football academies (Güllich, 2014; Güllich & Cobley, 2017).

The visible improvement of players was identified by coaches as possibly the most accessible and readily available indicators of how effective their current approaches to TD are. The opportunity to observe player improvement from a week-to-week or month-to-month basis allowed the coaches to adapt or alter their approaches to ensure that longer-term markers of success were achieved. All coaches articulated the importance of ensuring that their players improved upon their current capabilities from the beginning to the end of each season, the subjective assessment of player improvement enhanced the likelihood of progression within the academy and towards the professional level.

> *"if we are making players better than we are doing our jobs so do that and we are going to get players playing either up age groups or getting full time contracts"* **[U13 academy coach]**

Ultimately, the role of an academy coach is to holistically develop the competencies of the young players in order to progress towards footballing excellence, however the lack of linearity in the development of sporting ability is widely recognised within academia

(Abbott et al., 2005; Gulbin et al., 2013). The above data extract shows that academy coaches do not appear to acknowledge this non-linearity, which may reflect the underlying criteria for progression within the academy as one that is focused on current performance and rate of progression.

Considering the numerous stakeholders involved in selection, progression and deselection decisions within TDEs, the level of player improvement can be a subjective assessment. As such, one coach commented that they gathered feedback from their players in order to ascertain how each individual perceived their own improvement over the course of a season.

> *"I think it's judged really by the feedback that you get from the players, whereas previously I used to think it was judged on the feedback that I would get from like management or like external parties, if that makes sense?"* **[U15 academy coach]**

> **Conflict of Agendas Relating to the Perceived Importance of Winning.** It was clear from the data that the coaches do not perceive age group success as a marker of long-term development. One coach outlined that there are many compounding variables for success at age group level, highlighting player improvement as key.

> *"Developing players is definitely not about if you have won more games, if you won 75% of games, there are so many factors that come into that physicality at 15s and 16s it's a huge thing in 15s and 16s that you can't always win games, you are not going to win a lot of games depending on what group you have got but they will hopefully all be improving"* **[U16 academy coach]**

The de-emphasis of age group success was recognised by Martindale and colleagues (2007) as an important aspect that aided a long-term approach to development which characterises effective talent development environments. Early age group, or youth international, success does not predispose senior sporting success (Barreiros et al., 2014; Gulbin et al., 2013), specifically only a quarter of age group internationals progress to represent at the senior level (Güllich & Cobley, 2017). However, several coaches did comment that a perceived pressure to win games from senior administrators was present in their coaching roles. The apparent pressure to win games led coaches to believe that management placed a greater emphasis on short-term success and accolades more than the need to develop players. This resulted in coaches questioning their coaching capabilities and presented feelings of insecurity in their academy roles.

"It depends on what kind of pressures are coming from above, so sometimes the questions that you get asked maybe imply that management want you to win games rather than they want you to develop players, there has been probably less clarity on that in the last year or so" **[U15 academy coach]**

"That was really low because then I started to wonder like if what [other U15 academy coach] and I were doing was right, and the first time really I have ever kind of felt that way. We were getting a lot of pressure from management and we were kind of like the age group in the academy that wasn't really cared about. I kind of certainly felt that way myself that if we don't turn things around quickly then I could be out the door, which was tough on me" **[U15 academy coach]**

The perceived pressure to attain good team performances and competition outcomes is extremely counterintuitive to the overall objective of the football academy to develop professional, first team players. Recent research reinforces the perceptions of the coaches in the current study in that senior administrator's evaluations of coaching ability are directly linked to the players' and team performance (Dixon & Turner, 2018).

From Prospect to Professional: Provision of an Appropriate, Individualised Development Pathway

Design and Provision of an Appropriate Development Pathway

Provision of Quality Opportunities. The design and availability of an appropriate developmental pathway that provides the talented academy players with the correct number and quality of opportunities to achieve sporting excellence was articulated by the academy director. To achieve the football academy's primary aim of developing highly competent young players that can successfully compete at the professional level, opportunities must be available for players to experience stressors, struggles and success to aid their progression through the academy pathway and during the transition to senior football.

"You could almost have a really good academy that produces players to a point but they don't get an opportunity, but I think we have always tried to give them opportunities and ensure there is a clear pathway for them to progress through the academy and develop into, hopefully a first team player" **[academy director]**

To be of high-quality and facilitate the development of elite athletes, pathway opportunities – that naturally emerge from the environment and those that are systematically integrated – need to provide aspiring athletes with a depth and breadth of ongoing, diverse experiences that challenge players on and off the pitch (Collins & MacNamara, 2017a; Martindale et al., 2007). The nature, quality and quantity of the

development opportunities and pathway efficacy is determined by the quality of the talent development environment created by current and past stakeholders (Ivarsson et al., 2015; Martindale et al., 2007, 2013). Therefore, the academy staff, senior stakeholders and management possess the ability to enhance the learning provisions and opportunities available to players through a systematic integration of key and/or supplementary development opportunities.

Individualisation of Development. The primary academy objective and the identified indicators of academy success, although slightly conflicted, appear to reflect the importance of developing individual players for the senior team, over developing successful academy age group squads. Therefore, unsurprisingly the nature of the academy environment reflects this with coaches predominantly focused on developing specific competencies of individual players within whole team training sessions.

> *"I think the players would probably look at themselves more than the team as a whole and I think that's probably, I think it is probably a reflection on the environment. Because at the end of the day it's about the individual developing and, you know, we spend a lot of time with them talking about individual things"* **[U12 academy coach]**

Our academic understanding of effective talent development procedures and pathways recognises the need for a highly individualised approach rather than a blanket, 'one size fits all' method (Abbott et al., 2005; Martindale et al., 2007). Tailoring development opportunities and pathway provisions to the competencies, development needs and inherent characteristics of young players is important to facilitate sporting development and fulfilment of potential (Martindale et al., 2005). However, one coach highlighted a potential danger with an over emphasis on specific individual players, termed 'top' players, commenting that a focus on individualised development for *all* players is important because many of the players who make it to the professional level were not top performers at age group stages.

> *"I think we are kind of going down the route where it's like make the top players better but a lot of the players that are there in the first team now are actually players that were middle of their group. So for me at 14s it's about making everyone better and I think as they go up the academy then that top gap then starts to get smaller and smaller"* **[U15 academy coach]**

Martindale and colleagues (2007) express the importance of providing *open* development opportunities that are available to as many players for as long as possible

to ensure high potential, late blooming players are not discounted early through deselection. Early, age group success and current ability are widely recognised as poor indicators of future potential (Barreiros, Côté, & Fonseca, 2014; Gulbin et al., 2013), therefore narrowing the scope of development to focus on *'top'* players will likely to prove problematic and counterinitiative in the long term due to the dynamic and instable nature of ability and development of youth athletes (Abbott et al., 2005).

Recognising the Idiosyncrasies of Non-Linear Academy Development Journeys. The academy stakeholders articulated their understanding that the development journeys of talented academy players are non-linear, idiosyncratic and dynamic with very few experiencing a 'direct path' to becoming a professional football player. Experiencing highs and lows across football and life is normal. The academy director highlights their awareness of the unique challenges presented to each individual player on their journey through the academy.

> *"It's a kind of good story about players having dips and finding it tough and then coming back. There's probably a lot like that and I think that's the nature of developing young players that it's not a straight journey that it's a journey full of challenges at home, at school, at the club, physically are they growing or not growing and are they playing or are they not playing. They could be the favourite one month and not the next month, I think that's just the challenges they have to deal with but what I am proud of here is that we try and help them through it"*
> **[academy director]**

Linearity of progression from junior to elite sport is incredibly rare, trajectory research highlights the pathway to the top is dynamic and non-linear, with descents in the journey most common of those who reach the elite level (Gulbin et al., 2013). Trajectory data collected and presented in the previous chapter (study 3) explicitly demonstrates the idiosyncrasies and non-linearity of a seasonal development journeys of the players who are coached by the interviewed coaches in this study. Acknowledging the non-linearity of the academy players' development journeys may result in stakeholders delaying deselection decisions of regressing players and affording opportunities for continuing participation within the football academy. Adopting a long-term approach to development is a crucial aspect of an effective talent development environment, continuing to provide players with quality learning provisions and opportunities allows for the overcoming of challenge and eventual fulfilment of potential (Martindale et al., 2007, 2010).

Stage-Specific, Academy Related Challenges. Successful navigation of the academy pathway requires the talented prospects to tackle, deal with and overcome the journey troughs commonly induced by challenges and pressures that naturally emerge along the journey but may also be systematically integrated, to enhance player development (Collins et al., 2016a; Collins & MacNamara, 2012). The academy journey can be naturally segregated into smaller stages that may relate to one or multiple age groups, characterised by their own unique, stage specific challenges and pressures that may be influenced by physical, maturational, or sociological variables. The onset of maturation and puberty can pose significant challenges for both early and later developing players due to physical discrepancies between players and the potential for technical disparities within academy age groups.

> *"Because they [small, later maturing players] are the ones that are under high stress I think a lot because they are having to fight to keep a hold of the ball all the time. Whereas the bigger ones aren't kind of experiencing that same stress, so I think potentially, although the smaller players in our group, [U12 player] for example hasn't had a great season, you could actually say for his size and his physicality, has he actually done really well actually to compete at that level? So in the long run it could be really good for him"* **[U12 academy coach]**

Variations within age group cohorts relating to the birth month and/or onset of puberty, possess the potential to afford short-term, competition advantages to earlier born and/or earlier maturing players. Later born and/or later maturing players may experience physical disadvantages and therefore perceive competition experiences as much more challenging. However, longitudinal research demonstrates the positive developmental outcomes that manifest from the challenges associated with being born later and/or experiencing the onset of puberty later than their peers (Kelly, Wilson, Gough, et al., 2020; McCarthy & Collins, 2014). Players who can overcome these developmental challenges are found to be likely to *'make it'* due to their ability to compensate for their physical shortcoming by developing effective self-regulatory skills, a resilient psychological framework and a more proficient technical and tactical skill set than their older peers (Cumming et al., 2018; McCarthy & Collins, 2014).

During periods of intensive maturation, coaches reported that academy players are susceptible to overuse injuries that may stem from their rapid physical growth and lead to extended periods spent on the side-lines and in the rehab room. This can result in psychological and football specific developmental challenges that may impact a player's ability to fulfil their footballing potential.

"Yeah two players in particular, [U13 player A] and [U13 player B] both kind of suffered the same problem with injury and growing. So [U13 player A] started the season relatively well, he picked up a really bad injury three or four games in and couldn't quite shake it off, I think [U13 player A] only played 10 or 11 games throughout the season and [U13 player A] was a player who the previous season was one of my best players. But because he missed so much football he couldn't really get a rhythm, he couldn't really get a pattern which then made it difficult for him to progress and improve" **[U13 academy coach]**

The physical demands and elevated training loads that academy players are exposed to contributes to an increase in the likelihood of sustaining muscular injuries and reduced player perceptions of well-being (Brink et al., 2010; Noon et al., 2015). Therefore, extended time of the rehab table is not unusual for academy players. Injuries were recognised as a prominent pressure and 'bump' in the development journey of talented prospects, disrupting development and resorting in a perceived increase in pressure of deselection (MacNamara et al., 2010b). The pressure of deselection is a consistent pressure academy players must live with due to the insecurity of their places within the football academy. Characterised by high annual turnovers of players from ongoing recruitment and selection processes, deselection is a very real and looming threat the academy players must deal with. This 'threat' is however utilised by academy coaches to motivate their players and reinforce positive developmental behaviours.

"After releasing a few players I think when we went back to training and they knew they weren't safe, they just worked harder, like we just seen a massive increase in their work rate, there was more desire to learn, they were listening more" **[U15 academy coach]**

Academy coaches rely on the symbolic power they possess within the academy environment as 'gatekeepers' to the players' progression and key stakeholders in deselection decisions (Cushion & Jones, 2006). Coaches appear to utilise of the looming pressure of deselection to manipulate and reinforce the behaviours of players, assigning social capital to those who conform and adhere to the espoused values and cultural expectations (Cushion & Jones, 2006). Accumulation of social capital resulted in gaining the favour of coaches and thus distanced the player from the academy exit door and strengthened their opportunity at academy progression and graduation (Clarke et al., 2018; Cushion & Jones, 2006). For some, the unpredictability and resultant competitiveness for places within the academy and more specifically age groups may negatively influence their progression, enjoyment and ability to perform in competition.

"For example [U14 player], he has put in his review that he didn't start a game in [oversees tournament] because an older one came down and took his place, so that for him the first six months of this season was tough" **[U15 academy coach]**

Ultimately, the developing players all desire to graduate from the academy and sign a professional contract. As players successfully progress through the academy age groups, the likelihood of receiving a professional contract is increased, as is the competition for academy places. With players reaching the latter stages in the academy (U15 & U16 specifically), there exists a pressure to demonstrate a *consistent*, high level of competency and an ability to perform well in high-pressure games to academy stakeholders who make decisions pertaining to which players are offered professional contracts. One under fourteen's coach explained the importance of this period to the players and highlighted the degree of pressure that is applied to them during their final few years of academy eligibility.

"The most challenging I think is dealing with the pressure, I think this becomes a really important stage of the academy is probably this end of it because to be honest at this time they have probably got the best part of a year, 18 months, to try and get their full-time contract at the club" **[U14 academy coach]**

The pressure to secure a professional contract is not unique to the current environment, research has identified competition for contracts as one of the most prominent pressures experienced, but only by middle to late stage academy football players (Reeves et al., 2009; Swainston et al., 2020). During this academy stage, the anticipated consequences from undesirable competition behaviours (i.e., misplaced passes, making poor decisions, handling errors) and the consequential effect on acquiring a professional contract were more stressful than positive feelings after the successful execution of said behaviours (Reeves et al., 2009). The pressure associated with securing the first professional contract was perceived by academy coaches as a salient experience that players needed to face and overcome as this replicated some of the demands present within professional football (Mills et al., 2012).

Normative Childhood and Adolescent Related Challenges. Outside of the academy environment, the young players experience the normative challenges and pressures associated with navigating childhood and adolescence. The nature of such challenges are commonly age and academic stage specific with the presence and magnitude of such challenges having a potentially negative impact on the rate of

development and/or commitment to academy activities. Coinciding with the hormonal and physical changes incurred by the onset of puberty and the subsequent academy specific challenges, academy players also experience significant academic challenges and transitions at this time with a move from primary to secondary schooling which brings new social and educational demands.

> *"There is a lot of changes occurring in that period of time [U13 age group], not just on the pitch but off the pitch as well. A lot of them go from primary school to secondary school, a lot of them start going through their growth and stuff like that so it's how you are there for them not just on the pitch but off the pitch as well. I think that has a big bearing as to how they progress going forward"* **[U13 academy coach]**

Transitioning from primary to secondary school was identified as a substantial transition within a child's young life, specifically social, environmental and academic demands posing the most significant challenges within the transition (West et al., 2010). New social demands such as trying to make new friends and instances of bullying were prominent stressors that negatively affected the self-esteem and well-being of transitioning pupils (Topping, 2011; Zeedyk et al., 2003). Successful navigation of this within career, academic transition relies upon the presence and deployment of appropriate psychological resources and coping strategies (MacNamara et al., 2008, 2010b). During this academic transition, academy players are also subject to additional academy specific and childhood challenges such as maturational changes and their effect on football performance.

Additionally, as players progress towards possible graduation from the academy and attempt to navigate the associated challenges (i.e., deselection and contract pressures), academic workloads and pressure is increased due to the proximity of formal examinations. With contract decisions looming and the resultant intensified levels of scrutiny within the football academy, academy players must manage and deal with both heighted academic and academy pressures.

> *"And it's also probably having the challenges at school as well because that's when they start doing their exams and everything like that so they have got that outside pressure. I think it's dealing with all the different pressures, there is going to be more put on them…, I think that's probably the biggest challenge for this group"* **[U14 academy coach]**

The proximity of academic examinations intensifies the pressures and difficulties of maintaining a dual-career in school and football, this is further heightened by the perceived need to increase training commitments which stems from the pressure of pending professional contract offers (Christensen & Sørensen, 2009). Research demonstrates a variety of steps taken to allow talented prospects to excel in both sport and academic domains during periods of intense stress and load (Bjørndal & Gjesdal, 2020; Knight et al., 2018). Football academies attempt to surround the dual-career athletes within a cohesive, holistic environment where major stakeholders are integrated within a clear communication structure where the demands placed upon the athletes is shared and well-being is monitored (Aalberg & Sæther, 2016; Curran et al., 2021; Larsen et al., 2013; Webb et al., 2016).

Outside of school, players may experience adverse familial situations such as parental separation or family illness which may inadvertently impact their commitment to non-essential activities such as their footballing development. For example, one player in the under twelve age group experienced a significant dip in performance and development over the current season which was later attributed to a period of being bullied at school and an illness in his family.

> *"[U11 player] is another one who is an under 11, who was doing really well and playing up a lot with the under 12 but he went through a dip and took a bit of criticism in terms of the dip from various quarters and various staff which coincided with the fact he was being bullied and school then straight after that I think his gran had cancer and there was some other issues in the family so he found it really tough but hes come through that to be one of the stand out players at under 11s and towards the end of the season he has played back up with the under 12s again"* **[academy director]**

Instances of Serendipity on the Development Pathway. One coach described that academy players must experience a degree of 'luck' along the development journey to open additional development opportunities which will likely improve their chances of reaching the professional level. References to 'luck' related to performing at a high level when specific coaches were observing and thus receiving positive, subjective appraisals of performance. Luck also was considered as capitalising on another, typically older, players misfortune when an injury was sustained. Such misfortune for one player may present an opportunity for a 'lucky' young player to experience training and competition with an older age group or the senior team.

"So say I am a 15 year old boy and a boy who is say full time and he's the captain at under 18s and he gets a bad injury, there is potential there that I could get that step up because he's got a bad injury. He might be out for 9 months so if I can progress I can eventually take his spot, so that would be one area of luck." **[U14 academy coach]**

Research reinforces the influence of serendipity or chance on the creation and availability of an appropriate development pathway, injuries and congested talent pathways were the most prominent factors that negatively influenced the chances of selection and progression within institutionalised development programmes (Gagné & Schader, 2005; Taylor & Collins, 2019). In reference to 'luck' within the talent development process, Norwegian professional players who successfully navigated the academy system attribute luck as an outcome of hard work, in that 'luck' was created by the individuals dedication to their footballing development and available opportunities were seized upon accordingly (Augestad et al., 2021).

Academy's Systematic Utilisation of Competition to Aid Development: To 'Stress and Stretch'

Systematically Designing and Utilising Competition to Catalyse Player Development

Appreciation of How Stress and Challenge in Competition can Act as Developmental Catalysts. From the data, both 'stress' and 'challenge' appeared to play a significant role in the academy's philosophical approach to developing future professional football players. All academy coaches spoke of the importance of stressing players beyond their comfort zones and stretching them to "their maximum" in competition to induce developmental improvements.

"we need to push players a little bit, push players up and take them out their comfort zone and make it difficult because we know if we keep them in that little zone of comfort they don't progress, they don't see that creativity and edge when they are not challenged mentally so they need to face difficult challenges" **[academy director]**

Talent development literature cautiously establishes the importance of challenge and stress within development pathway, such experiences are appropriate and developmentally facilitative when young athletes who possess the psychological competencies and behavioural resources to cope with and function, to some extent, are exposed to them. Collins and MacNamara (2012, 2017c) suggest that the talent development journey 'needs' challenge to catalyse the development of psycho-logical, -social and -behavioural competencies that are required to navigate the pathway and

excel at the top level. Professionalised talent development environments recognise this need for challenge within their systems and pathways, however opportunities to source and expose talents to such experiences can be difficult to find, and manufacture (Douglas & Martindale, 2008).

Competition as a Key Opportunity to Stress and Stretch Players. The competitive games programme that all academy players partake in presented a plethora of challenges and consistently exposed the players to a variety of diverse and dynamic stressors that the academy believes significantly contributes to the development of talent. The quality of the competition experiences and the available learning opportunities are underpinned by the learning and coping approaches adopted by the players (behavioural and motivational) and the quality of challenge provided by opposition players and teams.

> *"It [competition] allows the players to solve those problems from what they are used to and I think that's what then helps even more because that's part of their development, solving problems in the game. Because in a game with so many different variables and challenges which then you have solve them and I think by putting them out of their comfort zones in these different competitions and tournaments and all that, it gives them that opportunity to do that"* **[U14 academy coach]**

The academy coaches' emphasis on "solving problems" was prominent throughout all interviews, with high-quality competition perceived to present many highly complex problems that players must solve and learn from. However, within pre-prescribed competition programmes that are centrally controlled by national associations, the quality of competition may vary dependent on the sport-specific competencies and characteristics of the opposition. Inappropriate, less challenging competition experiences possess the potential to negatively impact the development of academy players, thus emphasising the need for professionalised talent development environments to seek out and present competition opportunities that challenge, stress and positively promote development (Douglas & Martindale, 2008).

Evolution of Competition. The academy environment appeared to adopt a stage-based approach to their use of competition within the development of talented youth players. Specifically, competition experiences were designed and focused around three prominent intentions; *playing to learn, learning to win and playing to win,* which were predominantly associated with specific academy stages. As players progress through the academy age groups, competition intentions transform from a development focus to an increase in recognition and attention placed on achieving positive competition outcomes. Early within the academy structure, competition is predominantly development focused, and viewed as an extension of the training curriculum to develop and challenge the sport-specific competencies of academy players.

> *"I think for me at this age [U11] it's [competition] about developing individuals and how do you make them better at the things that they need to get better at but still how do you make sure that they are good at the things that make them the players that they are. For me it's fundamentally about development"* **[U13 academy coach]**

As players progress towards U13 and U14 age groups, competition intentions gradually shift with greater value placed on achieving positive competition outcomes. The academy coaches appear to utilise this new competition environment to teach the players how to win by developing specific behaviours and competencies that facilitate the achievement of positive competition outcomes.

> *"You see I would categorise winning as part of their development, I think you would have development as the main one and then underneath learning to win and experiencing winning would be part of the development"* **[U14 academy coach]**

Latterly, the academy utilise competition to prepare players for the professional level, with competition outcomes beginning to carry greater significance as coaches apply pressure to players to achieve positive competition outcomes and develop the "habit of winning".

> *"Because ultimately the league is when their development [U16], I don't mean put to one side, but their development gets moved and the sole focus is winning that's also part of their development psychologically"* **[U18 head coach]**

Although a gradual increased emphasis is placed upon winning in competition as players progress towards the professional level, the development of individual players is still regarded as the academy's main priority.

"We can't be based on winning games in the short term, for example tournaments can be good for winning and if we win a tournament it's great and we should always enjoy success and celebrate success but it should never be the finishing point, it should never be the be all and end all, we should always have that focus of how they developed individually" **[U13 academy coach]**

The evolution of competition intentions across the academy age groups appears to closely align with the English Premier League's long-term development strategy, Elite Player Performance Plan (EPPP), that places specific competition intentions with individual stages of the development pathway. Currently Scottish football academies do not adhere to a centrally devised development strategy, however the stage-based model of competition used within the current academy does replicate that of the EPPP in nature but focuses on the introduction of meaningful, 'learning to win' experiences much earlier than the EPPP (15-16 vs 17-21 in the EPPP) (The Premier League, 2011).
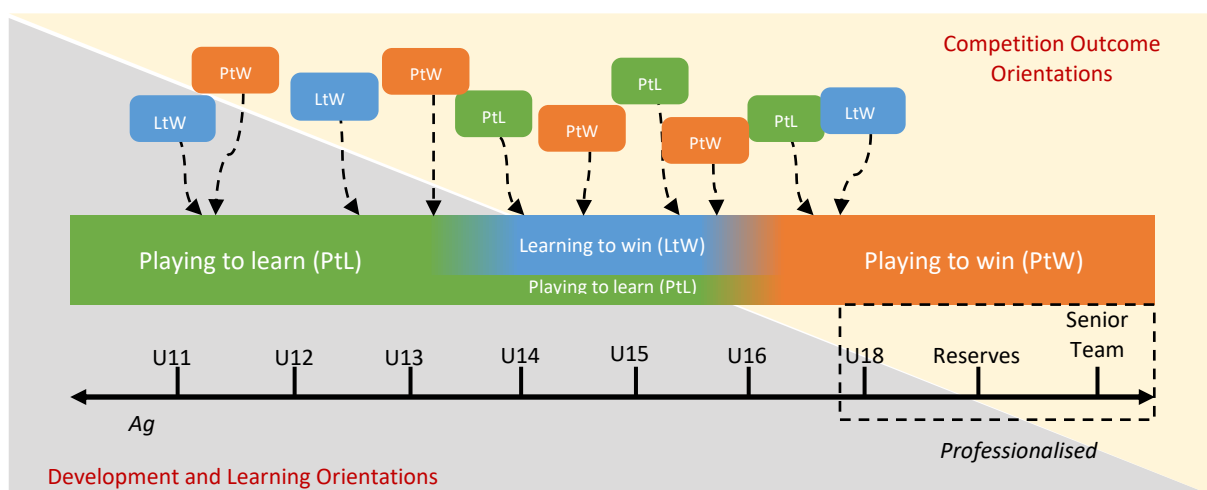
Figure 6.1: Competition intentions and development orientations mapped across academy age groups

Playing to Learn: Development Focused Intentions. Competition opportunities of the youngest academy age groups appear to be predominantly focused on the teaching and learning of competencies that subsequently contribute to the overall development of the players. Competing against other academies and clubs is utilised by the academy as a development tool that aims to provide players with a diverse variety of different challenging and stressful environments to learn and refine competencies.

"They need to understand that most games they have got to work hard and try and do the things that we asked them to do not because in the short term it's about winning games but because long term we are trying to build a bank of expertise that enables them to go and play for a first team" **[U13 academy coach]**

The competition objectives outlined by the coaches were focused on the development of behaviours and competencies that would facilitate the long-term development of players rather than those that achieve short-term success. This long-term focus on player development aligns with previous research (Martindale et al., 2005, 2007) which details the importance of adopting approaches to developing talent that account for the non-linearity of development and facilitate the volume of opportunities required to achieve sporting excellence (Abbott et al., 2005; Vaeyens et al., 2008).

Playing to Learn: Cultural Challenge. Although the majority, if not all, interviewed academy coaches expressed their belief that competition in the early academy age groups should be predominantly focused on developing the competencies of individual players and not on the achievement of positive competition outcomes. Two coaches shared experiences where they felt the academy culture contradicted the development focused intentions within early academy age groups.

> *"I think as a club that's what we are, it's mostly, it's all about development but still again, still the first question anybody asks is "what was the score?" I think we need to get away from that, what was the score, it needs to be, "how did you do?", "who done well?" "Who was poor?" That needs to be the first question. Whereas if we are trying to challenge players by playing them in different positions and in older age groups, then it's not about the result, it's about developing our players. We need to get away from "what was the result?", it needs to be "who done well?", "how did they do well?", "what did they do well?" and "what can they do better?""* **[U18 head coach]**

As introduced earlier, Dixon and Turner's (2018) research identifies the presence of a perceived pressure on academy coaching staff to consistently achieve good team performances and positive outcomes. Indicating a potential contradiction between the role of an academy coach to develop individual youth players into proficient senior players over a longitudinal period and the commonly implicit, cultural pressure to achieve consistent, short-term success. This perceived cultural pressure to 'win' in the short-term is however explicit within the current environment and reflects Cushion and Jones' research (2014) of the culture within an English football academy. The apparent value placed upon wining and the regular discourse surrounding competition outcomes and player performances is discussed openly within academy environment which contradicts the development focused intentions of the academy, particularly within the youngest age groups. Interestingly, the nature of the opposition team appears to further

contribute to this culture that values results and diverges from the development focus articulated by the interviewed academy coaches.

> *"As I say sometimes that differs depending on who you are playing, if you playing against some of the bigger teams or the teams where there is a bit more of a rivalry then the first question you are evidently asked is "what was the score?", which is something that I say we have to get away from"* **[U13 academy coach]**

This cultural need to best rival academies applies unnecessary pressure to players and coaches alike, considering that, as one coach said: *"there is already pressure in certain fixtures or games because of who we play"* which *may* originate from the behaviour and/or interactions between the young players and parents, peers and fans. Previous research in English football academies reflects the idea that all academy players, even the youngest academy players, to some degree experience self and external pressures to perform, these pressures are extenuated following negative competition outcomes and performances (Cooper, 2021).

> ***Learning to Win: Introduction to 'Winning'.*** Introducing players to feelings and importance of 'winning' is intentionally accompanied by a greater number of meaningful competition opportunities (i.e., tournaments and leagues). In the final year of the Scottish academy structure, players are presented with their first experience of frequent competitive games and the tangible rewards (points and trophies) associated with winning and losing. Therefore, this introduction to winning gives coaches an opportunity to prepare players within the middle academy age groups for the forthcoming 'playing to win' stage. By exposing players to new stressors, the academy appears to aim to promote the development of nuanced competencies/behaviours which will aid the long-term success of players in professional competition.

> *"as the academy goes up, around 13s and 14s but especially when you get to 15s and 16s they should want to win games more and it should become a little more of a focus from the coaches and during training sessions as they should have developed a lot of the traits we want in players. But if they don't win and they play well and they do things properly… then we are all happy, you can't win every game of football so it's important there is still a focus on making the players better"* **[academy director]**

Understanding 'how to compete' at a high level and succeed in competition is believed to be an important lesson for aspiring athletes (Dowling et al., 2018), extensive research has outlined the negative developmental outcomes (i.e. burnout, mental health issues

and dropout) associated with an increase in emphasis and pressures in youth competition (Merkel, 2013).

Learning to Win: Development of Highly Competitive Academy Players.

Specifically, meaningful competition experiences were utilised to nurture and develop the competitive nature of players which was identified as a key behaviour of a successful professional player. One coach highlighted the potential dangers associated with overly emphasising development and neglecting to place value on competition outcomes, in that players may not develop the necessary competitive nature required to reach and succeed and the top level.

> *"I think if you speak too much about development they just turn up to the pitch and show no care, you should always want to win the game, I think you should always want to do better than the guy you are playing against regardless of what age you are at, you should always want to be doing better than the person you are playing against because that is what the players need to do to succeed at the top level"* **[U16 academy coach]**

Therefore, the academy utilised regular opportunities for players to relentlessly compete with one another as this competitive nature was believed to play a crucial role in a player's ability to transition from academy football to the 'win-at-all costs' environment of professional football. Research reinforces this ideology that a competitive edge is an important characteristic young players need to possess in order to 'make it' as a professional football player (Cook et al., 2014b; Mills et al., 2012).

Playing to Win: Experience and Exposure to Professionalised Competition Pressures.

The final evolution of competition intentions, the 'playing to win' stage, aims to build upon the earlier 'playing to learn' stage where development is the primary focus and 'learning to win' stage where players were introduced to the nuances of how to win games. The creation of a 'win-at-all-costs' culture within the upper academy age groups appears to be intentional and systematically integrated within the academy's development curriculum and pedagogical approaches to developing talent. The latter years of the academy age groups seek to expose players to the stressors and pressures associated with a 'win-at-all-cost' mentality that is present in professional football. This is predominantly achieved through the academy's participation in national league competition and invitational tournaments.

"Because ultimately the league is when their development [U16], I don't mean put to one side, but their development gets moved and the sole focus is winning that's also part of their development psychologically" **[U18 head coach]**

Recent research across six football academies has demonstrated the diverse perspectives and approaches that professional football clubs and academies adopt when formalised competition structures are introduced with academy and U21 structures (Dowling et al., 2018). Centralised, formal competition does not directly induce a 'win-at-all-costs' mentality within football academies, rather the explicit, and implicit, behaviours and discourse from coaches and support staff contributes to the culture that values winning over development (Cushion & Jones, 2014; Dowling et al., 2018).

Tournaments were viewed by many of the coaches as ideal opportunities to accelerate the nurturing of players' competitive nature and their overall development due to the abundance of coach-player contact time and the experience of competing against high-quality opposition.

"For me tournaments are the best thing a club can do because you play against teams on a more regular basis, you get more contact with the kids, you get more contact with the ball for them, they learn what it's like to be a first team player and you stress them out, like placing a lot of stress on them over a really intensive block. The competitive nature of a tournament, you know it could be short games, it's you lose one game out of three and you are out so it's that competitive nature and focus on performance over development for that one tournament." **[U15 academy coach]**

Participation in tournaments affords an opportunity for coaches to expose and challenge the players' ability to perform under pressure in a 'win-at-all-costs' environment where tangible, external rewards (i.e., points, trophies, individual awards) are available for achieving positive competition outcomes (winning or performing well). Little is known of the development outcomes from tournament participation, however Dowling et al's., (2018) research points to the importance of tournament involvement to develop the competitive edge that is regarded as important for future footballing success at the top level.

Playing to Win: Replication of the Demands and Pressures of Professional Football. With a far greater emphasis placed upon competition outcomes, and thoughts of development "pushed to the side"; the academy attempts to expose players to the pressures and stressors associated with trying to 'win-at-all-costs' which closely reflects the highly competitive environment of professional football. The presentation of meaningful competition experiences and the availability of tangible, external rewards for successful competition performances and outcomes further imitates the pressurised nature of the professional level where the academy players aspire to reach.

> *"Dealing with different stressors, having to win games, having to prepare properly, getting a more professional environment, especially the older age groups, it gives them a taste of coming in full time. What it looks like, how to train every day, having to prepare for games every day, having to need to win games, how you deal with that, how you deal with the pressures with trying to win games"* **[U16 academy coach]**

In what appears to be an intentional outcome of the cultural transformation surrounding competition within the academy, the 'win-at-all-costs' approach that seems to be systematically integrated within this specific academy stage replicates to a degree the demands, pressures and stressors experienced within professional football environments. This intentional use of competition in a meaningful, 'win-at-all-costs' way is utilised within U21 squads of English Premier League football clubs to replicate the demands of an elite, first team environment (Dowling et al., 2018).

Although competition at the younger academy age groups was predominantly focused on the development of players, some of the coaches discussed the belief that engineering a few meaningful competition experiences per season would be beneficial to the development of young academy players. One coach rationalises the introduction of a 'must-win-week' as allowing younger players to experience and gain an understanding of what it is like to be a professional player.

> *"I would like to have a week or a couple of weeks in the season where we call it a must win week, where we put the players under a pressure to win a game, not necessarily because we want to win but it may be exposes them a little bit more to what's it like to be in an environment where the whole preparation is to win"* **[U13 academy coach]**

The 'rocky road' work of Collins, MacNamara and colleagues (2016a; 2012, 2017a) encourages the systematic integration of challenge and stress within talent

development pathways to aid the development of competencies and the testing and tweaking of coping strategies and resources. Coupled with the appropriate support mechanisms and available psychological resources, challenging experiences along the talent pathway can aid the development of psychological and behavioural coping resources that may be essential for future navigation of pathway transitions that preceded sporting excellence (Collins & MacNamara, 2017c, 2017b; MacNamara et al., 2010a).

Playing to Win: Utilisation of a 'Playing to Win' Approach to Inform Professional Contract Decisions. The introduction of a 'win-at-all-costs' focus within the academy coincides with the progression of players towards the latter academy age groups and in close proximity to professional contract offers. The academy director believed that exposing players to the pressures and demands that are similar to those present in the professional environment helped to inform the decision-making process of academy stakeholders (academy director, first team manager, sporting director) to assess the competitive nature of players and the likelihood of a successful transition to the professional level by observing the players' ability to perform under pressure on a consistent basis.

> *"I think as individuals it raised a lot of questions as to whether this was what they wanted to do... I think we saw, it helped us this year because it was a competitive league so we could make some decisions on players as it allowed the coaches to push more demands onto the players... I think that allowed us to see with [U16 player] for example he has to really question himself for two or three weeks and dig deep to see if this really was what he wanted to do"* **[academy director]**

Research has exposed the lack of correlation between current ability and future potential at the professional level (Barreiros et al., 2014; Barreiros & Fonseca, 2012), with as little as a third of national team age groupers making the step up to be selected for senior national representation (Güllich & Cobley, 2017). Coupled with the proxy that is current ability, a successful transition from an academy setting to a senior football environment requires the young athlete to possess and utilise a plethora of interlinked interpersonal, intrapersonal and environmental resources (Haugaasen et al., 2014; Swainston et al., 2020) (for review see, Drew et al., 2019). Therefore, the use of high-pressure competition may provide a snapshot insight into the *current* ability of a player to perform under pressure but may provide limited information pertaining to their future potential at the professional level. Potentially resulting in the process of using

current ability within the U16 age group as a continuously self-fulfilling, that only validates contract decisions due to the significant limitation of development opportunities for those deselected at this *late* stage (Cushion & Jones, 2014).

Systematic Integration and Manipulation of Competition Stressors. In order to compliment the stressors which are naturally produced from high-quality competition, academy coaches systematically integrated and manipulated stressors within competition to develop specific competencies and/or behaviours of the entire age group or individual players. Academy coaches frequently manipulated the stressors that players were exposed to by playing them in unfamiliar positions, using new or untrained formations in games and pushing players to train and compete with an older age group.

> *"I think as they get older you need to expose them to different stressors as in, you know, playing them in a different position, playing them up an age group, playing games at training you put them in a team with less numbers so that they understand how to be mentally robust and physically robust as well"* **[U13 academy coach]**

Manipulation of Maturational (Dis)Advantages. 'Playing up' an age group was a commonly used approach within the academy to expose players to new or more difficult competition stressors. The main development intention behind integrating players within an older age group was centred around stressing and stretching the more physically developed players within an age group who may have experienced the onset of maturation earlier than their peers and now enjoy subsequent performance advantages. Therefore, 'playing up' was the primary method used to limit the experienced physical advantages brought on by maturation and aimed to continue the development of technical competencies that may be neglected by a more mature player relying on their newfound strength and size.

> *"In terms of the bigger boys, I feel that they probably don't get stressed enough so I think if you look at [U12 player A] and probably [U12 player B] a little bit, they probably could have played, all though they did play up, there is an argument for playing them up all the time because physically they don't get challenged at our age group and they can be a little bit slack in possession. They can maybe take two, three, four touches, I am not saying that's a bad thing but, you know, if you look at [U12 player C] he would never get away with taking, three or four touches in those situations that they do. So that's something to consider, and for me I think they should just physically push them on, let them be stressed"* **[U12 academy coach]**

Research reinforces the academy's processes and development intentions that relate to the use of integrating players within older age groups to elicit a specific developmental outcome/change (Goldman et al., 2021; Kelly, Wilson, Jackson, Goldman, et al., 2020). 'Playing up' is perceived by youth athletes as a physically and socially challenging endeavour, but one that possess the ability to significantly enhance their progression and development if supported appropriately by peers and coaches (Goldman et al., 2021). In the current academy, players that experienced anthropometric and physiological advantages over age group peers were mostly commonly challenged by playing with an older age. However, recent research from within an English football academy indicates that elevated technical and/or tactical characteristics were the most common prerequisites to unlocking opportunities to 'play up' an age group (Kelly, Wilson, Jackson, Goldman, et al., 2020).

Manipulation of Tactical Variables. Another variable coaches systematically integrated and utilised in competition to stress and stretch the academy talents was the consistent diversification of the playing formations and systems that players were tasked with playing in. The academy coaches believed that exposing players to a number of variable tactical demands, team formations and playing positions in competition would help to create tactically adaptable players who possess a high-degree of tactical competence. For example, exposing players to new stressors in the form of playing in a different position was used by coaches to promote the development of specific skills and competencies that may not be developed as effectively in a player's usual position.

> *"so maybe one week you do try a completely different formation or maybe one week you just pull players out of their normal position and you completely and utterly sacrifice kind of any chance of really winning probably, purely to get more out their development and experience in different positions.* **[U13 academy coach]**

This manipulation of competition demands, and stressors was systematically integrated within the academy's development curriculum, coaches acknowledged in order to focus on the development of players through this means that short-term success, and player 'comfort', would been sacrificed. Previous research emphasises the need for talent development programs to adopt long-term approaches to developing talented youth athletes and de-emphasise the importance and value of early success (Martindale et al., 2007). This assertion however is challenged within the current environment due to the

value placed upon meaningful competition in the later stages of the academy. The above extracts are from coaches working in the early to middle academy age groups, therefore, some uncertainty remains around the opportunities that coaches have to manipulate the tactical demands and stressors players are exposed to within the later academy age groups.

Pedagogical Approaches to Developing Talent: Role of the Academy Coach.

From the data, three prominent aspects of coaching practice and behaviour were identified as important in facilitating and supporting the talent development process within the academy. Specifically, the academy coaches looked to consistently innovate and reflect on their coaching practice, to understand the holistic needs of their players to help aid the quality of coaching provision and individually supported the developing players throughout the challenging experiences within the academy pathway.

Consistent Pursuit of Innovation and Reflection of TD Approaches

To ensure that the academy players received quality coaching and plentiful development opportunities, academy coaches continuously sought to innovate within their practice to inform the design and utilisation of the most appropriate, effective pedagogical approaches to training.

> *"I think we are quite open and hold our hands up and say right that might not work but I am going to try it because the coaches we have got are all unique, they are all different, they are all inventive if you like, and they have got the balls to say I am going to have a go at this so that my players get the benefits of learning"* **[U15 academy coach]**

Research contends that effective coaches' possess a high degree of pedagogical knowledge that is accompanied by the know-how to implement a variety of pedagogical approaches within the appropriate contexts (Abraham et al., 2006; Côté & Gilbert, 2009). The work of Ford and colleagues (2010; 2020) demonstrates the variance of the microstructures of coaching sessions across top European football academies, emphasising the pedagogical variance at play within academy development programmes.

However, the interviewed coaches understood adopting novel, innovative approaches to developing academy talent required the consistent use of reflection and evaluation to assess the appropriateness and effectiveness of the TD approaches used in practice.

> *"something that works for me is reflecting on yourself and doing an analysis of yourself. Going away after a session and dissecting it and finding out what the players got out of that, did I do enough, did I push them enough, were they just on the pitch for the sake of being on the pitch?"* **[U16 academy coach]**

Critical reflection of coaching practice and experiences is an important process within coach learning and the pursuit of coaching effectiveness (Gilbert & Trudel, 2001; Irwin et al., 2004). The data extract demonstrates reflection 'on-action', an effective and essential component of the coaches ability to learn from experience (Gilbert & Trudel, 2001). Although important, several authors (Burt & Morgan, 2014; Hägglund et al., 2021; Huntley et al., 2019; Knowles et al., 2001) document a plethora of barriers and challenges related to the process of critical reflection with youth sports coaches, these are predominantly focused around time constraints, the availability of peers to facilitate critical discourse and a perceived limited cognitive resources for internal reflection and learning. All of which may challenge the prevalence and quality of critical reflection within the academy coaching cohort.

Developing Relationships to Know the Person to Develop the Player

Developing close coach-athlete relationships was a crucial aspect of creating a supportive, and effective learning environment for the young players. Many of the coaches emphasised the importance of initially getting to know and connecting with the young players on a personal level before focusing on them as young academy football players. Knowing the person behind the player allowed coaches to tailor their motivational and instructional behaviours for each player, thus attempting to provide individually appropriate learning and support provisions.

> *"So it's understanding them a bit better then we can know how sort of hard we can push them in terms of trying to get the standards right up to what we want to train. So I think that's one area this year that I have probably got a better understanding of is getting to know the players better individually, just having more chats with them and just asking them how they are"* **[U14 academy coach]**

Jowett (2017) contends that developing and maintaining effective, quality coach-athlete relationships underpins and mediates the effectiveness of coaching in both

developmental and elite coaching contexts. From Jowett's 3+1C's model (Jowett, 2007; Jowett & Poczwardowski, 2007), dimensions of closeness (affective-feelings of liking, trust, respect) and co-orientation (mutual perceptions and understanding of affect, cognition and behaviour) appear most prominently within the data extracts. Quality coach-athlete relationships facilities the chance for coaches to 'know their athletes' which in enables coaches to "strike the right chords" (Jowett & Meek, 2000, p. 169) and utilise individually appropriate and effective approaches to development (Bergmann Drewe, 2002). Coaches emphasised that establishing close and mutually trusting relationships with the players created opportunities for the more openly sharing of feelings and developmental experiences with academy staff, which was believed to positively contribute to the individual development of players.

> *"I think you have to fully, first thing you do is you need to get to know the player, you then need to get the players trust, it's not always about giving them a cuddle, it's about understanding where they are at and how they feel and then knowing when to give them a prod and when to give them a cuddle so they can keep improving"* **[U16 academy coach]**

Research reinforces the importance of mutual trust and respect as crucial ingredients and dimensions in the process of building and maintaining quality coach-athlete relationships (Jowett & Ntoumanis, 2004; LaVoi, 2007). The ability to recognise emotions and adjust behaviours and approaches accordingly, termed emotional intelligence, is another crucial aspect of coaching efficacy (Chan & Mallett, 2011; Thelwell, Lane, et al., 2008) that can be informed by, and contribute to the development of close, high-quality coach-athlete relationships.

As a result of taking a holistic approach to understanding the players and gaining their trust, the coaches seek to forge and develop open relationships which provide opportunities for the sharing of honest feedback and critical guidance along the TD journey.

> *"like [U15 goalkeeper] came in as an Under 10 and I was his coach, I was the first coach he ever had at [the academy], so to have him back with me at under 15s and have that opportunity to be open and speak about how he is actually feeling and how we could help him moving forwards was really helpful in his development"* **[U15 academy coach]**

The data extract further emphasises the importance of quality relationships, most prominently the presence of *closeness* within the relationships between academy

coaches and the players that facilitates a collaborative approach to achieving sporting excellence/expertise (Jowett, 2005, 2007).

Provision of Appropriate, Individualised Support

Coaches highlighted that through periods of stress in which players attempt to cope with and overcome challenges, academy coaches play a significant role by individually supporting each player in their squad. Coaches provide ongoing encouragement, guidance and emotional support to players to help aid their experience of tackling and conquering natural, consequential and manipulated challenges. Taking an individual approach to this support is also important.

> *"I think you have to know a player to find out and know if they need a kick up the bum in front of the group, some of them need a kick up the bum from the group, some of them need a wee cuddle after it, you say listen that's not enough, "you need to do this", "you need to do that". I think they respond a lot better to that, most of them. You always get the odd one or two that needs embarrassing in front of the group to get the most out of them. But most of them you need to pull them aside and say, "right you need to do this better", "you did not run about enough""* **[U16 academy coach]**

Findings from the previous chapter (study 3) highlight the importance of academy staff, primarily coaches, within the support network of the youth players and the variety of supportive roles and functions they fulfil. The current study provides even greater insight into the nature and approach to providing support, with coaches emphasising the need for their support to be individually tailored to the needs and characteristics of each player. Considering the academy's approach to developing talent incorporates the use of challenge and exposing players stressful situations, the availability to appropriate, individualised coach support has the ability to act as a buffer for those who at that moment may not possess the resources to cope with the encountered stressors (Cohen & Wills, 1985; Freeman, 2021; Rees & Freeman, 2009). Therefore, the availability and accessibility of the appropriate support from academy coaches can play a significant role in the players' development of coping resources while engaging in the natural and/or systematically manipulated challenged within the talent development pathway.

Psychologically Derived Behaviours and Traits: Commonalities of 'Good Developers'

Internalised, Task and Mastery Motivational Approach

The motivational orientations of the academy players were believed to be of significant importance to the likelihood of successful progression through the academy age groups and into the professional first team. Those players perceived to be good 'developers' and possessing the potential to achieve professional status in the future were found to demonstrate task and mastery orientated approaches towards their development with most of these motives stemming internally within the players.

> *"And I think those players are the ones that go on, because it's like "I don't want to be the best player on the pitch", its' "I want to improve on the goals that I have set for myself or the little wee targets that I've set". So I think those are the players that get better"* **[U12 academy coach]**

Behaviours such as focusing on personal performance improvements in competition and striving to achieve personal development milestones were commonly observed by academy coaches in the players regarded as high potential. The degree of internationalisation and nature of the achievement goal orientations that underpin the participation motives of the academy players contribute to their behaviours, with internally motivated players more likely to remain committed to and resilient along their developmental journey during periods of difficulty and continuous challenge (Pedreño et al., 2015). Specifically, academy players that are 'highly intrinsically achievement-oriented' are more likely to be selected for youth national squads than those that demonstrate extrinsically derived, failure-fearing motives (Zuber et al., 2015). The quality of the academy development environment can positively *and negatively* influence the motivational dispositions of those talented athletes positioned within them (Andronikos et al., 2021; Wang et al., 2011).

Relentless Desire to Maximise Development Opportunities

Relentless Need to Develop and Seek Learning Opportunities. The internalised motives demonstrated by the academy players helps to fuel the continuous striving for self-improvement and mastery goal-orientation. High potential players were perceived by coaches to possess a relentless desire to continuously develop their footballing competencies through seeking out and engaging with challenging learning opportunities.

"once they achieve something they are always looking for the next thing for them. They are relentless, that busyness "what's next?", "what am I onto next?"" **[academy director]**

One coach highlights the players' "real hunger" to improve and their subsequent desire to train by telling of a time when younger high potential players were awaiting him on the pitch following a video session with an older age group.

> *"there is a real hunger between him, [U15 player A], [U15 player B] and [U15 player C], you see their enthusiasm, they are desperate to improve, you see them when they first come in from school they are on the pitch waiting on me starting. I might be doing video analysis with the older group but the four of them are on the pitch waiting for me and are willing to work so it's a good thing"* **[U18 head coach]**

This relentless need to continuously work on developing sport specific competencies through the identification and participation in new learning opportunities appears to stem from within the players. The apparent 'never enough' attitude of the academy players aligns with those of the 'super champions' identified within Collins, MacNamara and McCarthy's research (2016b).

Positive Appraisal and Embracing Challenge. The presence of and academy's utilisation of challenge to catalyse the development of sport-specific competencies along the developmental journeys of academy players has been established earlier in the section. Therefore, perhaps unsurprisingly those who are regarded as possessing a high level of future potential appeared to have a 'thirst' for challenge, positively appraising and embracing challenging competition and training opportunities to further their footballing development.

> *"[U12 player] and [U13 player A] played in a number of positions over the season and were probably the players that we moved around the most, I would probably include [U13 player B] in that as well, and they didn't blame anything they just kind of accepted where we were asking them to play, understood the reasons why we asked them to play where they played and then they done really, really well to face up to the challenge and come out the other side as better players"* **[U13 academy coach]**

Being exposed to new stressors and challenges by academy coaches was viewed from an opportunistic, developmentally positive perspective rather than one of reluctance, worry and fear of failure. Previous research demonstrates the positive relationships that successful developers establish with challenge, underpinned personal psychological

characteristics and resources (i.e. mental toughness, coping strategies), successful developers who adopt positive appraisals of challenge, perceive challenge to be developmentally facilitative (Moore et al., 2013). Furthermore, cognitive appraisals of challenge and threat are suggested to be interrelated with athlete motivational dispositions and possessing the ability to partially mediate between goal-orientations and well-being indicators (Adie et al., 2008)

Ability to Continuously Work Hard is Foundation Development. All coaches commented and emphasised that the ability to continuously apply high volumes of effort within training and competition settings across long periods of time was a key attribute and demonstratable behaviour displayed by high potential players.

> *"But if I compare [U16 player A] and [U16 player B] before his injury, [U16 player B] is relentless in his work rate, his attitude and I think it only comes down to that. The players who do really well, all the players we've talked about before, [U12 player], [U16 player C] etc. they just work and they never stop working. You know they are probably the hardest workers in training most times and that's why they go on and do so well"* **[academy director]**

Academy based research contests the importance of effort, reporting that effort within a football academy is a measure of conformity rather than volitional motivation due to the competitive environment created between peers and the significant power and capital that coaches and academy stakeholders possess (Clarke et al., 2018; Cushion & Jones, 2006). However, the work ethic demonstrated through high energy and effort in all academy activities and additional ad-hoc training opportunities reflects the psychological and psycho-behaviourally features of effective talent developers found within MacNamara and Collins' research (Hill et al., 2015; MacNamara et al., 2010a, 2010b). The ability to produce large volumes of effort throughout a session, and over longer periods of time, was described as an almost foundational ability that catalysed the players' development because this allowed for the optimisation of learning gained from developmental opportunities.

> *"I think I want to see a level of ability and I want to see a hard work and a hard work ethic there to go and improve which will hopefully make them better. If you have got ability but don't work hard at it then they wont get better anyway, they have all got to improve there is nobody who is the finished product within the academy"* **[academy director]**

Self-Directed Additional Training and Learning. Outside of structured academy development activities (i.e., on-pitch training, gym, classroom activities), high potential players were commonly found voluntarily undertaking some form of additional training to enhance their footballing development. The academy coaches explained that those players who successfully navigate through and graduate from the academy into the professional environment were those who willingly sacrificed leisure time to engage in behaviours which facilitated and accelerated their development and progression towards footballing excellence.

> *"It's the guys who are willing to work I think when the coaches aren't watching, those are the ones that have went on and progressed the most, [academy graduate] is a good example of that when we weren't watching or he wasn't in the group, when we were doing individual sessions, we would always come down to see him working hard and working away on his own, so the thing for me is hard work. If players want to work hard and they want to own their development then they will ultimately become the ones who will do well"* **[U13 academy coach]**

The intrinsically derived, mastery motives of such players may to some extent contribute to their desire to endeavour in additional, at times ad-hoc, training activities. In order to attain sporting excellence, deliberately engaging with focused, highly effortful practice is widely recognised and encouraged within professionalised talent development environments (Ericsson et al., 1993). However, the mere engagement with a high level of training volume does not directly result in enhanced sport-specific development and elite sporting status, rather the presence and utilisation of the appropriate (meta)cognitive, psycho-behavioural, and psychological resources and process (i.e. self-regulation) is required to ensure bouts of practice are efficient, developmentally challenging and high in quality learning opportunities (Hill et al., 2015; MacNamara et al., 2010a, 2010b).

The Act of Seeking and Digesting Feedback to Inform Future Learning Behaviours. Academy coaches expressed the desire of players to seek out and receive feedback as one of the key behaviours that differentiated high potential players from their peers. Specific behaviours related to players actively approaching coaches and support staff to try and gain a greater understanding of their past performances and to further deepen their understanding of the tasks and challenges set by coaches in training and competition.

"So it's just that mindset of asking "what things do I need to do to get better?" that I think those players who progress have that compared to the rest" **[U13 academy coach]**

Asking questions was viewed by all coaches as the player taking a greater interest in and responsibility for their own development. Research reinforces the positivity of asking questions, with the act of verbally engaging with coaching staff to seek guidance and task clarity being positively associated with multiple aspects of self-regulation (Hill et al., 2015; Toering et al., 2011). Unsurprisingly, those players who actively sought feedback and positively questioned their learning process were also extremely receptive to the feedback and guidance that was provided by their academy coaches.

"when you have done individual work on or off the pitch with [U13 player] they are very open to feedback, whether it was good feedback or feedback that's more about them making improvements they are just so desperate to know and have your input" **[U13 academy coach]**

Demonstrable behaviours such as making eye contact with a coach when receiving feedback was positively interpreted by coaches as an act that inferred a player was cognitively engaged, receptive to feedback and valued the guidance that was provided by the coaches.

"And he's got the right mentality, he just never stops taking in information and wanting to improve. And I think that's been quite consistent across the board, you are looking at players whose attitudes are the best and the ones that can take on information the best have actually developed the most. So it's the ones I feel look you in the eye when they listen, take on the information and deal with criticism well that in the long run develop the most. It's the ones that have done that that improve the most." **[U12 academy coach]**

Implementation of Feedback to Drive Development Through Goal Setting and Reflection. Following the acquisition of feedback and guidance from academy coaches, players, specifically those high potential players, endeavoured to implement the knowledge gained by setting goals and a self-directed learning approach before then reflecting on the complete learning process. High potential players deployed more effective goal setting strategies, selecting goals that were specific to their current level of ability and were achievable in realistic timeframes.

"Off the pitch it's more about what they put in their reviews, what they put in those personal goals so like how much time and effort do they put in and how much do they think about what they are doing good, what they are doing bad" **[U15 academy coach]**

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The selection and implementation of appropriate, attainable development goals are underpinned by an athlete's ability to accurately self-assess current and past performance and their current level of ability. Utilisation of effective short- and long-term goals affords an opportunity for developing athletes to self-regulate their learning and maximise the learning available within each individual practice session and over more prolonged periods (MacNamara & Collins, 2011; Zimmerman, 2006). Therefore, effective goal setting informed by accurate sources of self-assessment is recognised as an important psychological skill developing athletes must possess if they are to successful navigate the talent pathway and reach sporting excellence (MacNamara et al., 2010a, 2010b). Academy coaches perceived 'good developers' to reflect more frequently upon their development experiences and from a deeper and critical perspective than their peers who are believed to possess less potential.

> *"We give, not necessarily criticism, constructive feedback, and we say look maybe you could have done this better or what do you think about that part of your game? And they are willing to actually think about when they get home and say, "yeah do you know what, I need to think, I am reflecting on that, I probably need to get better at that so how can I do it?""* **[U12 academy coach]**

Generating high quality reflections allowed players to constructively criticise their own performance and share their insights with coaches to direct future development activities. Regular engagement with reflection and critical evaluation is a crucial component of the process that facilitates effective self-regulation of learning (Jonker et al., 2019; Zimmerman, 1986). With frequent and realistic reflections informing the strategic planning of future behaviours and approaches to development (Zimmerman, 1986, 2006). Time spent reflecting on previous and current development experiences has been found to differentiate between those who compete at an elite level (youth and professionally) and those who do not (Jonker et al., 2019; Toering et al., 2009).

Cognitive Engagement in All Academy Activities. Participation in training is a mandatory requirement by all academy players, however high levels of cognitive and attentional investment in training sessions were only demonstrated by a limited number of academy players past and present. Heightened cognitive processes provided a platform for players to reason and consider actions before executing, and also allowed for greater consideration of how such behaviours contributed to their learning.

"They want the ball all the time, they have thought into everything, every movement they do they have thought about it and they won't just come on the pitch and watch the ball. They come in and they are thinking about "what might happen next", "what do I need to do there to make the ball go", and like I said I think if you do that then your brain is switched on almost, it's all experiences, if your brain is switched on and you are understanding why you are there rather than just being there for the sake of being there, your learning will get there better. And that helps you move forward" **[U16 academy coach]**

A lack of cognitive and effortful application in training and the inability to self-direct and regulate learning effectively have been identified as barriers that may constrain a talented athlete from achieving their full potential (Taylor & Collins, 2019). Further research highlights the importance of engaging in quality practice in order to reach sporting excellence, this however is mediated by the learners psycho-behaviours and the subsequent ability to remain focused and cognitively engaged with academy training and competition experiences (MacNamara et al., 2010a, 2010b).

Assuming Responsibility for Personal Development

Taking ownership of one's own development was a psychological mindset, with subsequent behaviours, that a large majority of 'good developing, high potential' players adopted during their academy careers. Coaches attributed behaviours such as, being inquisitive about their development needs, the use of initiative when planning and completing individual practice and the use of high personal standards to drive motivation and performance, to those that had assumed responsibility for their own learning.

"If players want to work hard and they want to own their development then they will ultimately become the ones who will do well and sometimes it's not just a football demand... I think that's what we have seen a lot more of, more responsibility on their own development rather than waiting for us to help them they are out making sure they are living correctly and doing all they can to ensure they reach the top" **[U15 academy coach]**

Assuming personal responsibility for the development process and the behaviours that facilitate sport-specific development is a consistent theme identified by players and coaches in football academy environments (Aalberg & Sæther, 2016; Flatgård et al., 2020). Additionally, coaches believed that players who owned their own development also demonstrated strong psychological behaviours and characteristics such as resilience, mental toughness and self-discipline that positively contribute to coping and

thriving within challenging development environments (Holt & Dunn, 2004; MacNamara et al., 2010a, 2010b). Aspects of the talent development environment play a central role in encouraging players to take ownership of their own development through the provision of opportunities for player autonomy and input to key development decisions (Martindale et al., 2007; Mills et al., 2014b).

Contrastingly, the academy coaches shared examples of players within current and past cohorts that did not take responsibility for their own development and sought to shift responsibility for their lack of development. Blaming others and making excuses were identified as behaviours that indicated a player was attempted to preserve their egos by avoiding the acceptance of personal responsibility for their (lack of) footballing development. Perhaps unsurprisingly such players did not progress through the academy and were regarded as poor developers.

> *"They were always blaming other people, somebody else's fault, clubs fault for not helping them enough, for not pushing them enough, for not playing them enough instead of taking responsibility themselves and thinking what else could I have done more myself"* **[academy director]**

Research reinforces and demonstrates the commonality of these findings within deselected populations (Collins et al., 2016b; Hill et al., 2015; Taylor & Collins, 2019). Following periods of challenge (i.e. injury, performance slump) youth athletes attribute their failings to external variables and are known to verbalise such attributions in the form of blaming others and finding excuses for their lack of success or development (Collins et al., 2016b; Hill et al., 2015; Taylor & Collins, 2019).

Competition Behaviours

Competitive Nature to 'make things happen'. Previously competitiveness was recognised an important foundational attribute that coaches believed was important for players to successfully progress from the academy to senior football. Therefore, the coaches and academy approach attempted to develop this competitiveness in players by the exposure to meaningful competition experiences and tangible rewards. More specifically, the competitive nature of players is believed to influence their behaviour in competition predominantly through the intensity and attitude adopted during all phases of the game and regardless of the score. Those academy players who demonstrated a competitive nature by making a continuous effort to receive the ball and contribute to

the performance of their team were believed to possess the necessary future potential to reach the professional level.

> *"The thing that I see in all the kids that progress is the raw determination to make something good happen in a shite situation. So that might be in a game like where you are 2-0 down but they are galvanising their teammates and you get something out of it because they have just taken the game by the scruff of the neck or they have wanted to get on the ball. And you might not win the game and you might not even draw the game but they are the ones that are wanting to do that. They are wanting to put themselves out there and just be that guy that "right if something bad is going to happen here then at least I will know I am not going to let my team mates down or let myself down""* **[U15 academy coach]**

The significance of the psychological and behavioural traits that contribute to a competitiveness within a developing athlete are documented and explored within previous research (Blijlevens et al., 2018; Cook et al., 2014b; Gould et al., 2002). Such research emphasises the need for developing athletes' to demonstrate competitiveness with *self* and *others,* a high degree of competitiveness in both aspects is essential to allow developing athletes to pursue mastery of task and sporting excellence while possessing the competitive drive to succeed in competition (Cook et al., 2014b; Durand-Bush & Salmela, 2002; Mills et al., 2012). One coach however highlighted the perceived difficulty with trying to develop competitiveness in young players, research reinforces this need to of competitiveness within young athletes to ensure they can survive and navigate the pathway (MacNamara et al., 2010a, 2010b) . While the academy attempt to develop this characteristic through the exposure to different competition stressors and meaningful competition experiences, one academy coached believed competitiveness may be a more innate characteristic.

> *"I think from Under 8s, you have got to create the right foundation where technique has got to be good and I think if you can find boys that want to compete and want to win at that age that will stay with them because it's hard to teach boys to be competitive. I think if they've got a competitive nature in boys all the way through, that will really help going forward"* **[U14 academy coach]**

Team Facilitating Behaviours.

Understanding of the Role and Importance of Being a Good Teammate. Although the academy objectives focus on developing individual players, and not successful age groups, and as a result the academy environment reflects this individualism of development. The ability to understand team dynamics and to then be a good teammate and demonstrate selfless behaviours that facilitated team success on

the field (i.e., sacrificing personal success and exerting additional effort to support a teammate) were attributed to those players with a higher footballing development capacity.

> *"I know it's all about individuals getting up but you have got to get individuals to understand why the team grouping is important as well and the best players do understand… And I feel that we have still got to have that element, we have still got to have that team core, that team relationship, bonding, in order to develop the individual"* **[U14 academy coach]**

The perceived importance of 'being a good teammate' and demonstrating selfless are team performance enhancing behaviours reflect the longer-term development of the academy players with such behaviours important for future success in the professional footballing environment (Gould et al., 2002; Larsen et al., 2014). Adopting a 'team-first' attitude is especially challenging with the competitive academy environment where players commonly adopt a individualistic perspective due to the consistent peer competition for the coaches favour, and aiding a teammate's performance in competition may result in external recognition for a 'competing' peer (Adams & Carr, 2019; Smith et al., 2020).

Leadership. 'Good developers' with a high potential were perceived by academy coaches to commonly demonstrate leadership style behaviours and adopt informal leadership roles within their academy age group. The undertaking of leadership roles commonly stemmed from the players' approach to their own development and the consequential behaviours that resonated from players taking responsibility for their own development. The leadership behaviours demonstrated by the academy players related to examples of taking more responsibility over team performance by providing team talks, motivating the group and offering technical and tactical guidance to teammates.

> *"I think the under 12s would look at [U12 player] and be really proud of the way both he has excelled first and foremost as a player but also he has played up most of the year and he sees himself as an under 13s player yet whenever he has played with the under 12s squad he has been a leader for the rest of the player by speaking to them and helping players out with instructions and guidance"* **[academy director]**

"I think two or three individuals were very, very good in that time and probably took a lot more leadership, [U13 player] was a great example after the game where we lost, he kind of asked us if he could lead a bit of the team talk and not to be critical of players but just give the players some home truths which I thought was great." **[U13 academy coach]**

Although a scarcity of literature exists relating to the nature and development of leadership in youth sport and professionalised talent development environments, the importance of developing leadership skills is acknowledged to support short-term development outcomes (life and sport-specific) and aid longer-term, team performance success (Gould & Voelker, 2010; Martinek & Hellison, 2009). The learning of leadership characteristics and behaviours in young athletes is believed to occur experientially (Gould & Voelker, 2010; Kempster, 2006). Therefore, if such qualities are identified by coaches as differential factors between 'good' and 'poor' developers then the environment, and those within the environment, must offer opportunities for athletes to be independent, autonomous and agents of their own development (Bean & Forneris, 2016).

Supporting the Developing Player: The Role of The Parent

The sources of support available to academy players was highlighted by many of the coaches as an important resource and component of developing a talented young player into a successful professional. Coaches and players (study 3 – chapter 5) both identified parents/guardians as one of, if not *the*, most important sources of support within a player's wider support network.

Development Supportive Parental Behaviours

Supportive, Yet Constructively Critical. Academy parents play a significantly role in the lives of young developing players due to the level of dependency players have on their parents. Developing talents receive support from parents that fulfil a diverse array of functions, tangible and emotional support are two of the main types of support that parents provide (Rees, 2007; Rees & Hardy, 2000; Witte et al., 2015). The coaches identified commonalities between the parental support structures of those who were regarded as high potential players, these parents adopted a relaxed, yet supportive approach to their child's footballing development. The perceived over-involvement of parents within the talent development process is understood to apply additional

pressure to competition performances and rate of development (Wolfenden & Holt, 2005).

> *"But like [U14 player A], [U14 player B] and [U14 player C], they also have very supportive parents, parents who don't get too involved with what they are doing on the pitch; they would leave that to us. I think they have probably, they will say "well done" or they will tell their kids honestly "you could have done more". I think that's probably the biggest thing for them is that they are pushed in the right way rather than getting in the car and getting a mouth full or getting in the car and told how brilliant they were, they are quite honest with them"* **[U15 academy coach]**

These supportive behaviours from parents also included an honest appraisal of player effort and performance yet did not overly criticise or seek to contradict the messages delivered by academy coaches. An effective support network is one that is highly coherent and seeks to establish clearly defined roles for each member (Curran et al., 2021; Webb et al., 2016). The provision of honest, yet critically constructive feedback was welcomed by the academy players when delivered in a supportive manner (study 3 – chapter 5) and was found to positively contribute to the motivations of developing athletes (Keegan et al., 2010) . These findings reflect those identified within other professionalised TDEs (Elliott et al., 2018).

Positively Inquisitive. Parents of high potential academy players also demonstrated a genuine interest in their child's development by asking inquisitive questions of the academy coaches to ensure they were providing coherent messages at home to help further facilitate their child's footballing development outside of the academy.

> *"When I look at the ones that have done well this season, you know, they have accepted their own mistakes but when you speak to their parents, their parents will say to you "I know he didn't have a good game today", they will never mention anyone else, and even when you speak to their parents they will ask questions about "why do you want him to improve on this?" and "why do you think doing this will make him better?" Not in a way that's negative but just being inquisitive and trying to help the player get better"* **[U13 academy coach]**

Establishing a close, coherent coach-parent dyad is imperative to ensuring that the support network surrounding a player is functionable and effective (Harwood & Knight, 2015; Smoll et al., 2011; Wall et al., 2019). Coaches and parents are both responsible for the development and maintenance of an efficient coach-parent dyad which is collaborative and facilitates clear communication where the required supportive roles

can be fulfilled (Knight et al., 2017; Wall et al., 2019). Parents who seek to gain a greater understanding of the development journey their child is attempting to navigate are more appropriately positioned to support the young athlete and reinforce the sport-specific messages delivered by academy coaches (Clarke & Harwood, 2014; Smoll et al., 2011).

Overly Protective Parental Behaviours

Parents that were overly involved their child's development and sought to protect them from all and any challenges that they were exposed to, were perceived as not conducive to the players' development by the academy coaches. One coach highlighted the negative outcomes associated with overinvolved parents who did not permit their child to face, tackle and try to overcome the natural and systematically integrated stressors that are presented within the academy's development pathway.

> *"[U13 player] I almost think he's not as mature as the other players yet, he's still maybe a little bit younger, I think his parents tend to be a little bit more protective and not allow him to grow and develop and make mistakes. It's not just the football but in life generally"* **[U13 academy coach]**

Maladaptive parental behaviours such as the over-involvement in the development process and being overly protective of the developing athlete, can negatively influence the volume and diversity of challenging developmental experiences a player is exposed to and contribute to the development of anxiety and poor mental health (Odenweller et al., 2014; Ungar, 2009). By limiting a players ability to learn experientially through the engagement with developmental challenge and reducing the importance of self-regulating their own learning experiences, players will not develop the necessary psychological skills and coping resources required to successfully navigate the talent development pathway and reach the elite level (MacNamara et al., 2010a, 2010b; Savage et al., 2017).

Conclusion

The aim of the current study was to qualitatively explore the talent development processes and environment within an elite Scottish football academy from the coaches' perspective. The study also aimed to explore the coaches' perceptions of the developmental experiences and challenges encountered by the players. Exploring in depth the effectiveness of behaviours and psychological characteristics utilised by the

players as they attempted to navigate the challenges presented within the academy pathway.

Findings indicate that the primary objective of the football academy was to develop highly skilled home-grown players for the football club's professional, first team. Due to the significant number of years that is required to develop talented youth players into skilled senior professionals, several shorter-term, performance indicators were used to monitor the effectiveness of the academy's development approach. An implicitly espoused culture that associated the competency of coaches with the short-term success of academy age groups was perceived to exist.

Academy coaches and managers recognised the importance of providing young players with a breadth and depth of high-quality experiences in both training and competition environments. Academy coaches were also cognisant of the complexities associated with the talent development process, specifically the non-linearity and idiosyncratic nature of the process was identified and accounted for the academy's overall approach to developing senior players.

Competition was identified and utilised by the academy to 'stress and stretch' players outside of their comfort zones in an attempt to promote learning and invoke developmental progress. Coaches systematically integrated, manipulated, and tailored development opportunities through the players' exposure to specific stressors in the hope of catalysing the development of selected, sport-specific competencies. Throughout the academy structure, competition was utilised in a variety of ways to develop the academy players (*playing to learn, learning to win, playing to win)*, the pressures and development intentions associated with competition transformed as players progressed towards academy graduation.

Coaches stressed the importance of being pedagogically innovative and critically reflective to ensure their methodological approaches were appropriate, effective and refined to aid the players' development. As a result of the academy's desire to 'stress and stretch' players, coaches were cognisant of their role as a key source of support within the players support network. Therefore, intentional steps were taken by some

coaches to try and holistically understand their athletes so that the most appropriate support and guidance for each individual player was readily available.

A plethora of psychologically derived behaviours and characteristics were associated with and demonstrated by players who were identified as 'good developers' and were believed to aid development. Motivational and behavioural examples relating to players who actively sought out and embraced challenge were prominently articulated by coaches. Furthermore, coaches attributed the ability of players to continuously apply large volumes of physical and cognitive effort to all development activities (academy and self-directed) to those who were 'good developers'.

Lastly, findings also identified the importance of an effective, coherent support network. Specifically, coaches singled out parents and guardians as crucial actors within the players' support networking. Sharing examples of developmentally supportive *and* developmentally limiting parental behaviours demonstrated within the academy environment.

Theoretical and Academic Considerations

The current study utilises a traditional, qualitative research methodology to explore the talent development process employed within a football academy from a central, yet under-represented perspective – the academy coach (Larsen et al., 2013; Mills et al., 2014b; Røynesdal et al., 2018; Taylor & Collins, 2019). Investigating the nuances of the talent development process and the behaviours and characteristics of players who successfully navigate the pathway from a coaches' perspective, compliments the findings from the previous chapter (study 3) and completes the player-coach dyad that is central to the development process. The findings from the current study reinforce and further advance our current understanding of the talent development process, specifically building upon previous work that aimed to identify psychological characteristics and behaviours that aided the development of talent (Hill et al., 2015; MacNamara et al., 2010a, 2010b; Taylor & Collins, 2019). The challenges associated with utilising a single, data collection timepoint at the end of the season were identified and attempts were made to address the presence of retrospective recall bias within the data. Coaches were encouraged to revisit the experiences from the current season before recalling historical experiences and players that may excellently relate to

the line of enquiry. Furthermore, early interviews provided the researcher with a variety of 'best developing' players who were then used as prompts and probes within later interviews to allow coaches to anchor experiences and initiate more accurate recall (Savage et al., 2017). The findings from this current study provide an insight into the organisational and pedagogical structures that underpin the talent development process within an elite Scottish football academy. Such findings build upon previous research that explored the organisational and operational structures of football academy environments (Aalberg & Sæther, 2016; Flatgård et al., 2020; Larsen et al., 2013), however the current study is the first of its kind in Scotland and adds to the little research conducted within the United Kingdom (Cooper, 2021; Mills et al., 2014b). Although, the current study only qualitatively explores one Scottish football academy and therefore generalisability is low, the objective of the research was to investigate in depth, the development process, the players' developmental experiences and the behaviours selected to cope with and thrive in the selected academy environment.

Practical Considerations

Considering the tight focus on exploring the talent development process within an individual football academy in Scotland, the current study, and subsequent findings, provides a wealth of practical insights and recommendations that stakeholders can utilise to enhance the effectiveness of the academy's talent development and identification processes. All participants harmoniously articulated the primary objective of the football academy was to develop first team players, therefore a degree of coherency can be assumed. However, the presence of an implicitly espoused culture that values short-term results was perceived by coaches, resulting in a negative impact on perceptions of coaching efficacy and an extensive pressure to secure results in order to maintain employment. Moving forwards, academy stakeholders may look to eliminate this perceived association between coaching competency, job security and short-term results by engaging in frequent dialogue and performance reviews with coaches where long-term objectives are emphasised and short-term, player and coach, developmental milestones are agreed and planned.

Study findings provide an insight into the physiological characteristics and behaviours utilised by 'good developers' to cope with and navigate the challenges of the talent pathway. Coupled with similar psycho-behavioural findings found in earlier research

(Hill et al., 2015; Savage et al., 2017; Taylor & Collins, 2019), the academy now possess general and contextually specific behavioural and psychological commonalities of 'good developers'. Practically, these findings provide a foundational criterion that can be utilised when identifying talented youth athletes prior to selection and recruitment to the academy, ensuring new recruits possess traits and characteristics that will facilitate development and optimise the learning achieved from specialised coaching within the academy environment.

The importance of parental support and behaviour has been identified within the current and previous studies and also peer-reviewed literature (Rees, 2007; Sheridan et al., 2014). Therefore, practical implications of such findings within the current academy may encourage stakeholders to design and deliver a parental education curriculum that aims to raise awareness of and introduce behaviours that support and facilitate the development of talented young athletes. This in turn will create a much more cohesive coach-parent relationship and contribute to the highly functioning support network that each player requires.

Future Considerations

The current study further contributes to the limited literature that presently exists relating to talent development in Scottish football, as such, future research should seek to explore the nuances of talent development within a Scottish football context in more detail. From a methodological perspective, the current study offers a short-term insight into the developmental approach adopted by the academy and the behaviours and characteristics of 'good developers'. Future research should look to track the manifestation and developmental outcomes (successful progression to the senior level or deselection) of the identified behaviours to monitor the presence, utilisation and development over a longitudinal period of time. Specifically, to check if the prominence of the identified psycho-behaviours remains consistent as players progress from the academy to the senior level or do the contextual and environmental pressures of professional football require the development of a different psycho-behavioural skill set? Lastly, academy stakeholders would benefit from continuing to monitor the effectiveness of the 'stretch and stress' approach from a variety of perspectives, for example, coach, parent and player, and also including more tangible progression/development outcomes.

Chapter 7 – General Discussion, Summary and Research Considerations

Research Summary

This thesis has aimed to expand the knowledge of the talent development process within a previously under researched environment, an elite tier Scottish football academy. Specific attention was dedicated to exploring the concept of self-regulated learning within the development environment, seeking to ascertain the academy players' frequency of engagement with and nature of self-regulatory behaviours. Furthermore, this thesis sought to investigate the wider talent development processes within Scottish academy football via quantitative and qualitative lines of inquiry. Therefore, the study aims, and methodologies were guided by the following five thesis objectives:

1) To understand the perceived quality of the academy development environment, identifying strengths, weaknesses, and possible variances between the provisions available to players of different levels of perceived future potential.

2) To investigate the academy players' ability to self-regulate their footballing development; specifically examining the frequency of engagement, behaviours utilised, and the role self-regulation plays in the ability of players to cope with the demands and challenges of the talent pathway.

3) To investigate the presence and influence of relative age effects on the academy recruitment and evaluation of potential processes

4) To understand the lived experiences of academy players, with specific attention paid to the nature of, behavioural approaches taken to overcome and the developmental influence of challenges, pressures and naturally occurring difficulties within the talent pathway.

5) To examine the competencies and behaviours utilised by academy players in an attempt to successfully navigate the talent development pathway

The following sections aim to outline the rationales, methodological approaches, and findings from each of the four original scientific studies, providing a concise overview of the main research.

Study 1

The initial study, in chapter 3, was specifically designed to address objectives 1 and 2. The quality of the provisions and support available within the talent development environment is understood to play a significant role in developing talent and the realisation of sporting potential (Henriksen et al., 2010a; Martindale et al., 2007). Understanding the current quality of the academy development environment was an important step to the wider programme of research, Scottish football academies are a current unknown within scientific research, therefore it was crucial to establish the nature of, and strengths and weaknesses of the development environment. The ability of an athlete to self-regulate learning in an effective manner through the use of appropriate learning strategies and competencies that align with, and maximise the learning opportunities afforded by the environment is believed to significantly increase the chances of reaching the elite level (Jonker et al., 2019; Toering et al., 2009). To address the study aims and research objectives, psychometrically validated instruments, TDEQ5 (Li et al., 2015) and FSRL-SRS (Toering, Elferink-Gemser, Jonker, et al., 2012), were completed by academy players at the beginning of an academy season. Findings show the academy environment to be of a good quality, specifically the academy environment was strong in the provision of long-term development opportunities and a wide-ranging support network that was readily available and accessible. Contextually specific practical implications to improve the environmental quality were provided and related to the establishment of more efficient communication channels between coaches and parents, greater consideration for the players' holistic well-being and opportunities for recovery and the need for the academy to prepare players more effectively for upcoming challenges. The academy players were also found to self-reflect and self-evaluate learning on a semi-regular (sometimes or often) basis, with players spending less time strategically planning future approaches to learning. The findings from this study provide an overview of the environmental quality and self-regulatory behaviours of the academy players, these findings provide a foundation for the following

study that sought to identify the behaviours and perceptions of players of different potential and progression statuses.

Study 2

The second study aimed to build upon the objectives 1 and 2 and also findings from study one by exploring the differences in self-regulation and environmental perceptions across different potential groupings within the academy. Toering, Jonker and colleagues (2019; 2009; 2012) demonstrated the discriminatory abilities of self-regulation behaviours, as 'more elite' players were found to reflect more and apply more effort to development activities than less talented peers. Additionally, the study also aimed to investigate the presence and influence of the relative age phenomenon (Helsen et al., 2005) within the academy's talent identification, recruitment and development process (objective 3). Research contends those who are born early in the selection year will experience developmental advantages in sociological, psychological, physical and cognitive aspects due to an increased exposure to training and/or an earlier onset of puberty (Helsen et al., 2005; Hill et al., 2020; Jiménez & Pain, 2008). Such advantages result in higher levels of current ability compared to later developing peers, current ability is utilised as a proxy for future potential (Abbott & Collins, 2002) and therefore early born athletes are more likely to be selected for talent programmes and receive more development opportunities due to the traditional selection criteria that assumes current ability proceeds high levels of future sporting ability (for review see Baker et al., 2018). To achieve the study objectives, a season long approach was taken that collected self-regulation and environmental data at the beginning of an academy season and asked the academy manager to provide their perceptions of the future potential of all academy players. Low, neutral, and high groupings of potential were formed and the months of birth for each academy player was also collected and analysed. Tangible progression/deselection data was added upon the commencement of the season, which lead to 4 groupings of potential/progression; 1) deselected, 2) progressed – low potential, 3) progressed – neutral potential and 4) progressed – high potential. Results demonstrated a bias within the academy's TID process with over 70% of the academy cohort born in the first half of the selection year. However, relative age did not influence the academy director's perceptions of future potential with a consistent percentage of early and later born players assigned to high and neutral

groupings of potential. High potential players perceived the overall quality of the environment to be significantly better than those who were deselected. Significant differences in perceptions of holistic quality preparation were detected between high potential and deselected players and at a between-participant group level. Also, statistically significant differences were present between deselected and high potential players' overall engagement with self-regulated learning. The degree of engagement with self-evaluation also presented significant between subject group differences.

Study 3

Study 3 was designed and conducted in alignment with objective 4. The preceding studies offered a quantitative perspective on the learning behaviours of the academy players, these findings provided an evidence base to design and develop an effective line of qualitative inquiry in studies 3 and 4. The talent development journey is highly complex and dynamic, with a plethora of intertwined and interrelated variables that influence the effective development of talent and realisation of potential (Bloom, 1985; Côté & Hay, 2002; Gagné, 2004). Developing athletes inhabit and transition through multiple domains, and domain specific environments, that present a variety of diverse challenges and difficulties that require facing and overcoming with the appropriate coping strategies and resources (Stambulova, 2009; Stambulova et al., 2009; Wylleman et al., 2013). With this in mind, a qualitative methodology with a novel three phase data collection procedure that spanned an entire academy season was designed and utilised. Semi-structured interviewing, guided by progression graphing, was used to capture the lived experiences of 15 academy players as they navigated the 2019 CAS season. Findings from the research identified a number of consistent pressures and challenges experienced by the academy players, particularly prominent was the pressure to seek out and optimise high quality training opportunities, maintain an effective dual career by exceling in both school and football, and the pressure to 'stand out' from academy peers in order to avoid deselection from the academy environment. To make the most of the learning opportunities afforded by the academy environment, the players sought to adopt effective learning behaviours and strategies; reflection strategies, strategic future planning of behaviours, goal setting and regular performance evaluations were utilised. The quality of competition experiences was also identified by players a crucial ingredient to facilitating their development and

progression towards senior football. The introduction of meaningful competition experiences, as a result of an increased value placed on competition outcomes and participation in tournaments, was viewed by players as an important step to equipping them with the appropriate competencies to succeed at the senior level. This however also brought significant pressure to succeed and accentuated the perceived need and pressure to stand out from peers, the external recognition attached to winning and losing resulted in the development of ego-orientated, avoidance behaviours in competition. The looming threat of deselection, perceived need to stand out from peers and gaining of coaches favour through competent competition performances and positive competition outcomes contributed to the development of a peer-created, ego-orientated climate within academy age groups. Lastly, the academy players received support from six main social agents; parents, coaches, teammates, siblings, teachers and peers, who fulfilled three main functions: facilitation of sport-specific player development, balancing the provision of challenge and support for the player and offering socialisation opportunities. Parents were attributed the most significant sources of support to the developing players, predominantly providing emotional, tangible, esteem building and informational support.

Study 4

The fourth and final study aligned with thesis objective number 5, investigating the competencies and behaviours of players who have previously or are currently on course to graduate from the academy, earn a professional contract and reach the senior level. Successful navigation of the talent pathway requires athletes to tackle, cope with and overcome a variety of challenges within the athletic and non-athletic domains and transition between stages within each domain (Collins & MacNamara, 2017a; Stambulova, 2009; Wylleman & Lavallee, 2004). To 'survive' the talent journey, developing athletes need to possess and utilise the appropriate psychological coping resources, strategies and behaviours (Hill et al., 2015; MacNamara et al., 2010a, 2010b; Reeves et al., 2009). Therefore, the fourth study adopts a qualitative, semi-structured interview methodology to capture the behaviours and competencies of successful developers. This study however addressed research objective 5 from a coach perspective, gathering the perceptions of experienced, key stakeholders in the talent development process. Findings identified the important role of task/mastery-orientated

motivational dispositions on the behaviours demonstrated by players when presented with a challenging task or situation. Successful developers were more likely to embrace challenge, seeking to identify the developmental benefits of the challenge before devising an appropriate, and consistent approach to overcoming. The consistent application of high levels of physical and cognitive effort was identified by coaches as developmentally facilitative, commonly demonstrated by behaviour such as questioning and listening to coach feedback and guidance, supporting actions with thought and rationale and working hard within all training and competition opportunities. The academy coaches also articulated the development approach utilised with the academy was to 'stress and stretch' players as much as possible while providing a comprehensive support network to ensure athlete well-being was maintained and not sacrificed for development gains. Competition was identified as one of the major tools to 'stress and stretch' players, competition was characterised as; *'playing to learn', 'learning to win'* or *'playing to win'*, with each stage characterised by different developmental intentions and themes. Coaches attempted to implement these developmental intentions by trying to be pedagogically innovate and critically reflective within training sessions, however, to ensure player well-being was maintained the coaches took steps to get to know and understand each player holistically, recognising the person before the player so that support could be individualised.

General Discussion

The following section will present a model that aims to summarise the findings and influential aspects of the talent development process (figure 7.1). This model is a visual representation of the findings with connections demonstrating the perceived interaction between environmental and individual learners at a personal level. By no means is it exhaustive or conclusive. Overall, the thesis focused on the talent development processes of an elite Scottish football academy, specifically the talent development environment and also how the players learn and interact within the environment.

The model depicts six key areas that were identified within the research, from an external perspective the players were exposed to academy specific and non-academic specific experiences that had the potential to be developmentally facilitative or limiting depending on the interaction with the learner. Additionally, the learner possesses a social support network that contained academic specific sources of support, parents/guardians who span across both the academy and non-academy life and school friends and teachers who did not inhabit the football academy sphere. Lastly, the academy pathway is described as non-linear with a number of possible exit and re-entry points.

Figure 7.1: Illustration of the research thesis findings
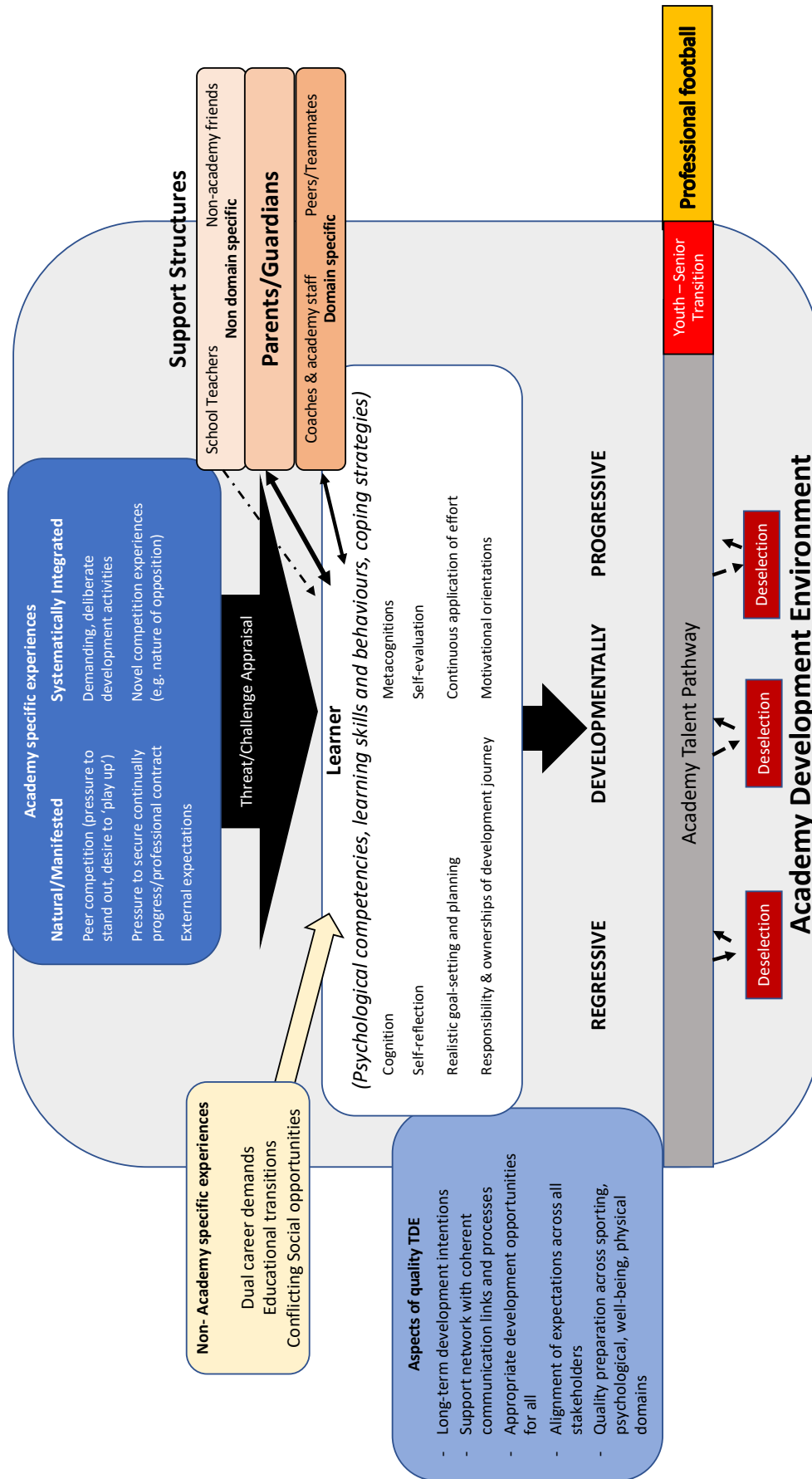
The Quality of and Equity within the Academy Environment

The significance of the quality of the talent development environment is recognised throughout the scientific literature (Gagné, 2004; Henriksen et al., 2010a; Martindale et al., 2007), five features of effective environments were identified by Martindale et al., (2007): i) long-term aims and methods, ii) wide-ranging coherent messages and support, iii) emphasis on appropriate development, not early success, iv) individualised and ongoing development, and v) integrated, holistic and systematic development. Overall, the academy environment was perceived to be of a good quality, however high potential players perceived the environment to be of a significantly higher quality than deselected players. The academy environment was found to be strongest in areas related to supporting the long-term development of players and possessing a skilled support network that was available and accessible to the academy players. These findings aligned with previous research within other football academy environments (Gangsø et al., 2021; Gledhill & Harwood, 2019; Mills et al., 2014a). This alignment of findings may highlight the relative ease of creating a long-term development environment that is surrounded by active support staff compared to other, more intricate, individualised aspects of the TDEQ. Environmental features that support long-term development are associated with the presence of more task/mastery motivational orientations which are believed to be conducive to pathway progression and sport-specific development (Wang et al., 2011, 2016). Study 1 findings were analysed on an item-by-item basis to identify weaker items and provide contextually specific, practical recommendations to improve the environmental quality. The ability of the environment to help players plan and prepare for future pathway challenges was identified as a weaker area. Considering the non-linear, rocky nature of the development pathway (Abbott et al., 2005; Collins et al., 2016a; Collins & MacNamara, 2012) developing athletes need to possess and utilise the appropriate psychological coping resources and strategies to continue progressing towards elite performance (Collins et al., 2016a; Collins & MacNamara, 2017b; MacNamara & Collins, 2013). Many of the TDEQ5 items that composed this inductively developed theme originated from the holistic-quality preparation factor which was scored weakest within study 1. Therefore, the academy environment may not offer the appropriate level of provisions needed to equip the academy players with the coping skills, strategies and learning competencies required to navigate the talent pathway and the challenges presented along the rocky road.

Findings from study 2 found significant group differences in the perceptions relating to the environment's ability to prepare players in a holistic manner. For example, high potential players perceived the environment to prepare them significantly better for pathway challenges compared to the perceptions of deselected players. One explanation for this variance between high potential and deselected players may relate to the role of perceived competence as a mediating factor in the perceptions of the development environment (Wang et al., 2016). This may then account for the variance in environmental perceptions between deselected and high potential academy players. On the other hand, this finding may highlight a lack of equality within the treatment of academy players, where high potential players may be viewed by the academy coaches more favourably due to their greater likelihood of 'making it' and therefore receive more provision to develop holistically and prepare for future challenges.

The assumption that 'all' players within a football academy would receive equal development opportunities and access to provision would appear appropriate. However, the difference in the athletes' perceptions of the TDE allude to the possibility of a degree of variance in relation to the available development opportunities, access to development provisions and the level of support and attention provided by coaches and support staff. Preferential treatment, or 'favouritism' within talent development programmes is identified as a consistent and prevalent deselection stressor for players (Rothwell et al., 2020) and parents (Harwood & Knight, 2009b). Possessing a face that 'does not fit' was identified by academy rugby players as a significant reason for non- or de-selection (Rothwell et al., 2020), thus highlighting the role and power that academy coaches and administrators have in gatekeeping the availability and accessibility to development provisions and opportunities (Cushion & Jones, 2006). From a sociological, Bourdieusian perspective, academy players are understood to gain social and cultural capital within the TDE by adhering to culturally espoused values and beliefs and by demonstrating behaviours which align with those deemed by coaches and academy decisions makers/stakeholders as desirable and necessary to 'make it' as a football player (Cushion & Jones, 2006). Thus, the degree of conformity to the social and cultural habitus set by power possessing social agents within the academy environment relates to the 'capital value' assigned to each player by academy coaches (Cushion & Jones, 2006). Findings from chapter 6 demonstrate such desirable behaviours that academy

coaches believe contribute to the development of a future professional. Although many of the analysed behaviours within this chapter do align with and build upon the findings of previous research (Aalberg & Sæther, 2016; Flatgård et al., 2020; Taylor & Collins, 2019), the study did not investigate how such behaviours were encouraged and developed or how players who could not 'conform' to these desirable behaviours were treated. From the research, *'high capital value'* players are likely to be regarded as 'good players' and 'favourites' and receive preferential treatment with regards to development opportunities, access to development provisions and game time (Cushion & Jones, 2006). The findings from the current research do not explicitly identify variance within the coaches' treatment of academy players, however findings from a players' perspective do insinuate that those 'high potential' players did perceive the environment to support them more favourably than peers deemed as less gifted. These findings may therefore indicate a degree of agreement with those identified within Cushion and Jones' (2006) Bourdieusian analysis that preferential treatment and favouritism can and does exist within TD programmes. Additionally, this reinforces the assertion of previous research within competitive TD programmes (Harwood & Knight, 2009b; Rothwell et al., 2020), that preferential treatment of players from coaches and stakeholders can be a significant stressor for athletes and parents, leading to athletes dropping out of talent pathways completely (Rothwell et al., 2020).

Intrapersonal Resources and Behaviours: Self-Regulation Competencies

Another significant contribution of the thesis was the examination of the academy players' level of engagement with self-regulatory competencies, and the identification of behaviours and degree of engagement that varied between those of different levels of future potential and progression status. Effective self-regulators possess the ability to adjust their approaches to learning and thus enhance the effectiveness of their approaches in response to the dynamic nature of the talent development environment (Zimmerman, 2000, 2006). Research has identified specific behaviours and self-regulation competencies as discriminators between high and low level youth and elite athletes (Jonker et al., 2019; Toering et al., 2009; Toering, Elferink-Gemser, Jordet, et al., 2012). Study 1 provided an overview of the self-regulatory behaviours of the entire academy cohort, players engaged equally with self-reflection and self-evaluation behaviours and less with strategic future planning behaviours. Study

2 categorised the academy cohort in relation to perceived future potential and tangible progression/deselection outcomes, from which significant variance was detected in the level of engagement with self-evaluation behaviours between all groupings of players and between high potential and deselected players, and neutral potential and deselected players. This finding is unique, and novel as previous research has not detected significant variance within the self-evaluation behaviours of developing athletes. The ability to effectively self-evaluate performance and learning is connected to the learners' degree of self-awareness, ability to accurately appraise experiences and the appropriateness of performance indictors or development goals (Chow & Luzzeri, 2019; Ravizza & Fifer, 2014). Research investigating the psychological competencies of Olympic and World champions identified self-awareness and critical appraisal of experiences as key attributes associated with high levels of competence and future potential (Durand-Bush & Salmela, 2002). Therefore, higher potential players in the current academy cohort may possess higher levels of self-awareness, more accurate performance appraisals and set more appropriate, attainable goals which allows for better, and more frequent opportunities to self-evaluate learning in the academy. The coach perceptions of effective development behaviours (study 4) support this assertion as 'good developers' appeared appraise performance in a manner that provided information to facilitate self-evaluation and inform self-regulation of future learning behaviours and approaches. Furthermore, findings from studies 3 and 4 emphasised the desperate desire of 'good developers' to gather feedback and information from a variety of sources which was then utilised to inform the goal setting and behavioural reorientation (strategic, future planning). The act of seeking help and guidance are important self-regulation behaviours, athletes who are aware of their own strengths and weaknesses and take responsibility for their development will seek out sources of knowledge during periods of difficulty or uncertainty to help inform future approaches and behaviours (Hill et al., 2015; Toering et al., 2011).

Academy players who had previously reached the professional level or were currently progressing at a high rate within the academy were believed to take responsibility for their footballing development. Assuming responsibility for sporting development is associated with heightened levels of mental toughness, resilience and self-discipline which positively enhance the ability to cope with and thrive during pathway challenges

(Holt & Dunn, 2004; MacNamara et al., 2010a, 2010b). Encouraging players to take ownership and be responsible for their own personal footballing development is common with the literature (Aalberg & Sæther, 2016; Flatgård et al., 2020). Furthermore, coaches attributed those who adopted ownership of their development to demonstrate behaviours relating to high levels of cognitive engagement and effort in training and competition, positive approaches to seeking out and tackling challenge and the engagement with additional, mainly ad hoc, training opportunities. The role of additional training was identified by the players in study 3 and coaches in study 4 as an important aspect of the talent process, players who were seen to be engaging in additional, deliberate practice were regarded as good developers and/or high potential players. Research does support the connection between time spent in sport-specific play and practice activities with future sporting achievement (Ford et al., 2009; Ford & Williams, 2012; Haugaasen et al., 2014; Haugaasen & Jordet, 2012; Roca et al., 2012) and perceptual- cognitive skills (Roca et al., 2012). Following the item-by-item analysis in study 2, high potential players were found to be significantly more likely to arrive early or stay late after training to complete additional practice focused on developing weaknesses. Further highlighting the willingness of high potential/effective developing players to take responsibility for their own development and engage in activities that will further develop the sport-specific competencies required to reach the professional level.

As previously outlined, coaches possess significant power within the academy environment, acting as gatekeepers to the players' progression within the academy programme and the availability and access to high quality development opportunities (Cushion & Jones, 2006). The significance of such 'gatekeeping' is elevated towards latter academy years when players must gain a professional contract with the club or leave and seek opportunities elsewhere (Cushion & Jones, 2006). Academy coaches and stakeholders are key decision makers in this process and therefore hold significant power regarding the future steps of academy players nearing the age of sixteen. This power results in coaches and key decision makers possessing the ability to assign 'capital' to players who 'toe the line' and adopt training and competition behaviours that align with this 'hidden curriculum' – behaviours, values and beliefs that are deemed as desirable and necessary to reach the professional level by coaches (Cushion & Jones,

2006, 2014). Additionally, the culture of professional football is traditionally masculine in nature, with player autonomy and well-being commonly sacrificed in favour of successfully reaching and performing at the professional level (Champ et al., 2020; Kelly & Waddington, 2006; Platts & Smith, 2009). Masculinity within professional football is personified by "rigid hierarchical narratives of what constitutes a 'real man'" and is demonstrated by the suppression of emotional and physical feelings of pain, distress or injury and the adoption of bravados that seek to personify aggressivity and physical strength (Champ et al., 2020, p. 147). This masculine culture is demonstrated explicitly in the findings of studies 3 and 4 where both coaches and players identify the presence of ego-orientated climates where academy players may look to shift blame onto others in order to preserve social status and capital and feelings of self-worth. The combination of a masculine culture that disregards individuality, and a social ecosystem where coaches and stakeholders attribute value and capital to those who embody the 'hidden curriculum', has the potential to limit the players' opportunities to independently explore, regulate and assess the learning experiences available within the environment. To successfully regulate learning within the development process, the learner must be provided with the 'space' and autonomy to independently initiate and manage the cognitive and meta-cognitive behaviours associated with self-regulation (McCardle et al., 2017; Panadero, 2017). The process of self-regulation is characterised throughout research as one that is cyclical in nature, therefore indicating the continuous cycle of implementing, assessing, modifying, and reflecting on cognitive and behavioural approaches to learning activities (Winne & Hadwin, 1998; Zimmerman, 1986, 1989). Considering the nature of the footballing environment which can limits player autonomy and implicitly guides players to behave in a specific manner in order to progress, opportunities to self-regulate may be significantly restricted. The significant role of coaches and their behaviours and discourse with players may also influence the self-evaluation and reflection aspects of the self-regulation theory. Further limiting the freedom and autonomy of players to engage in independent, self-guided regulation. Findings from study 3 reinforce the assertion that players behave in a specific manner to appease and gain capital from key academy decision makers, these behaviours are underpinned by a fear-of-failure where players actively seek to avoid innovative, novel or difficult actions to ensure social capital is retained and progression within the academy and into the first team is not compromised. These ego-preserving, failure-

avoidance behaviours are not unique to this body of research, coupled with the perceived importance of demonstrating to coaches an ability to successfully adhere to the 'hidden curriculum', therefore, developing players may look to 'stick to the status quo'. Thus, resulting in players forgoing opportunities to learn autonomously and to regulate their own learning in favour of a more rigid, militaristic learning approach where autonomy is negated, and the coaches' commands and guidance are unquestionably followed.

Influence of Relative Age on Academy Processes

The presence of relative age bias is found within a large majority of youth development environments and sports that implement an age group system with explicit selection year cut offs (Helsen et al., 2005). Relative age explains the psychological, cognitive, sociological, physical, and sport-specific advantages enjoyed by developing athletes born early in the selection year compared to later born peers. The focus and belief that current ability precedes and indicates high levels of future potential results in TID and recruitment processes that are biased towards those born early in the selection year. Meaning that later born, and later maturing, players are not afforded the same development opportunities within talent environments that identify and select players prior to, and/or during the onset of maturation (Cripps et al., 2016; Furley & Memmert, 2016; Till et al., 2014; Vaeyens et al., 2005). The findings from study 2 show that the TID and recruitment processes is biased by relative age, with over 70% of players born in the first half of the selection year. These findings align with those within other football academies (Gutierrez Diaz Del Campo et al., 2010; Helsen et al., 2005; Hill et al., 2020; Lovell et al., 2015) and the wider Scottish football landscape (Dugdale, McRobert, et al., 2021a). Moreover, the research produced original, novel knowledge as relative age was not found to influence the academy managers perceptions of the players' future potential. This finding opposes those of previous research where coaches were found to subconsciously associate early births with higher levels of physical and sport-specific abilities (Furley & Memmert, 2016; Hill & Sotiriadou, 2016). Although the perceptions of future potential were not influenced by relative age, the bias present within the TID and recruitment processes will constrain the academy's ability to identify and select players who possess high levels of future potential but may be born later in the year. Therefore, later born players' competencies are not as evident compared to

those born earlier, thus potentially earlier maturing players who may be selected instead due to their higher level of current ability which is influenced by relative age. Academy selection and the pressure to remain in the environment is understood to challenge later born players to develop higher levels of technical, tactical and learning competencies as a coping mechanism to avoid deselection (Cumming et al., 2018; Zuber et al., 2016). Longitudinally the relative age bias is reversed and later born players are found to be more technically and tactically competent and mentally robust (Cumming et al., 2018; Jones et al., 2018; Kelly, Wilson, Gough, et al., 2020; McCarthy & Collins, 2014). The findings relating to the third objective present significant insight for the football academy and their TID and recruitment processes.

Challenges, Pressures and Experiences in the Talent Development Pathway

The novel findings from study 3 and 4 significantly contribute to the originality of the programme of research and provide new knowledge in the form of understanding of the lived experiences of young academy football players as they navigate the talent development pathway. Past research has documented the complex and dynamic nature of the talent process that does not appear to follow a predictable, linear path, rather the development of talent is non-linear and idiosyncratic in nature (Abbott et al., 2005; Collins & MacNamara, 2012; Dugdale, McRobert, et al., 2021b; Gulbin et al., 2013). Progress graphing in study 3 illustrates the messiness of the academy players' current journeys through the football academy system, the qualitative aspect of study 3 shows the pathway is littered with challenges and pressures that stem from the academy and several non-athletic domains. One of the most prominent, and consistent challenges that brought a degree of pressure to the lives of the young academy players was the difficulty of managing a dual career in football and mandatory academics. Managing and maintaining a successful dual career approach was challenging for the academy players due to the demands placed upon them from conflicting school and football schedules and the expectations of key stakeholders (i.e., teachers, coaches, parents) (Christensen & Sørensen, 2009). Players who attended the football club's performance school, which aims to offer additional training opportunities and a flexible educational schedule to aid the dual career approach, found the expectation to meet demands and excel in both football and school to be especially challenging, as did the parents of the performance school players (Harwood et al., 2010; Harwood & Knight, 2009a). Relating back to the

environmental findings of studies 1 and 2, the perceived weakness of the academy environment to prepare players in a holistic manner may contribute to the players' perceived inability to effectively cope with the demands of both domains and employ strategies that would allow them to succeed in school and football. This believed inability to cope with the demands of mandatory schooling alongside footballing development is compounded by the Scottish Football Associations directive that encourages academy programmes to expose talented youth players to between 8,000 and 10,000 hours of deliberate practice before the age of eighteen (Scottish Football Association, 2017a, 2017b). Recent research further highlights the training demand on young academy players, with many participating in 9-14.5 hours of football specific training per week, with players as young as 9 years old spending upwards of 10 hours per week on pitch (Kelly et al., 2022). The need to acquire 10,000 hours appears to place unnecessary pressure on developing athletes during their key, mandatory schooling years. Hornig, Aust and Güllich (2016) identified that prior to debuting in the German Bundesliga, players had engaged in approximately 4000-4500 hours of organised football development activities throughout childhood, adolescence and early adulthood (~16 years). This, therefore, demonstrates the excessiveness of the Scottish Football Associations mandate to expose talented players to a minimum of 8,000 hours of organised football activity. This significantly inflated training load, minimises the opportunity for players to engage with valuable 'deliberate free play' (Ford et al., 2009), recover sufficiently to protect their physical and psychological well-being (Brink et al., 2010) and engage with activities away from football that will aid their overall holistic development (Christensen & Sørensen, 2009; Sæther et al., 2022).

Additionally, the lack of coherent communication between the academy and external environments, that was identified within study 1, may also place additional pressure on the academy players as there is potential for both school and football to place conflicting, overlapping demands and deadlines on the young players. This finding is worrying considering the role and intention of integrated sports schools is to aid the academic and sporting development of talented youngsters by adopting a cohesive and coordinated system that recruits and involves stakeholders within both domains to promote and support the young athletes' holistic development (Christensen & Sørensen, 2009; Sæther et al., 2022).

Second, competition opportunities emerged from both study 3 and 4 as a prominent theme that directly accounted for the pressures experienced by academy players *and coaches*, and indirectly as competition contributed to the peer-created ego-orientated climate that led players to feel pressurised to stand out from their teammates. Players perceived the quality of the opposition within competition as a variable that directly influenced the degree of learning and development that could be gained from the singular game. Therefore, the academy players, specifically younger academy players, desired to participate in competition experiences against high quality opposition that would challenge their skills and competencies and as a result catalyse their sport-specific development.

Research does recognise the importance of high quality training and competition experiences within an effective talent development programme (English et al., 2018; Martindale et al., 2010). The qualitative perspectives of the academy coaches in study 4 explicitly articulated the academy's systematic approach to using competition as an extension of the development process. Specifically, the academy utilised competition within the development process in one of three ways; *playing to learn, learning to win, playing to win*. Understanding how a football academy structures and utilises competition within the talent development process is novel and insightful with no other known research exploring the role of competition within a live, 'real world' football academy. Competition intentions within each stage were aimed at developing specific competencies of the academy players, with early age groups focused on playing to learn where competition was an opportunity to try out new skills developed in training against live opposition. These intentions were reinforced by the motivational atmosphere created by coaches through their behaviours and interactions with players. Additionally, the environment, specifically coaches, appeared to encourage these development intentions during early competition by placing value on players' behaviours, intentions and actions that demonstrated sport-specific progression and development. Findings from the players' perspective in chapter 5 highlighted that coaches looked to encourage players to have freedom to try and complete challenging actions in competition situations with little to no fear of any repercussions. The players' and coaches' intentions

of early competition appear to align with the primary focus on developing sport-specific competencies and testing new skills and techniques against live opposition.

The secondary stage of academy competition, *learning to win*, introduces 'winning' as a concept and desirable outcome of competition. In this stage, the academy places greater value on competition outcomes and thus introduces players to meaningful competition. The *learning to win* stage of academy competition was welcomed by the players as this represented a format and culture that more closely represented professional football, the goal that all players aspire to reach. This was evident from the findings in chapter 5 where players actively looked forward to beating rival teams and keeping count of personal statistics. The nature of competition within this stage was also perceived to be of a higher quality compared to early academy competition experiences, which players associated with a greater degree of sport-specific development and progression. *Learning to win* intended to predominantly teach and develop the tactical competencies of early teenage academy players, with a smaller focus placed upon the nuanced behaviours associated with achieving positive competition outcomes in meaningful games (i.e., managing games, timewasting, winning free kicks). The environment promoted the importance of achieving positive competition outcomes by the behaviour of coaches during competition, through the discourse between coaches and players and the decisions made by coaches during competition (i.e., not making substitutes, limiting game time). The extent to which competition and competition outcomes were emphasised by coaches and players during the 'learning to win' phase did appear to vary depending on the nature of the opposition (i.e., local rival, established academy) and prior results. Academy players sought to develop 'rivalries' with opposition academies of other established clubs, commonly trying to replicate rivalries that were established at the senior level. Opportunities to overcome and 'beat' local rivals appeared to hold higher value for players and coaches than overcoming an 'inferior' opponent did. The implicit, and sometimes explicit, pressure on coaches from academy stakeholders and senior leadership to gain positive results seemed to enhance the importance of the 'learning to win' competition. Leading to a divergence from the previously outlined intention of player development over competition outcome at this stage. This conflict between winning and development, and subsequent short-termism that exists in senior football is found within academy, development programmes like the

selected academy (Cushion & Jones, 2006, 2014; Taylor & Collins, 2021). The experience of winning and the external rewards and validation associated with achieving positive competition outcomes (i.e., praise, trophies, financial incentives/rewards from (grand)parents) were enjoyed by the adolescent academy players.

As players progressed towards academy graduation, the role of competition transitioned to a win-at-all-costs approach where achieving positive competition outcomes was believed to be significant to the players' chances of progression to the professional environment (Cushion & Jones, 2006, 2014). This 'need to win' and the perceived outcome of winning was accompanied by a significant elevation in the pressure felt by players as they participated in new competitive experiences in league and tournament formats, that promote the importance of winning points and trophies. Pressure was perceived to come from a number of sources, the pressure to demonstrate high levels of competency to coaches and academy stakeholders who make contract decisions, pressure to avoid making mistakes and demonstrating the inability to perform in 'high stake' games, and the pressure to stand out from academy peers. Graduation aged academy players viewed competition as an ongoing audition for professional contracts where key, decision making, stakeholders assessed players' abilities and their capacity to perform under pressure. The majority of players therefore placed greater value on completing difficult actions that helped them stand out from their peers, scoring goals and contributing assists and achieving positive competition outcomes. Demonstrating competency in this way was perceived to increase the chances of securing a professional contract and stave of deselection, this therefore contributed to the pressure felt by players as teammates were attempting to 'out do' one another to stand a greater chance of reaching the professional level upon academy graduation (Clarke et al., 2018; Cushion & Jones, 2006). The finding is not unique to the current research, achieving positive competition outcomes is perceived by academy football players across research as a key indicator of successful development and increased likelihood of reaching the professional level (Cushion & Jones, 2014).

The emergence of a win-at-all-costs mentality, coupled with the impending academy graduation and uncertainty of contract offers lead to the development of a peer-created, ego-orientated motivational climate that resulted in the adoption of more

failure-avoidance behaviours in 'high pressure' competition experiences (Sagar et al., 2009, 2010). Findings from study 4 highlight the need for academy players to possess a competitive streak that sees them strive to win and succeed in competition at the expense of the opposition, however the coaches also highlighted those who succeed and reach the professional level also demonstrate task/mastery orientated motivational dispositions that help them to focus on consistent development rather than external rewards and accolades. The adoption of mastery focused and achievement focused orientations is understood to positively influence intrinsic motivation, enjoyment, effort and needs satisfaction (Gardner et al., 2017; Morris & Kavussanu, 2009; Puente-Díaz, 2012) and increase the likelihood of reaching the professional level (Gledhill et al., 2017; Zuber et al., 2015).

Lastly, the academy coaches also perceived there to be a pressure on them to achieve positive competition outcomes at *all* levels, but heightened pressure was experienced by those working with the older academy age groups. This pressure to win and succeed in competition originated from the main academy stakeholders (i.e., sporting director, head of academy coaching, academy director), and resulted in coaches feeling insecure in their coaching position within the academy. Although this pressure was predominantly implicitly applied, the academy culture also challenged and contradicted the explicitly outlined development focus on competition within the younger, *playing to learn* age groups. Coaches articulated that this pressure stemmed from interactions with senior staff members that began with questioning the outcome of competition rather than inquiring about the development or progression of specific players. This focus placed on the outcome of games resulted in coaches feeling under pressure to achieve positive competition outcomes, even with young academy teams. Failing that, coaches believed they would be sacked from their academy coaching roles.

Research Consideration

Research Limitations

There are a number of study-specific limitations that have been identified and presented within the chapters of this thesis. However, there does exist a small number of global limitations that relate to the design, development and composition of the wider programme of research.

First, there are several limitations associated with the selection and nature of the elite tier football academy that was analysed in the research. The research was pragmatic in nature and focused on a single football academy therefore findings are extremely pertinent to the selected football academy, and practical recommendations have been offered following the presentation of findings in each of the four chapters. The selected football academy is an elite tier academy as identified by the Scottish Football Association's performance strategy and Club Academy Scotland structure (Scottish Football Association, 2017b), at the time of writing there are 11 elite tier academies in Scotland which means the current programme of research and findings represent 9% of the elite academy population in Scotland. Specifically, the quality and provisions available within the analysed environment may contribute to the development of players' learning skills and psychological competencies that were also assessed within the programme of research. Therefore, the lived experiences and skill development of players may be specific to the current environment and not universal within Scottish football. The current research however does significantly advance the knowledge of academy football within Scotland due to the current dearth of scientific investigations in these environments (Dugdale et al., 2020; Dugdale, McRobert, et al., 2021a, 2021b; Dugdale, Sanders, et al., 2021).

Second, the programme of research did not have the capacity to adopt a significant longitudinal approach to the lines of inquiry. Although study 3 did adopt a novel, season-long approach that resulted in the collection of large volumes of interesting and insightful data which produced an extensive account of the academy players' lived experiences. Studies 1 and 2 adopted a cross-sectional approach to investigating self-regulatory behaviours and environmental perceptions, this therefore limits the opportunity to assess the development of both variables over time. Specifically, study 2

incorporated tangible progression data from the end of a season, ideally the collection of data would span a longer period which would allow for the players to progress through the academy system and into adult life, resulting in the possible realisation of perceived future potential and also the tangible outcome data for player progression destinations.

Lastly, although the research sought to address the thesis aims from both the academy players' and coaches' perspectives. The exclusion of parents/caregivers from the research methodology limits the comprehensiveness of the findings as perspectives external to the academy environment may offer a less biased account of the development process and experiences. Completing the athlete-coach-parent triad would offer a third perspective which may allow findings to be compared and consolidated.

Future Research Direction

Throughout this thesis, the dearth of talent development research within Scottish football has been alluded to. This lack of cultural, sport and domain specific empirical research will limit the ability of Scottish football organisations to advance the effectiveness and efficiency of their current processes. Therefore, future research should look to broaden the Scottish football specific knowledge base in order to help move forward the current practices that are utilised within working, academy environments. The 'lack of financial resources' available to Scottish football clubs only serves to emphasise the need for effective, efficient, and empirically underpinned talent development processes.

Second, the work of Martindale and colleagues (2007, 2010) offers a set of generic features of effective talent development environments and an accompanying instrument for measuring the quality of development environments. Following the accelerated professionalisation of talent development in football and the subsequent rise of academies, future research may look to focus on investigating the features of effective talent development environments in football academies. Although comprehensive, the generic nature of the TDEQ may fail to examine some of the nuances associated with talent development in football academies. And considering the increased focus football clubs are now placing on the optimisation of their academies

and academy procedures, a working tool specifically aimed at identifying the strengths and weaknesses of academy environments may contribute significantly to the practical field.

Future research may also look to further examine the self-regulation process in more depth. Building on the findings from study 1 and 2, further research, of a longitudinal nature, is required to examine the development and utilisation of the self-regulation competencies and behaviours over a longer period (i.e., several years or decades). Previous research predominantly measures self-regulation at static time points with little attention paid to the rate of development of self-regulation over time. Monitoring the development of a learners' ability to self-regulate and their use of the process in response to talent pathway challenges is important to understand. Possessing an understanding as to how learners operationalise the learning process in intense, competitive domains such as a football academy would add to the current body of research. Additionally, the findings from study 2 incorporated progression data following one academy season, adopting a more longitudinal approach over several seasons or decades would provide a more comprehensive picture of how self-regulation influences the career development of talent football players. At present, there are only a few studies that analyse self-regulation with tangible, progression outcomes over a longitudinal period (Erikstad et al., 2018; Jonker et al., 2019).

Previous research has examined the construct in a variety of environments and at different levels (Jonker, Elferink-Gemser, & Visscher, 2010; Jonker, Elferink-Gemser, Toering, et al., 2010; Toering, Elferink-Gemser, Jonker, et al., 2012; Zimmerman & Martinez-Pons, 1990), demonstrating the ability of self-regulation behaviours to discriminate between elite and non-elite individuals (Bartulovic et al., 2017; Jonker et al., 2019; Toering et al., 2009). However, little is known about the ability to practically develop self-regulatory competencies in conjunction with sport-specific development activities. For example, it would be interesting to understand if learners can develop self-evaluation competencies and behavioural habits alongside the development of passing skills within an on-pitch setting. Teaching self-regulatory skills in mentally and physically stimulating environments may prove more effective than utilising traditional, classroom-based methods to introduce and teach competencies. Therefore, future

research may look to explore educational interventions that seek to develop self-regulation competencies and behaviours in a more dynamic, engaging manner.

References

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

Abbott, A., Button, C., Pepping, G. J., & Collins, D. (2005). Unnatural Selection: Talent Identification and Development in Sport. *Nonlinear Dynamics, Psychology, and Life Sciences*, *9*(1), 61–88.

Abbott, A., & Collins, D. (2002). A Theoretical and Empirical Analysis of a 'State of the Art' Talent Identification Model. *High Ability Studies*, *13*(2), 157–178. https://doi.org/10.1080/1359813022000048798

Abell, J. (2011). 'They seem to think "We're better than you"': Framing football support as a matter of 'national identity'in Scotland and England. *British Journal of Social Psychology*, *50*(2), 246–264.

Abraham, A., Collins, D., & Martindale, R. J. (2006). The Coaching Schematic: Validation Through Expert Coach Consensus. *Journal of Sports Sciences*, *24*(6), 549–564. https://doi.org/10.1080/02640410500189173

Abuhamdeh, S., & Csikszentmihalyi, M. (2012). The Importance of Challenge For the Enjoyment of Intrinsically Motivated, Goal-Directed Activities. *Personality and Social Psychology Bulletin*, *38*(3), 317–330.

Adams, A., & Carr, S. (2019). Football Friends: Adolescent Boys' Friendships Inside an English Professional Football (Soccer) Academy. *Soccer and Society*, *20*(3), 471–493. https://doi.org/10.1080/14660970.2017.1331164

Adie, J. W., Duda, J. L., & Ntoumanis, N. (2008). Achievement Goals, Competition Appraisals, and the Psychological and Emotional Welfare of Sport Participants. *Journal of Sport and Exercise Psychology*, *30*(3), 302–322.

Adie, J. W., & Jowett, S. (2010). Meta-Perceptions of the Coach–Athlete Relationship, Achievement Goals, and Intrinsic Motivation Among Sport Participants. *Journal of Applied Social Psychology*, *40*(11), 2750–2773.

Ames, C., & Archer, J. (1988). Achievement Goals in the Classroom: Students' Learning Strategies and Motivation Processes. *Journal of Educational Psychology*, *80*(3), 260.

Andronikos, G., Souglis, A., & Martindale, R. J. (2021). Relationship Between the Talent Development Environment and Motivation, Commitment, and Confidence. *Journal of Physical Education and Sport*, *21*(1), 208–217.

Augestad, P., Bruu, M., & Telseth, F. (2021). 'You create your own luck, in a way' About Norwegian Footballers' Understanding of Success, in a World Where Most Fail. *Soccer & Society*, *22*(3), 280–292.

Bairner, A. (2000). Football. *Sport, Scotland and the Scots*, 87–104.

Baker, J., Cobley, S., Schorer, J., & Wattie, N. (2017). *Routledge Handbook of Talent Identification and Development in Sport* (J. Baker, S. Cobley, J. Schorer, & N. Wattie (eds.); 1st ed.). Routledge.

Baker, J., Mosher, A., & Fraser-Thomas, J. (2021). Is it too early to condemn early sport specialisation? *British Journal of Sports Medicine*, *55*(3), 179–180.

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

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory.* Prentice-Hall, Inc.

Bandura, A. (1991). Social Cognitive Theory of Self-Regulation. *Organizational Behavior and Human Decision Processes*, *50*(2), 248–287.

Barreiros, A., Côté, J., & Fonseca, A. (2013). Training and Psychosocial Patterns During the Early Development of Portuguese National Team Athletes. *High Ability Studies*, *24*(1), 49–61.

Barreiros, A., Côté, J., & Fonseca, A. (2014). From Early to Adult Sport Success: Analysing Athletes' Progression in National Squads. *European Journal of Sport Science*, *14*(sup1), S178–S182. https://doi.org/10.1080/17461391.2012.671368

Barreiros, A., & Fonseca, A. (2012). A Retrospective Analysis of Portuguese Elite Athletes' Involvement in International Competitions. *International Journal of Sports Science & Coaching*, *7*(3), 593–600. https://doi.org/10.1260/1747-9541.7.3.593

Bartulovic, D., Young, B. W., & Baker, J. (2017). Self-Regulated Learning Predicts Skill Group Differences in Developing Athletes. *Psychology of Sport and Exercise*, *31*, 61–69. https://doi.org/10.1016/j.psychsport.2017.04.006

Bartulovic, D., Young, B. W., McCardle, L., & Baker, J. (2018). Can Athletes' Reports of Self-Regulated Learning Distinguish Deliberate Practice From Physical Preparation Activity? *Journal of Sports Sciences*, *00*(00), 1–9. https://doi.org/10.1080/02640414.2018.1455493

Bean, C., & Forneris, T. (2016). Examining the Importance of Intentionally Structuring the Youth Sport Context to Facilitate Positive Youth Development. *Journal of Applied Sport Psychology*, *28*(4), 410–425.

Bergmann Drewe, S. (2002). The Coach-Athlete Relationship: How Close Is Too Close? *Journal of the Philosophy of Sport*, *29*(2), 174–181. https://doi.org/10.1080/00948705.2002.9714633

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member Checking: A Tool to Enhance Trustworthiness or Merely a Nod to Validation? *Qualitative Health Research*, *26*(13), 1802–1811.

Bjørndal, C. T., & Gjesdal, S. (2020). The Role of Sport School Programmes in Athlete Development in Norwegian Handball and Football. *European Journal for Sport and Society*, *17*(4), 374–396.

Blazo, J. A., & Smith, A. L. (2018). A Systematic Review of Siblings and Physical Activity Experiences. *International Review of Sport and Exercise Psychology*, *11*(1), 122–159.

Blijlevens, S. J. E., Elferink-Gemser, M. T., Wylleman, P., Bool, K., & Visscher, C. (2018). Psychological Characteristics and Skills of Top-Level Dutch Gymnasts in the Initiation, Development and Mastery Stages of the Athletic Career. *Psychology of Sport and Exercise*, *38*(July), 202–210. https://doi.org/10.1016/j.psychsport.2018.07.001

Bloom, B. (1985). *Developing Talent in Young People*. Ballantine Books.

Boekaerts, M. (2011). Emotions, emotion regulation, and self-regulation of learning: Center for the study of learning and instruction, leiden university, the netherlands, and ku leuven. In *Handbook of self-regulation of learning and performance* (pp. 422–439). Routledge.

Boyatzis, R. E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*. SAGE Publications.

Boyle, R., & Haynes, R. (1996). `The grand old game': football, media and identity in Scotland. *Media, Culture & Society*, *18*(4), 549–564. https://doi.org/10.1177/016344396018004003

Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, *3*(2), 77–101.

Braun, V., & Clarke, V. (2019). Reflecting on Reflexive Thematic Analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Braun, V., & Clarke, V. (2021a). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and Psychotherapy Research*, *21*(1), 37–47. https://doi.org/10.1002/capr.12360

Braun, V., & Clarke, V. (2021b). Conceptual and Design Thinking for Thematic Analysis. *Qualitative Psychology*, *9*(1), 3–26. https://doi.org/10.1037/qup0000196

Braun, V., & Clarke, V. (2021c). One Size Fits All? What Counts as Quality Practice in (Reflexive) Thematic Analysis? *Qualitative Research in Psychology*, *18*(3), 328–352. https://doi.org/10.1080/14780887.2020.1769238

Brazo-Sayavera, J., Olivares, P. R., Andronikos, G., & Martindale, R. J. (2017). Spanish Version of the Talent Development Environment Questionnaire for Sport: Cultural Adaptation and Initial Validation. *PLoS ONE*, *12*(6), 1–10. https://doi.org/10.1371/journal.pone.0177721

Bridge, M. W., & Toms, M. R. (2013). The Specialising or Sampling Debate: a Retrospective Analysis of Adolescent Sports Participation in the UK. *Journal of Sports Sciences*, *31*(1), 87–96.

Brink, M. S., Visscher, C., Arends, S., Zwerver, J., Post, W. J., & Lemmink, K. A. P. M. (2010). Monitoring Stress and Recovery: New Insights for the Prevention of Injuries and Illnesses in Elite Youth Soccer Players. *British Journal of Sports Medicine*, *44*(11), 809 LP – 815. https://doi.org/10.1136/bjsm.2009.069476

Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Harvard university press.

Bronfenbrenner, U., & Morris, P. A. (2007). The Bioecological Model of Human Development. In *Handbook of Child Psychology*. https://doi.org/https://doi.org/10.1002/9780470147658.chpsy0114

Bruner, M. W., Munroe-Chandler, K. J., & Spink, K. S. (2008). Entry into Elite Sport: A Preliminary Investigation into the Transition Experiences of Rookie Athletes. *Journal of Applied Sport Psychology*, *20*(2), 236–252.

Brustio, P. R., Lupo, C., Ungureanu, A. N., Frati, R., Rainoldi, A., & Boccia, G. (2018). The Relative Age Effect is Larger in Italian Soccer Top-Level Youth Categories and Smaller in Serie A. *PLOS ONE*, *13*(4), e0196253. https://doi.org/10.1371/journal.pone.0196253

Burdsey, D., & Chappell, R. (2001). 'And if you know your History…'An Examination of the Formation of Football Clubs in Scotland and Their Role in the Construction of Social Identity. *Sports Historian*, *21*(1), 94–106.

Burke, S. (2016). Rethinking 'Validity' and 'Trustworthiness' in Qualitative Inquiry: How Might we Judge the Quality of Qualitative Research in Sport and Exercise Sciences? In *Routledge Handbook of Qualitative Research in Sport and Exercise* (pp. 352–362). Routledge.

Burt, E., & Morgan, P. (2014). Barriers to Systematic Reflective Practice as Perceived by UKCC Level 1 and Level 2 Qualified Rugby Union Coaches. *Reflective Practice*, *15*(4), 468–480.

Carling, C., le Gall, F., Reilly, T., & Williams, A. M. (2009). Do Anthropometric and Fitness Characteristics Vary According to Birth Date Distribution in Elite Youth Academy Soccer Players? *Scandinavian Journal of Medicine & Science in Sports*, *19*(1), 3–9. https://doi.org/https://doi.org/10.1111/j.1600-0838.2008.00867.x

Champ, F. M., Nesti, M., Ronkainen, N., Tod, D., & Littlewood, M. A. (2020). An Exploration of the Experiences of Elite Youth Footballers: The Impact of Organizational Culture. *Journal of Applied Sport Psychology*, *32*(2), 146–167. https://doi.org/10.1080/10413200.2018.1514429

Chan, J. T., & Mallett, C. J. (2011). The Value of Emotional Intelligence for High Performance Coaching. *International Journal of Sports Science & Coaching*, *6*(3), 315–328.

Chantal, Y., Guay, F., Dobreva-Martinova, T., & Vallerand, R. J. (1996). Motivation and Elite Performance: An Exploratory Investigation with Bulgarian Athletes. *International Journal of Psychology*, *27*, 173–182.

Chow, G. M., & Luzzeri, M. (2019). Post-Event Reflection: A Tool to Facilitate Self-Awareness, Self-Monitoring, and Self-Regulation in Athletes. *Journal of Sport Psychology in Action*, *10*(2), 106–118. https://doi.org/10.1080/21520704.2018.1555565

Christensen, M. K., & Sørensen, J. K. (2009). Sport or School? Dreams and Dilemmas for Talented Young Danish Football Players. *European Physical Education Review*, *15*(1), 115–133. https://doi.org/10.1177/1356336X09105214

Clarke, N. J., Cushion, C. J., & Harwood, C. G. (2018). Players' Understanding of Talent Identification in Early Specialization Youth Football. *Soccer and Society*, *19*(8), 1151–1165. https://doi.org/10.1080/14660970.2018.1432388

Clarke, N. J., & Harwood, C. G. (2014). Parenting Experiences in Elite Youth Football: A Phenomenological Study. *Psychology of Sport and Exercise*, *15*(5), 528–537. https://doi.org/https://doi.org/10.1016/j.psychsport.2014.05.004

Cochran, W. G. (1964). Approximate Significance Levels of the Behrens-Fisher Test. *Biometrics*, *20*(1), 191–195. https://doi.org/10.2307/2527627

Coetzee, B., Grobbelaar, H. W., & Gird, C. C. (2006). Sport Psychological Skills that Distinguish Successful From Less Successful Soccer Teams. *Journal of Human Movement Studies*, *51*(6), 383–402.

Cohen, S., & Wills, T. A. (1985). Stress, Social Support, and the Buffering Hypothesis. *Psychological Bulletin*, *98*(2), 310.

Collins, D., & MacNamara, Á. (2012). The Rocky Road to the Top - Why Athletes Need Trauma. *Sports Medicine*, *42*(11), 907–914.

Collins, D., & MacNamara, Á. (2017a). A Smooth Sea Never Made a Skilful Sailor: Optimizing and Exploiting the Rocky Road in Talent Development. In J. Baker, S. Cobley, J. Schorer, & N. Wattie (Eds.), *Routledge Handbook of Talent Identification and Development in Sport* (pp. 336–346). Routledge.

Collins, D., & MacNamara, Á. (2017b). Making Champs and Super-Champs - Current Views, Contradictions, and Future Directions. In *Frontiers in Psychology* (Vol. 8, Issue 823). https://doi.org/10.3389/fpsyg.2017.00823

Collins, D., & MacNamara, Á. (2017c). Optimizing and Exploiting the Rocky Road in Talent Development. *Routledge Handbook of Talent Identification and Development in Sport*, 336.

Collins, D., MacNamara, Á., & McCarthy, N. (2016a). Putting the Bumps in the Rocky Road: Optimizing the Pathway to Excellence. *Frontiers in Psychology*, *7*(1482), 1–7. https://doi.org/10.3389/fpsyg.2016.01482

Collins, D., MacNamara, Á., & McCarthy, N. (2016b). Super Champions, Champions, and Almosts: Important Differences and Commonalities on the Rocky Road. *Frontiers in Psychology*, *6*(2009). https://doi.org/10.3389/fpsyg.2015.02009

Conroy, D. E., & Douglas Coatsworth, J. (2007). Assessing Autonomy-Supportive Coaching Strategies in Youth Sport. *Psychology of Sport and Exercise*, *8*(5), 671–684. https://doi.org/https://doi.org/10.1016/j.psychsport.2006.12.001

Conroy, D. E., & Elliot, A. J. (2004). Fear of Failure and Achievement Goals in Sport: Addressing the Issue of the Chicken and the Egg. *Anxiety, Stress & Coping*, *17*(3), 271–285.

Cook, C., Crust, L., Littlewood, M. A., Nesti, M., & Allen-Collinson, J. (2014a). 'What it takes': Perceptions of Mental Toughness and its Development in an English Premier League Soccer Academy. *Qualitative Research in Sport, Exercise and Health*, *6*(3), 329–347.

Cook, C., Crust, L., Littlewood, M. A., Nesti, M., & Allen-Collinson, J. (2014b). 'What it takes': Perceptions of Mental Toughness and its Development in an English Premier League Soccer Academy. *Qualitative Research in Sport, Exercise and Health*, *6*(3), 329–347. https://doi.org/10.1080/2159676X.2013.857708

Cooper, A. (2021). An Investigation into the Factors Affecting Player Development Within Each Phase of the Academy Pathway in English Football Academies. *Soccer and Society*, *22*(5), 429–441. https://doi.org/10.1080/14660970.2020.1822342

Côté, J. (1999). The Influence of the Family in the Development of Talent in Sport. *The Sport Psychologist*, *13*(4), 395–417.

Côté, J., Baker, J., & Abernethy, B. (2007). Practice and Play in the Development of Sport Expertise. *Handbook of Sport Psychology*, *3*, 184–202.

Côté, J., & Gilbert, W. (2009). An Integrative Definition of Coaching Effectiveness and Expertise. *International Journal of Sports Science & Coaching*, *4*(3), 307–323. https://doi.org/10.1260/174795409789623892

Côté, J., & Hay, J. (2002). Children's Involvement in Sport: A Developmental Perspective. In J. M. Silva & D. E. Stevens (Eds.), *Psychological Foundations of Sport* (pp. 484–502). Allyn & Bacon.

Côté, J., Lidor, R., & Hackfort, D. (2009). ISSP Position Stand: To Test or Not to Test? The Use of Physical Skill Tests in Talent Detection and in Early Phases of Sport Development. *International Journal of Sport and Exercise Psychology*, *7*(2), 131–146. https://doi.org/10.1080/1612197X.2009.9671896

Côté, J., & Vierimaa, M. (2014). The Developmental Model of Sport Participation: 15 years After its First Conceptualization. *Science & Sports*, *29*, S63–S69.

Cotterill, S. T., & Fransen, K. (2016). Athlete Leadership in Sport Teams: Current Understanding and Future Directions. *International Review of Sport and Exercise Psychology*, *9*(1), 116–133. https://doi.org/10.1080/1750984X.2015.1124443

Cripps, A. J., Hopper, L. S., & Joyce, C. (2016). Coaches' Perceptions of Long-Term Potential are Biased by Maturational Variation. *International Journal of Sports Science and Coaching*, *11*(4), 478–481. https://doi.org/10.1177/1747954116655054

Crotty, M. F. (1998). *The Foundations of Social Research: Meaning and Perspective in the Research Process*. Sage.

Cumming, S. P., Lloyd, R. S., Oliver, J. L., Eisenmann, J. C., & Malina, R. M. (2017). Bio-Banding in Sport: Applications to Competition, Talent Identification, and Strength and Conditioning of Youth Athletes. *Strength & Conditioning Journal*, *39*(2), 34–47.

Cumming, S. P., Searle, C., Hemsley, J. K., Haswell, F., Edwards, H., Scott, S., Gross, A., Ryan, D., Lewis, J., White, P., Cain, A., Mitchell, S. B., & Malina, R. M. (2018). Biological Maturation, Relative Age and Self-Regulation in Male Professional Academy Soccer Players: A Test of the Underdog Hypothesis. *Psychology of Sport and Exercise*, *39*(August), 147–153. https://doi.org/10.1016/j.psychsport.2018.08.007

Cupples, B., O'Connor, D., & Cobley, S. (2020). Assessing the Ecological-Context Strengths of School-Based Talent Development Programs in Rugby League. *Research Quarterly for Exercise and Sport*, *00*(00), 1–13. https://doi.org/10.1080/02701367.2020.1769010

Curran, O., MacNamara, Á., & Passmore, D. (2021). Singing Off the Same Hymn Sheet ? Examining Coherence in a Talent Development (part 1). *Journal of Sports Sciences*, 1–8. https://doi.org/10.1080/02640414.2021.1896456

Cushion, C. J., & Jones, R. L. (2006). Power, Discourse, and Symbolic Violence in Professional Youth Soccer: The Case of Albion Football Club. *Sociology of Sport Journal*, *23*(2), 142–161. https://doi.org/10.1123/ssj.23.2.142

Cushion, C. J., & Jones, R. L. (2014). A Bourdieusian Analysis of Cultural Reproduction: Socialisation and the 'Hidden Curriculum' in Professional Football. *Sport, Education and Society*, *19*(3), 276–298. https://doi.org/10.1080/13573322.2012.666966

Cutrona, C. E., & Russell, D. W. (1990). Type of Social Support and Specific Stress: Toward a Theory of Optimal Matching. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view.* (pp. 319–366). John Wiley & Sons.

Davis, N. W., & Meyer, B. B. (2008). When Sibling Becomes Competitor: A Qualitative Investigation of Same-Sex Sibling Competition in Elite Sport. *Journal of Applied Sport Psychology*, *20*(2), 220–235.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behaviour.* Plenium Press.

Deloitte. (2019a). *European football market worth €28.4 billion (£25.1bn) as Premier League clubs lead the way to record revenues*. https://www2.deloitte.com/uk/en/pages/press-releases/articles/european-football-market-worth-28-billion-euros-as-premier-league-clubs-lead-the-way-to-record-revenues.html

Deloitte. (2019b). World in Motion: Annual Review of Football Finance 2019. *Deloitte Annual Review of Football Finance 2019*, *May*, 40.

Dewey, J. (1931). The Development of Pragmatism. In H. S. Thayer (Ed.), *Pragmatism: The Classic Writings* (pp. 23–40). Hackett.

Dixon, M., & Turner, M. J. (2018). Stress Appraisals of UK Soccer Academy Coaches: An Interpretative Phenomenological Analysis. *Qualitative Research in Sport, Exercise and Health*, *10*(5), 620–634. https://doi.org/10.1080/2159676X.2018.1464055

Douglas, C., & Martindale, R. J. (2008). Player Development Review for PRL. *UK: PB Performance*.

Dowling, C., Reeves, M. J., Littlewood, M. A., Nesti, M., & Richardson, D. (2018). Developing Individuals Whilst Managing Teams: Perspectives of Under 21 Coaches Within English Premier League football. *Soccer and Society*, *19*(8), 1135–1150. https://doi.org/10.1080/14660970.2018.1432381

Drasch, K., & Matthes, B. (2013). Improving Retrospective Life Course Data by Bombining Modularized Self-Reports and Event History Calendars: Experiences From a Large Scale Survey. *Quality & Quantity*, *47*(2), 817–838.

Drew, K., Morris, R., Tod, D., & Eubank, M. (2019). A Meta-Study of Qualitative Research on the Junior-to-Senior Transition in Sport. *Psychology of Sport and Exercise*, *45*(November 2018), 101556. https://doi.org/10.1016/j.psychsport.2019.101556

Duda, J. L., & Nicholls, J. G. (1992). Dimensions of Achievement Motivation in Schoolwork and Sport. *Journal of Educational Psychology*, *84*(3), 290.

Dugdale, J. H., McRobert, A. P., & Unnithan, V. B. (2021a). "He's Just a Wee Laddie": The Relative Age Effect in Male Scottish Soccer. In *Frontiers in Psychology* (Vol. 12, p. 103). https://www.frontiersin.org/article/10.3389/fpsyg.2021.633469

Dugdale, J. H., McRobert, A. P., & Unnithan, V. B. (2021b). Selected, Deselected, and Reselected: A Case Study Analysis of Attributes Associated With Player Reselection Following Closure of a Youth Soccer Academy. *Frontiers in Sports and Active Living*, *3*(March), 1–12. https://doi.org/10.3389/fspor.2021.633124

Dugdale, J. H., Sanders, D., Myers, T., Williams, A. M., & Hunter, A. M. (2020). A Case Study Comparison of Objective and Subjective Evaluation Methods of Physical Qualities in Youth Soccer Players. *Journal of Sports Sciences*, *38*(11–12), 1304–1312. https://doi.org/10.1080/02640414.2020.1766177

Dugdale, J. H., Sanders, D., Myers, T., Williams, A. M., & Hunter, A. M. (2021). Progression From Youth to Professional Soccer: A Longitudinal Study of Successful and Unsuccessful Academy Graduates. *Scandinavian Journal of Medicine & Science in Sports*, *31*(S1), 73–84. https://doi.org/10.1111/sms.13701

Durand-Bush, N., & Salmela, J. H. (2002). The Development and Maintenance of Expert Athletic Performance: Perceptions of World and Olympic Champions. *Journal of Applied Sport Psychology*, *14*(3), 154–171. https://doi.org/10.1080/10413200290103473

Dweck, C. S. (2006). *Mindset: The New Psychology of Success*. Random House Digital, Inc.

Eccles, D. W., & Tenenbaum, G. (2007). A Social-Cognitive Perspective on Team Functioning in Sport. *Handbook of Sport Psychology*, *3*, 264–286.

Efklides, A. (2011). Interactions of metacognition with motivation and affect in self-regulated learning: The MASRL model. *Educational Psychologist*, *46*(1), 6–25.

Elbe, A.-M., & Beckmann, J. (2006). Motivational and Self-Regulatory Factors and Sport Performance in Young Elite Athletes. *Essential Processes for Attaining Peak Performance*, 137–157.

Elferink-Gemser, M. T., de Roos, I. M., Torenbeek, M., Fokkema, T., Jonker, L., & Visscher, C. (2015). The Importance of Psychological Constructs for Training Volume and Performance Improvement. A Structural Equation Model for Youth Speed Skaters. *International Journal of Sport Psychology*, *46*(6), 726–744.

Elliot, A. J., & Church, M. A. (1997). A Hierarchical Model of Approach and Avoidance Achievement Motivation. *Journal of Personality and Social Psychology*, *72*(1), 218.

Elliott, S., Drummond, M. J. N., & Knight, C. J. (2018). The Experiences of Being a Talented Youth Athlete: Lessons for Parents. *Journal of Applied Sport Psychology*, *30*(4), 437–455. https://doi.org/10.1080/10413200.2017.1382019

Elwood, S. A., & Martin, D. G. (2000). "Placing" Interviews: Location and Scales of Power in Qualitative Research. *The Professional Geographer*, *52*(4), 649–657.

Emmonds, S., Till, K., Jones, B., Mellis, M., & Pears, M. (2016). Anthropometric, Speed and Endurance Characteristics of English Academy Soccer Players: Do They Influence Obtaining a Professional Contract at 18 Years of Age? *International Journal of Sports Science & Coaching*, *11*(2), 212–218. https://doi.org/10.1177/1747954116637154

English, C., Nash, C., & Martindale, R. J. (2018). The Effects of Structural Change: An Investigation into the South African Cricket d Development Pathway. *International Journal of Sport Policy*, *10*(2), 371–391. https://doi.org/10.1080/19406940.2018.1434811

Ericsson, K. A. (2008). Deliberate practice and acquisition of expert performance: a general overview. *Academic Emergency Medicine*, *15*(11), 988–994.

Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The Role of Deliberate Practice in the Acquisition of Expert Performance. *Psychological Review*, *100*(3), 363–406. https://doi.org/10.1037/0033-295x.100.3.363

Erikstad, M. K., Høigaard, R., Johansen, B. T., Kandala, N.-B., & Haugen, T. (2018). Childhood Football Play and Practice in Relation to Self-Regulation and National Team Selection; a Study of Norwegian Elite Youth Players. *Journal of Sports Sciences*, *36*(20), 2304–2310.

Ertmer, P. A., & Newby, T. J. (1996). The Expert Learner: Strategic, Self-Regulated, and Reflective. *Instructional Science*, *24*(1), 1–24.

Field, A. (2017). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). SAGE Publications.

Finn, J., & McKenna, J. (2010). Coping with Academy-to-First-Team Transitions in Elite English Male Team Sports: The Coaches' Perspective. *International Journal of Sports Science & Coaching*, *5*(2), 257–279. https://doi.org/10.1260/1747-9541.5.2.257

Flatgård, G., Larsen, C. H., & Sæther, S. A. (2020). Talent Development Environment in a Professional Football Club in Norway. *Scandinavian Journal of Sport and Exercise Psychology*, *2*(8), 8–15. https://doi.org/10.7146/sjsep.v2i0.114470

Ford, P. R., Bordonau, J. L. D., Bonanno, D., Tavares, J., Groenendijk, C., Fink, C., Gualtieri, D., Gregson, W., Varley, M. C., Weston, M., Lolli, L., Platt, D., & Di Salvo, V. (2020). A Survey of Talent Identification and Development Processes in the Youth Academies of Professional Soccer Clubs From Around the World. *Journal of Sports Sciences*, *38*(11–12), 1269–1278. https://doi.org/10.1080/02640414.2020.1752440

Ford, P. R., Ward, P., Hodges, N. J., & Williams, A. M. (2009). The Role of Deliberate Practice and Play in Career Progression in Sport: The Early Engagement Hypothesis. *High Ability Studies*, *20*(1), 65–75. https://doi.org/10.1080/13598130902860721

Ford, P. R., & Williams, A. M. (2012). The Developmental Activities Engaged in by Elite Youth Soccer Players Who Progressed to Professional Status Compared to Those Who Did Not. *Psychology of Sport and Exercise*, *13*(3), 349–352. https://doi.org/https://doi.org/10.1016/j.psychsport.2011.09.004

Ford, P. R., Yates, I., & Williams, A. M. (2010). An Analysis of Practice Activities and Instructional Behaviours Used by Youth Soccer Coaches During Practice: Exploring the Link between Science and Application. *Journal of Sports Sciences*, *28*(5), 483–495. https://doi.org/10.1080/02640410903582750

Forsman, H., Blomqvist, M., Davids, K., Liukkonen, J., & Konttinen, N. (2016). Identifying Technical, Physiological, Tactical and Psychological Characteristics that Contribute to Career Progression in Soccer. *International Journal of Sports Science and Coaching*, *11*(4), 505–513. https://doi.org/10.1177/1747954116655051

Fransen, J., Pion, J., Vandendriessche, J., Vandorpe, B., Vaeyens, R., Lenoir, M., & Philippaerts, R. M. (2012). Differences in Physical Fitness and Gross Motor Coordination in Boys Aged 6–12 Years Specializing in One Versus Sampling More than One Sport. *Journal of Sports Sciences*, *30*(4), 379–386.

Fraser-Thomas, J., Côté, J., & Deakin, J. (2008). Understanding Dropout and Prolonged Engagement in Adolescent Competitive Sport. *Psychology of Sport and Exercise*, *9*(5), 645–662. https://doi.org/https://doi.org/10.1016/j.psychsport.2007.08.003

Fraser, K. J. (2021). *Against the Run of Play The History of Women's Football in Scotland 1960 to 2020*.

Freeman, P. (2021). Social Support. In R. Arnold & D. Fletcher (Eds.), *Stress, Well-Being, and Performance in Sport* (1st ed.). Routledge. https://doi.org/https://doi.org/10.4324/9780429295874

Fuhre, J., & Sæther, S. A. (2020). Skill Acquisition in a Professional and Non-Professional U16 Football Team: The Use of Playing Form Versus Training Form. *Journal of Physical Education and Sport*, *20*, 2030–2035. https://doi.org/10.7752/jpes.2020.s3274

Furley, P., & Memmert, D. (2016). Coaches' Implicit Associations Between Size and gGftedness: Implications for the Relative Age Effect. *Journal of Sports Sciences*, *34*(5), 459–466. https://doi.org/10.1080/02640414.2015.1061198

Gagné, F. (1993). Constructs and Models Pertaining to Exceptional Human Abilities. In K. A. Heller, F. J. Mönks, & A. H. Passow (Eds.), *International Handbook of Research and Development of Giftedness and Talent* (pp. 69–87). Pergamon Press.

Gagné, F. (2004). Transforming Gifts into Talents: The DMGT as a Developmental Theory. *High Ability Studies*, *15*(2), 119–147. https://doi.org/10.1017/CBO9780511610455.008

Gagné, F. (2009). Building Gifts into Talents: Detailed Overview of the DMGT 2.0. In B. MacFarlane & T. Stambaugh (Eds.), *Leading Change in Gifted Education: The festschrift of Dr. Joyce VanTassel-Baska.* Prufrock Press.

Gagné, F., & Schader, R. M. (2005). Chance and Talent Development. *Roeper Review*, *28*(2), 88–90. https://doi.org/10.1080/02783190609554343

Gangsø, K., Aspvik, N. P., Mehus, I., Høigaard, R., & Sæther, S. A. (2021). Talent Development Environments in Football: Comparing the Top-Five and Bottom-Five-Ranked Football Academies in Norway. *International Journal of Environmental Research and Public Health*, *18*(3), 1321. https://doi.org/10.3390/ijerph18031321

Garcia Bengoechea, E., & Strean, W. B. (2007). On the Interpersonal Context of Adolescents' Sport Motivation. *Psychology of Sport and Exercise*, *8*(2), 195–217. https://doi.org/10.1016/j.psychsport.2006.03.004

Gardner, L. A., Vella, S. A., & Magee, C. A. (2017). Continued Participation in Youth Sports: The Role of Achievement Motivation. *Journal of Applied Sport Psychology*, *29*(1), 17–31. https://doi.org/10.1080/10413200.2016.1173744

Geiger, M. (2022). *Identifying patterns in young players´ transfers-is there a main feeding country for football talent*. NOVA School of Business.

Gerber, M., Brand, R., Antoniewicz, F., Isoard-Gautheur, S., Gustafsson, H., Bianchi, R., Colledge, F., Madigan, D. J., Brand, S., & Ludyga, S. (2019). Implicit and Explicit Attitudes Towards Sport Among Young Elite Athletes with High Versus Low Burnout Symptoms. *Journal of Sports Sciences*, *37*(14), 1673–1680. https://doi.org/10.1080/02640414.2019.1585313

Giacobbi, P. R., Poczwardowski, A., & Hager, P. (2005). A Pragmatic Research Philosophy for Sport and Exercise Psychology. *The Sport Psychologist*, *19*(1), 18–31. https://doi.org/10.1123/tsp.19.1.18

Gil, S. M., Bidaurrazaga-Letona, I., Martin-Garetxana, I., Lekue, J. A., & Larruskain, J. (2020). Does Birth Date Influence Career Attainment in Professional Soccer? *Science and Medicine in Football*, *4*(2), 119–126. https://doi.org/10.1080/24733938.2019.1696471

Gilbert, W., & Trudel, P. (2001). Learning to Coach Through Experience: Reflection in Model Youth Sport Coaches. *Journal of Teaching in Physical Education*, *21*(1), 16–34.

Gledhill, A., & Harwood, C. G. (2019). Toward an Understanding of Players' Perceptions of Talent Development Environments in UK Female Football. *Journal of Applied Sport Psychology*, *31*(1), 105–115. https://doi.org/10.1080/10413200.2017.1410254

Gledhill, A., Harwood, C. G., & Forsdyke, D. (2017). Psychosocial Factors Associated with Talent Development in Football: A Systematic Review. *Psychology of Sport and Exercise*, *31*, 93–112. https://doi.org/10.1016/j.psychsport.2017.04.002

Glenn, S. D., & Horn, T. S. (1993). Psychological and Personal Predictors of Leadership Behavior in Female Soccer Athletes. *Journal of Applied Sport Psychology*, *5*(1), 17–34.

Goldman, D. E., Turnnidge, J., Kelly, A., DeVos, J., & Côté, J. (2021). Athlete Perceptions of Playing-Up in Youth Soccer. *Journal of Applied Sport Psychology*, 1–24. https://doi.org/10.1080/10413200.2021.1875518

Gould, D. (2010). Early Sport Specialization: A Psychological Perspective. *Journal of Physical Education, Recreation & Dance*, *81*(8), 33–37.

Gould, D., Dieffenbach, K., & Moffett, A. (2002). Psychological Characteristics and Their Development in Olympic Champions. *Journal of Applied Sport Psychology*, *14*(3), 172–204. https://doi.org/10.1080/10413200290103482

Gould, D., Lauer, L., Rolo, C., Jannes, C., & Pennisi, N. (2008). The Role of Parents in Tennis Success: Focus Group Interviews with Junior Coaches. *The Sport Psychologist*, *22*(1), 18–37. https://doi.org/10.1123/tsp.22.1.18 10.1123/tsp.22.1.18 10.1123/tsp.22.1.18 10.1123/tsp.22.1.18

Gould, D., Tuffey, S., Udry, E., & Loehr, J. (1996). Burnout in Competitive Junior Tennis Players: I. A Quantitative Psychological Assessment. *The Sport Psychologist*, *10*(4), 322–340.

Gould, D., & Voelker, D. K. (2010). Youth Sport Leadership Development: Leveraging the Sports Captaincy Experience. *Journal of Sport Psychology in Action*, *1*(1), 1–14. https://doi.org/10.1080/21520704.2010.497695

Gratton, C., & Jones, I. (2004). Analyzing Data II: Qualitative Data Analysis. *Research Methods for Sport Studies*, 217–227.

Gratton, C., & Jones, I. (2010). *Research Methods for Sports Studies* (2nd ed.). Routledge. https://doi.org/10.4324/9781315796222

Gravina, L., Gil, S. M., Ruiz, F., Zubero, J., Gil, J., & Irazusta, J. (2008). Anthropometric and Physiological Differences Between First Team and Reserve Soccer Players Aged 10-14 Years at the Beginning and End of the Season. *The Journal of Strength & Conditioning Research*, *22*(4). https://journals.lww.com/nsca-jscr/Fulltext/2008/07000/Anthropometric_and_Physiological_Differences.38.aspx

Gray, D. E. (2013). *Doing Research in the Real World*. Sage.

Green, C. (2009). *Every boy's dream: England's football future on the line*. A&C Black.

Gucciardi, D. F., Gordon, S., Dimmock, J. A., & Mallett, C. J. (2009). Understanding the Coach's Role in the Development of Mental Toughness: Perspectives of Elite Australian Football Coaches. *Journal of Sports Sciences*, *27*(13), 1483–1496.

Gucciardi, D. F., Hanton, S., Gordon, S., Mallett, C. J., & Temby, P. (2015). The Concept of Mental Toughness: Tests of Dimensionality, Nomological Network, and Traitness. *Journal of Personality*, *83*(1), 26–44.

Gulbin, J. P., Oldenziel, K. E., Weissensteiner, J., & Gagné, F. (2010). A Look Through the Rear View Mirror: Developmental Experiences and Insights of High Performance Athletes. *Talent Development and Excellence*, *2*(2), 149–164.

Gulbin, J. P., Weissensteiner, J., Oldenziel, K. E., & Gagné, F. (2013). Patterns of Performance Development in Elite Athletes. *European Journal of Sport Science*, *13*(6), 605–614. https://doi.org/10.1080/17461391.2012.756542

Güllich, A. (2014). Selection, De-selection and Progression in German Football Talent Promotion. *European Journal of Sport Science*, *14*(6), 530–537. https://doi.org/10.1080/17461391.2013.858371

Güllich, A., & Cobley, S. (2017). On the Efficacy of Talent Identification and Talent Development Programmes. In Joseph Baker, S. Cobley, J. Schorer, & N. Wattie (Eds.), *Routledge Handbook of Talent Identification and Development in Sport* (1st ed., pp. 80–98). https://doi.org/10.4324/9781315668017

Gustafsson, H., Hassmén, P., Kenttä, G., & Johansson, M. (2008). A Qualitative Analysis of Burnout in Elite Swedish Athletes. *Psychology of Sport and Exercise*, *9*(6), 800–816. https://doi.org/https://doi.org/10.1016/j.psychsport.2007.11.004

Gutierrez Diaz Del Campo, D., Pastor Vicedo, J. C., Gonzalez Villora, S., & Contreras Jordan, O. R. (2010). The Relative Age Effect in Youth Soccer Players from Spain. *Journal of Sports Science & Medicine*, *9*(2), 190–198. https://pubmed.ncbi.nlm.nih.gov/24149685

Hägglund, K., Kenttä, G., Thelwell, R. C., & Wagstaff, C. R. D. (2021). Mindful Self-Reflection to Support Sustainable High-Performance Coaching: A Process Evaluation of a Novel Method Development in Elite Sport. *Journal of Applied Sport Psychology*, 1–24.

Hall, A. J. A., Jones, L., & Martindale, R. J. (2019). The Talent Development Environment Questionnaire as a Tool to Drive Excellence in Elite Sport Environments. *International Sport Coaching Journal*, *6*(2), 187–198. https://doi.org/10.1123/iscj.2018-0041

Harwood, C. G., Drew, A., & Knight, C. J. (2010). Parental Stressors in Professional Youth Football Academies: A Qualitative Investigation of Specialising Stage Parents. *Qualitative Research in Sport and Exercise*, *2*(1), 39–55. https://doi.org/10.1080/19398440903510152

Harwood, C. G., & Knight, C. J. (2009a). Stress in Youth Sport: A Developmental Investigation of Tennis Parents. *Psychology of Sport and Exercise*, *10*(4), 447–456. https://doi.org/10.1016/j.psychsport.2009.01.005

Harwood, C. G., & Knight, C. J. (2009b). Understanding parental stressors: An investigation of British tennis-parents. *Journal of Sports Sciences*, *27*(4), 339–351. https://doi.org/10.1080/02640410802603871

Harwood, C. G., & Knight, C. J. (2015). Parenting in Youth Sport: A Position Paper on Parenting Expertise. *Psychology of Sport and Exercise*, *16*, 24–35. https://doi.org/10.1016/j.psychsport.2014.03.001

Hassmén, P., Keegan, R., & Piggott, D. (2016). *Rethinking Sport and Exercise Psychology Research: Past, Present and Future*. Springer.

Haugaasen, M., & Jordet, G. (2012). Developing Football Expertise: A Football-Specific Research Review. *International Review of Sport and Exercise Psychology*, *5*(2), 177–201. https://doi.org/10.1080/1750984X.2012.677951

Haugaasen, M., Toering, T., & Jordet, G. (2014). From Childhood to Senior Professional Football: A Multi-Level Approach to Elite Youth Football Players' Engagement in Football-Specific Activities. *Psychology of Sport and Exercise*, *15*(4), 336–344. https://doi.org/https://doi.org/10.1016/j.psychsport.2014.02.007

Haukli, J. S., Larsen, C. H., Feddersen, N. B., & Sæther, S. A. (2021). The Athlete Talent Development Environment in the Best Ranked Football Academy in Norwegian Football: The Case of the U16 team in Stabæk Football Club. *Current Issues in Sport Science (CISS)*, *6*, 8.

Healy, L., Tincknell-Smith, A., & Ntoumanis, N. (2018). Goal Setting in Sport and Performance. In *Oxford Research Encyclopedia of Psychology*.

Helsen, W. F., van Winckel, J., & Williams, A. M. (2005). The Relative Age Effect in Youth Soccer Across Europe. *Journal of Sports Sciences*, *23*(6), 629–636. https://doi.org/10.1080/02640410400021310

Hendry, D. T., Williams, A. M., & Hodges, N. J. (2018). Coach Ratings of Skills and Their Relations to Practice, Play and Successful Transitions from Youth-Elite to Adult-Professional Status in Soccer. *Journal of Sports Sciences*, *00*(00), 1–9. https://doi.org/10.1080/02640414.2018.1432236

Henriksen, K., Larsen, C. H., & Christensen, M. K. (2014). Looking at Success from its Opposite Pole: The Case of a Talent Development Golf Environment in Denmark. *International Journal of Sport and Exercise Psychology*, *12*(2), 134–149. https://doi.org/10.1080/1612197X.2013.853473

Henriksen, K., Stambulova, N., & Roessler, K. K. (2010a). Holistic Approach to Athletic Talent Development Environments: A Successful Sailing Milieu. *Psychology of Sport and Exercise*, *11*(3), 212–222. https://doi.org/10.1016/j.psychsport.2009.10.005

Henriksen, K., Stambulova, N., & Roessler, K. K. (2010b). Successful Talent Development in Track and Field: Considering the Role of environment. *Scandinavian Journal of Medicine and Science in Sports*, *20*(SUPPL. 2), 122–132. https://doi.org/10.1111/j.1600-0838.2010.01187.x

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

Herzog, H. (2012). Interview Location and its Social Meaning. In *The SAGE Handbook of Interview Research: The Complexity of the Craft* (pp. 207–218). Sage.

Hill, A., MacNamara, Á., & Collins, D. (2015). Psychobehaviorally Based Features of Effective Talent Development in Rugby Union: A coach's Perspective. *Sport Psychologist*, *29*(3), 201–212. https://doi.org/10.1123/tsp.2014-0103

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

Hill, B., & Sotiriadou, P. (2016). Coach Decision-Making and the Relative Age Effect on Talent Selection in Football. *European Sport Management Quarterly*, *16*(3), 292–315. https://doi.org/10.1080/16184742.2015.1131730

Hill, M., Scott, S., Malina, R. M., McGee, D., & Cumming, S. P. (2020). Relative Age and Maturation Selection Biases in Academy Football. *Journal of Sports Sciences*, *38*(11–12), 1359–1367. https://doi.org/10.1080/02640414.2019.1649524

Holt, N. L., & Dunn, J. G. H. (2004). Toward a Grounded Theory of the Psychosocial Competencies and Environmental Conditions Associated with Soccer Success. *Journal of Applied Sport Psychology*, *16*(3), 199–219. https://doi.org/10.1080/10413200490437949

Holt, N. L., & Mitchell, T. O. (2006). Talent Development in English Professional Soccer. *International Journal of Sport Psychology*, *37*(2/3), 77–98.

Holt, N. L., Neely, K. C., Slater, L. G., Camiré, M., Côté, J., Fraser-Thomas, J., Macdonald, D. J., Strachan, L., & Tamminen, K. A. (2017). A Grounded Theory of Positive Youth Development Through Sport Based on Results from a Qualitative Meta-Study. *International Review of Sport and Exercise Psychology*, *10*(1), 1–49.

Hopwood, M. J., Farrow, D., MacMahon, C., & Baker, J. (2015). Sibling Dynamics and Sport Expertise. *Scandinavian Journal of Medicine and Science in Sports*, *25*(5), 724–733. https://doi.org/10.1111/sms.12387

Hornig, M., Aust, F., & Güllich, A. (2016). Practice and play in the development of German top-level professional football players. *European Journal of Sport Science*, *16*(1), 96–105. https://doi.org/10.1080/17461391.2014.982204

Howells, K., & Fletcher, D. (2015). Sink or Swim: Adversity- and Growth-Related Experiences in Olympic Swimming Champions. *Psychology of Sport and Exercise*, *16*, 37–48.

Huijgen, B. C. H., Elferink-Gemser, M. T., Lemmink, K. A. P. M., & Visscher, C. (2014). Multidimensional Performance Characteristics in Selected and Deselected Talented Soccer Players. *European Journal of Sport Science*, *14*(1), 2–10. https://doi.org/10.1080/17461391.2012.725102

Huntley, E., Cropley, B., Knowles, Z., & Miles, A. (2019). The BASES Expert Statement on Reflective Practice: The Key to Experiential Learning. *The Sport and Exercise Scientist*, *60*, 6–7.

International Council for Coaching Excellence. (2018). *International Sport Coaching Framework Version 1. 2*. Human Kinetics.

Irwin, G., Hanton, S., & Kerwin, D. (2004). Reflective Practice and The Origins of Elite Coaching Knowledge. *Reflective Practice*, *5*(3), 425–442.

Irwin, L. G., & Johnson, J. (2005). Interviewing Young Children: Explicating our Practices and Dilemmas. *Qualitative Health Research*, *15*(6), 821–831.

Ivarsson, A., Kilhage-Persson, A., Martindale, R. J., Priestley, D., Huijgen, B. C. H., Ardern, C., & McCall, A. (2020). Psychological Factors and Future Performance of Football Players: A Systematic Review with Meta-Analysis. *Journal of Science and Medicine in Sport*, *23*(4), 415–420. https://doi.org/10.1016/j.jsams.2019.10.021

Ivarsson, A., Stenling, A., Fallby, J., Johnson, U., Borg, E., & Johansson, G. (2015). The Predictive Ability of the Talent Development Environment on Youth Elite Football Players' Well-Being: A Person-Centered Approach. *Psychology of Sport and Exercise*, *16*(P1), 15–23. https://doi.org/10.1016/j.psychsport.2014.09.006

Jackson, R. C., & Comber, G. (2020). Hill on a Mountaintop: A Longitudinal and Cross-Sectional Analysis of the Relative Age Effect in Competitive Youth Football. *Journal of Sports Sciences*, *38*(11–12), 1352–1358. https://doi.org/10.1080/02640414.2019.1706830

James, W. (1907). Pragmatism: A new name for some old ways of thinking. In *Pragmatism: A new name for some old ways of thinking.* Longmans, Green and Co. https://doi.org/10.1037/10851-000

Järvelä, S., & Hadwin, A. F. (2013). New frontiers: Regulating learning in CSCL. *Educational Psychologist*, *48*(1), 25–39.

Järvelä, S., Järvenoja, H., Malmberg, J., & Hadwin, A. F. (2013). Exploring socially shared regulation in the context of collaboration. *Journal of Cognitive Education and Psychology*, *12*(3), 267–286.

Javadi, M., & Zarea, K. (2016). Understanding Thematic Analysis and its Pitfall. *Journal of Client Care*, *1*(1), 33–39. https://doi.org/10.15412/J.JCC.02010107

Jiménez, I. P., & Pain, M. T. G. (2008). Relative Age Effect in Spanish Association Football: Its Extent and Implications for Wasted Potential. *Journal of Sports Sciences*, *26*(10), 995–1003. https://doi.org/10.1080/02640410801910285

Johnston, J., Harwood, C. G., & Minniti, A. M. (2013). Positive Youth Development in Swimming: Clarification and Consensus of Key Psychosocial Assets. *Journal of Applied Sport Psychology*, *25*(4), 392–411.

Jones, B. D., Lawrence, G. P., & Hardy, L. (2018). New Evidence of Relative Age Effects in "Super-Elite" Sportsmen: A Case for the Survival and Evolution of the Fittest. *Journal of Sports Sciences*, *36*(6), 697–703. https://doi.org/10.1080/02640414.2017.1332420

Jonker, L., Elferink-Gemser, M. T., de Roos, I. M., & Visscher, C. (2012a). The Role of Reflection in Sport Expertise. *The Sport Psychologist*, *26*(2), 224–242. https://doi.org/10.1123/tsp.26.2.224

Jonker, L., Elferink-Gemser, M. T., de Roos, I. M., & Visscher, C. (2012b). The Role of Reflection in Sport Expertise. *Sport Psychologist*, *26*(2), 224–242. https://doi.org/10.1123/tsp.26.2.224

Jonker, L., Elferink-Gemser, M. T., Toering, T., Lyons, J., & Visscher, C. (2010). Academic Performance and Self-Regulatory Skills in Elite Youth Soccer Players. *Journal of Sports Sciences*, *28*(14), 1605–1614. https://doi.org/10.1080/02640414.2010.516270

Jonker, L., Elferink-Gemser, M. T., & Visscher, C. (2010). Differences in Self-Regulatory Skills Among Talented Athletes: The Significance of Competitive Level and Type of Sport. *Journal of Sports Sciences*, *28*(8), 901–908. https://doi.org/10.1080/02640411003797157

Jonker, L., Huijgen, B. C. H., Heuvingh, B., Elferink-Gemser, M. T., & Visscher, C. (2019). How Youth Football Players Learn to Succeed. In E. Konter, J. Beckmann, & T. M. Loughead (Eds.), *Football Psychology* (1st ed., pp. 297–312). Routledge. https://doi.org/10.4324/9781315268248-23

Jonsen, K., & Jehn, K. A. (2009). Using Triangulation to Validate Themes in Qualitative Studies. *Qualitative Research in Organizations and Management: An International Journal*, *4*(2), 123–150.

Jowett, S. (2005). The Coach-Athlete Partnership. *The Psychologist*, *18*(7), 412–415.

Jowett, S. (2007). Interdependence Analysis and the 3+1Cs in the Coach-Athlete Relationship. In *Social Psychology in Sport.* (pp. 15–27). Human Kinetics.

Jowett, S. (2017). Coaching Effectiveness: The Coach–Athlete Relationship at its Heart. *Current Opinion in Psychology*, *16*, 154–158. https://doi.org/https://doi.org/10.1016/j.copsyc.2017.05.006

Jowett, S., & Meek, G. A. (2000). The Coach-Athlete Relationship in Married Couples: An Exploratory Content Analysis. *The Sport Psychologist*, *14*(2), 157–175.

Jowett, S., & Nezlek, J. (2012). Relationship Interdependence and Satisfaction with Important Outcomes in Coach–Athlete Dyads. *Journal of Social and Personal Relationships*, *29*(3), 287–301.

Jowett, S., & Ntoumanis, N. (2004). The Coach–Athlete Relationship Questionnaire (CART-Q): Development and Initial Validation. *Scandinavian Journal of Medicine & Science in Sports*, *14*(4), 245–257.

Jowett, S., & Poczwardowski, A. (2007). Understanding the Coach-Athlete Relationship. In S. Jowett & D. Lavallee (Eds.), *Social Psychology in Sport* (pp. 3–14). Human Kinetics. https://doi.org/10.5040/9781492595878.part-001

Karabenick, S. A., & Knapp, J. R. (1991). Relationship of Academic Help Seeking to the Use of Learning Strategies and Other Instrumental Achievement Behavior in College Students. *Journal of Educational Psychology*, *83*(2), 221.

Keegan, R., Spray, C. M., Harwood, C. G., & Lavallee, D. (2010). The Motivational Atmosphere in Youth Sport: Coach, Parent, and Peer Influences on Motivation in Specializing Sport Participants. *Journal of Applied Sport Psychology*, *22*(1), 87–105. https://doi.org/10.1080/10413200903421267

Keller, B. S., Raynor, A. J., Bruce, L., & Iredale, F. (2016). Technical Attributes of Australian Youth Soccer Players: Implications for Talent Identification. *International Journal of Sports Science and Coaching*, *11*(6), 819–824. https://doi.org/10.1177/1747954116676108

Kelly, A., Williams, C. A., Cook, R., Sáiz, S. L. J., & Wilson, M. R. (2022). A Multidisciplinary Investigation into the Talent Development Processes at an English Football Academy: A Machine Learning Approach. *Sports*, *10*(10). https://doi.org/10.3390/sports10100159

Kelly, A., Wilson, M. R., Gough, L. A., Knapman, H., Morgan, P., Cole, M., Jackson, D. T., & Williams, C. A. (2020). A Longitudinal Investigation into the Relative Age Effect in an English Professional Football Club: Exploring the 'Underdog Hypothesis'. *Science and Medicine in Football*, *4*(2), 111–118. https://doi.org/10.1080/24733938.2019.1694169

Kelly, A., Wilson, M. R., Jackson, D. T., Goldman, D. E., Turnnidge, J., Côté, J., & Williams, C. A. (2020). A Multidisciplinary Investigation into "Playing-Up" in Academy Football According to Age Phase. *Journal of Sports Sciences*, *39*(8), 854–864. https://doi.org/10.1080/02640414.2020.1848117

Kelly, A., Wilson, M. R., Jackson, D. T., & Williams, C. A. (2020). Technical Testing and Match Analysis Statistics as Part of the Talent Development Process in an English Football Academy. *International Journal of Performance Analysis in Sport*, *20*(6), 1035–1051. https://doi.org/10.1080/24748668.2020.1824865

Kelly, S., & Waddington, I. (2006). Abuse, intimidation and violence as aspects of managerial control in professional soccer in Britain and Ireland. *International Review for the Sociology of Sport*, *41*(2), 147–164.

Kempster, S. (2006). Leadership Learning Through Lived Experience: A Process of Apprenticeship? *Journal of Management & Organization*, *12*(1), 4–22.

Kirk, R. E. (1996). Practical Significance: A Concept Whose Time Has Come. *Educational and Psychological Measurement*, *56*(5), 746–759.

Kite, R. J., Noon, M. R., Morris, R. O., Mundy, P. D., & Clarke, N. D. (2021). British Soccer Academy Personnel Perceive Psychological and Technical/Tactical Attributes as the Most Important Contributors to Development. *Journal of Science in Sport and Exercise*. https://doi.org/10.1007/s42978-021-00127-z

Knight, C. J., Berrow, S. R., & Harwood, C. G. (2017). Parenting in Sport. *Current Opinion in Psychology*, *16*, 93–97. https://doi.org/https://doi.org/10.1016/j.copsyc.2017.03.011

Knight, C. J., & Harwood, C. G. (2009). Exploring Parent-Related Coaching Stressors in British Tennis: A Developmental Investigation. *International Journal of Sports Science & Coaching*, *4*(4), 545–565. https://doi.org/10.1260/174795409790291448

Knight, C. J., Harwood, C. G., & Sellars, P. A. (2018). Supporting Adolescent Athletes' Dual Careers: The Role of an Athlete's Social Support Network. *Psychology of Sport and Exercise*, *38*, 137–147. https://doi.org/https://doi.org/10.1016/j.psychsport.2018.06.007

Knowles, Z., Gilbourne, D., Borrie, A., & Nevill, A. (2001). Developing the Reflective Sports Coach: A Study Exploring the Processes of Reflective Practice Within a Higher Education Coaching Programme. *Reflective Practice*, *2*(2), 185–207. https://doi.org/10.1080/14623940123820

Kortesluoma, R., Hentinen, M., & Nikkonen, M. (2003). Conducting a Qualitative Child Interview: Methodological Eonsiderations. *Journal of Advanced Nursing*, *42*(5), 434–441.

Kramer, L., & Conger, K. J. (2009). What We Learn From Our Sisters and Brothers: For Better or For Worse. *New Directions for Child and Adolescent Development*, *2009*(126), 1–12.

Lapadat, J. C., & Lindsay, A. C. (1999). Transcription in Research and Practice: From Standardization of Technique to Interpretive Positionings. *Qualitative Inquiry*, *5*(1), 64–86.

Larkin, P., & O'Connor, D. (2017). Talent Identification and Recruitment in Youth Soccer: Recruiter's Perceptions of the Key Attributes for Player Recruitment. *PLoS ONE*, *12*(4), 1–16. https://doi.org/10.1371/journal.pone.0175716

Larkin, P., O'Connor, D., & Williams, A. M. (2016). Does Grit Influence Sport-Specific Engagement and Perceptual-Cognitive Expertise in Elite Youth Soccer? *Journal of Applied Sport Psychology*, *28*(2), 129–138. https://doi.org/10.1080/10413200.2015.1085922

Larsen, C. H., Alfermann, D., Henriksen, K., & Christensen, M. K. (2013). Successful Talent Development in Soccer: The Characteristics of the Environment. *Sport, Exercise, and Performance Psychology*, *2*(3), 190–206. https://doi.org/10.1037/a0031958

Larsen, C. H., Henriksen, K., Alfermann, D., & Christensen, M. K. (2014). Preparing Footballers for the Next Step: An Intervention Program From an Ecological Perspective. *Sport Psychologist*, *28*(1), 91–102. https://doi.org/10.1123/tsp.2013-0015

Larsen, C. H., Storm, L. K., Sæther, S. A., Pyrdol, N., & Henriksen, K. (2020). A World Class Academy in Professional Football: The Case of Ajax Amsterdam. *Scandinavian Journal of Sport and Exercise Psychology*, *2*, 33–43. https://doi.org/10.7146/sjsep.v2i0.119746

Lauer, L., Gould, D., Roman, N., & Pierce, M. (2010). Parental Behaviors That Affect Junior Tennis Player Development. *Psychology of Sport and Exercise*, *11*(6), 487–496. https://doi.org/https://doi.org/10.1016/j.psychsport.2010.06.008

LaVoi, N. M. (2007). Expanding the Interpersonal Dimension: Closeness in the Coach-Athlete Relationship. *International Journal of Sports Science & Coaching*, *2*(4), 497–512.

Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. Springer Publishing Company.

Leyhr, D., Bergmann, F., Schreiner, R., Mann, D., Dugandzic, D., & Höner, O. (2021). Relative age-related biases in objective and subjective assessments of performance in talented youth soccer players. *Frontiers in Sports and Active Living*, *3*, 664231.

Li, C., Martindale, R. J., & Sun, Y. (2019). Relationships Between Talent Development Environments and Mental Toughness: The Role of Basic Psychological Need Satisfaction. *Journal of Sports Sciences*, *37*(18), 2057–2065. https://doi.org/10.1080/02640414.2019.1620979

Li, C., Wang, C. K. J., & Pyun, D. Y. (2017). The Roles of the Talent Development Environment on Athlete Burnout: A Qualitative Study. *International Journal of Sport Psychology*, *48*(2), 143–164.

Li, C., Wang, C. K. J., Pyun, D. Y., & Martindale, R. J. (2015). Further Development of the Talent Development Environment Questionnaire for Sport. *Journal of Sports Sciences*, *33*(17), 1831–1843. https://doi.org/10.1080/02640414.2015.1014828

Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic Controversies, Contradictions, and Emerging Confluences, Revisited. *The Sage Handbook of Qualitative Research*, *4*(2), 97–128.

Lovell, R., Towlson, C., Parkin, G., Portas, M., Vaeyens, R., & Cobley, S. (2015). Soccer Player Characteristics in English Lower-League Development Programmes: The Relationships between Relative Age, Maturation, Anthropometry and Physical Fitness. *PLOS ONE*, *10*(9), e0137238. https://doi.org/10.1371/journal.pone.0137238

Macbeth, J. (2002). The Development of Women's Football in Scotland. *The Sports Historian*, *22*(2), 149–163. https://doi.org/10.1080/17460260209443387

Macbeth, J. (2007). Women's football in Scotland: an historical overview'. *Women, Football and Europe: Histories, Equity and Experiences*, 3–26.

MacNamara, Á., Button, A., & Collins, D. (2010a). The Role of Psychological Characteristics in Facilitating the Pathway to Elite Performance Part 1 : Identifying Mental Skills and Behaviors. *The Sport Psychologist*, *24*, 52–73. https://doi.org/10.1080/03634520802237383

MacNamara, Á., Button, A., & Collins, D. (2010b). The Role of Psychological Characteristics in Facilitating the Pathway to Elite Performance Part 2: Examining Environmental and Stage-Related Differences in Skills and Behaviors. *The Sport Psychologist*, *24*, 74–96. https://doi.org/10.1080/03634520802237383

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

MacNamara, Á., & Collins, D. (2013). Do Mental Skills Make Champions? Examining the Discriminant Function of the Psychological Characteristics of Developing Excellence Questionnaire. *Journal of Sports Sciences*, *31*(7), 736–744. https://doi.org/10.1080/02640414.2012.747692

MacNamara, Á., Holmes, P., & Collins, D. (2008). Negotiating Transitions in Musical Development: The Role of Psychological Characteristics of Developing Excellence. *Psychology of Music*, *36*(3), 335–352. https://doi.org/10.1177/0305735607086041

Macnamara, B. N., Moreau, D., & Hambrick, D. Z. (2016). The Relationship Between Deliberate Practice and Performance in Sports: A Meta-Analysis. *Perspectives on Psychological Science*, *11*(3), 333–350. https://doi.org/10.1177/1745691616635591

Macphail, A., Gorely, T., & Kirk, D. (2003). Young People's Socialisation into Sport: A Case Study of an Athletics Club. *Sport, Education and Society*, *8*(2), 251–267.

Martindale, R. J., Collins, D., & Abraham, A. (2007). Effective Talent Development: The Elite Coach Perspective in UK Sport. *Journal of Applied Sport Psychology*, *19*(2), 187–206. https://doi.org/10.1080/10413200701188944

Martindale, R. J., Collins, D., & Daubney, J. (2005). Talent Development: A Guide for Practice and Research Within Sport. *Quest*, *57*(4), 353–375. https://doi.org/10.1080/00336297.2005.10491862

Martindale, R. J., Collins, D., Douglas, C., & Whike, A. (2013). Examining the Ecological Validity of the Talent Development Environment Questionnaire. *Journal of Sports Sciences*, *31*(1), 41–47. https://doi.org/10.1080/02640414.2012.718443

Martindale, R. J., Collins, D., Wang, C. K. J., McNeill, M., Lee, K. S., Sproule, J., & Westbury, T. (2010). Development of the Talent Development Environment Questionnaire for Sport. *Journal of Sports Sciences*, *28*(11), 1209–1221. https://doi.org/10.1080/02640414.2010.495993

Martinek, T., & Hellison, D. (2009). Youth Development, Sport, and Youth Leadership. In *Youth Leadership in Sport and Physical Education* (pp. 15–26). Springer.

Matesanz, D., Holzmayer, F., Torgler, B., Schmidt, S. L., & Ortega, G. J. (2018). Transfer market activities and sportive performance in European first football leagues: A dynamic network approach. *PLOS ONE*, *13*(12), e0209362. https://doi.org/10.1371/journal.pone.0209362

McCardle, L., Young, B. W., & Baker, J. (2017). Self-Regulated Learning and Expertise Development in Sport: Current Status, Challenges, and Future Opportunities. *International Review of Sport and Exercise Psychology*, *0*(0), 1–27. https://doi.org/10.1080/1750984X.2017.1381141

McCarthy, N., & Collins, D. (2014). Initial Identification & Selection Bias Versus the Eventual Confirmation of Talent: Evidence for the Benefits of a Rocky Road? *Journal of Sports Sciences*, *32*(17), 1604–1610. https://doi.org/10.1080/02640414.2014.908322

McGillivray, D. (2006). Facilitating Change in the Educational Experiences of Professional Footballers: The Case of Scottish Football. *Managing Leisure*, *11*(1), 22–38. https://doi.org/10.1080/13606710500445668

McNeill, M., & Wang, C. K. J. (2005). Psychological Profiles of Elite School Sports Players in Singapore. *Psychology of Sport and Exercise*, *6*(1), 117–128. https://doi.org/https://doi.org/10.1016/j.psychsport.2003.10.004

Merkel, D. L. (2013). Youth Sport: Positive and Negative Impact on Young Athletes. *Open Access Journal of Sports Medicine*, *4*, 151.

Meylan, C., Cronin, J., Oliver, J. L., & Hughes, M. (2010). Talent Identification in Soccer: The Role of Maturity Status on Physical, Physiological and Technical Characteristics. *International Journal of Sports Science and Coaching*, *5*(4), 571–592. https://doi.org/10.1260/1747-9541.5.4.571

Mills, A., Butt, J., Maynard, I., & Harwood, C. G. (2012). Identifying Factors Perceived to Influence the Development of Elite Youth Football Academy Players. *Journal of Sports Sciences*, *30*(15), 1593–1604. https://doi.org/10.1080/02640414.2012.710753

Mills, A., Butt, J., Maynard, I., & Harwood, C. G. (2014a). Examining the Development Environments of Elite English Football Academies: The players' Perspective. *International Journal of Sports Science and Coaching*, *9*(6), 1457–1472. https://doi.org/10.1260/1747-9541.9.6.1457

Mills, A., Butt, J., Maynard, I., & Harwood, C. G. (2014b). Toward an Understanding of Optimal Development Environments Within Elite English Soccer Academies. *Sport Psychologist*, *28*(2), 137–150. https://doi.org/10.1123/tsp.2013-0018

Mitchell, T. O., Nesti, M., Richardson, D., Midgley, A. W., Eubank, M., & Littlewood, M. A. (2014). Exploring Athletic Identity in Elite-Level English Youth Football: A Cross-Sectional Approach. *Journal of Sports Sciences*, *32*(13), 1294–1299. https://doi.org/10.1080/02640414.2014.898855

Moore, L. J., Wilson, M. R., Vine, S. J., Coussens, A. H., & Freeman, P. (2013). Champ or Chump?: Challenge and Threat States During Pressurized Competition. *Journal of Sport and Exercise Psychology*, *35*(6), 551–562.

Moran, M. M., & Weiss, M. R. (2006). Peer Leadership in Sport: Links with Friendship, Peer Acceptance, Psychological Characteristics, and Athletic Ability. *Journal of Applied Sport Psychology*, *18*(2), 97–113. https://doi.org/10.1080/10413200600653501

Morris, R. L., & Kavussanu, M. (2009). The Role of Approach-Avoidance Versus Task and Ego Goals in Enjoyment and Cognitive Anxiety in Youth Sport. *International Journal of Sport and Exercise Psychology*, *7*(2), 185–202.

Morris, R., Tod, D., & Eubank, M. (2017). From Youth Team to First Team: An Investigation into the Transition Experiences of Young Professional Athletes in Soccer. *International Journal of Sport and Exercise Psychology*, *15*(5), 523–539. https://doi.org/10.1080/1612197X.2016.1152992

Morris, R., Tod, D., & Oliver, E. (2015). An Analysis of Organizational Structure and Transition Outcomes in the Youth-to-Senior Professional Soccer Transition. *Journal of Applied Sport Psychology*, *27*(2), 216–234. https://doi.org/10.1080/10413200.2014.980015

Mosher, A., Fraser-Thomas, J., & Baker, J. (2020). What defines early specialization: a systematic review of literature. *Frontiers in Sports and Active Living*, *2*, 596229.

Mossman, G. J., & Cronin, L. D. (2019). Life Skills Development and Enjoyment in Youth Soccer: The Importance of Parental Behaviours. *Journal of Sports Sciences*, *37*(8), 850–856. https://doi.org/10.1080/02640414.2018.1530580

Mujika, I., Vaeyens, R., Matthys, S. P. J., Santisteban, J., Goiriena, J., & Philippaerts, R. M. (2009). The Relative Age Effect in a Professional Football Club Setting. *Journal of Sports Sciences*, *27*(11), 1153–1158. https://doi.org/10.1080/02640410903220328

Murphy, G. M., Petitpas, A. J., & Brewer, B. W. (1996). Identity Foreclosure, Athletic Identity, and Career Maturity in Intercollegiate Athletes. *The Sport Psychologist*, *10*(3), 239–246. https://doi.org/10.1123/tsp.10.3.239 10.1123/tsp.10.3.239 10.1123/tsp.10.3.239 10.1123/tsp.10.3.239

Murr, D., Feichtinger, P., Larkin, P., O'Connor, D., & Höner, O. (2018). Psychological Talent Predictors in Youth Soccer: A Systematic Review of the Prognostic Relevance of Psychomotor, Perceptual-Cognitive and Personality-Related Factors. *PLoS ONE*, *13*(10). https://doi.org/10.1371/journal.pone.0205337

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

Newman, T. J., Anderson-Butcher, D., & Amorose, A. J. (2020). Examining the Influence of Sport Program Staff and Parent/Caregiver Support on Youth Outcomes. *Applied Developmental Science*, *24*(3), 263–278. https://doi.org/10.1080/10888691.2018.1467762

Nicholls, A. R., Earle, K., Earle, F., & Madigan, D. J. (2017). Perceptions of the Coach–Athlete Relationship Predict the Attainment of Mastery Achievement Goals Six Months Later: A Two-Wave Longitudinal Study among F. A. Premier League Academy Soccer Players. In *Frontiers in Psychology* (Vol. 8, p. 684). https://www.frontiersin.org/article/10.3389/fpsyg.2017.00684

Nicholls, A. R., Levy, A. R., Carson, F., Thompson, M. A., & Perry, J. L. (2016). The Applicability of Self-Regulation Theories in Sport: Goal Adjustment Capacities, Stress Appraisals, Coping, and Well-Being Among Athletes. *Psychology of Sport and Exercise*, *27*, 47–55. https://doi.org/https://doi.org/10.1016/j.psychsport.2016.07.011

Nicholls, A. R., & Polman, R. C. J. (2007). Coping in Sport: A Systematic Review. *Journal of Sports Sciences*, *25*(1), 11–31.

Nicholls, J. G. (1984). Achievement Motivation: Conceptions of Ability, Subjective Experience, Task Choice, and Performance. *Psychological Review*, *91*(3), 328.

Nicholls, J. G. (1989). *The Competitive Ethos and Democratic Education*. Harvard University Press.

Noon, M. R., Eyre, E. L. J., Ellis, M., Myers, T., Morris, R. O., Mundy, P. D., Penny, R., & Clarke, N. D. (2020). The Influence of Recruitment Age and Anthropometric and Physical Characteristics on the Development Pathway of English Academy Football Players. *International Journal of Sports Physiology and Performance*, *16*(2), 199–207. https://doi.org/10.1123/ijspp.2019-0534

Noon, M. R., James, R. S., Clarke, N. D., Akubat, I., & Thake, C. D. (2015). Perceptions of Well-Being and Physical Performance in English Elite Youth Footballers Across a Season. *Journal of Sports Sciences*, *33*(20), 2106–2115. https://doi.org/10.1080/02640414.2015.1081393

Norman, G. (2010). Likert scales, levels of measurement and the "laws" of statistics. *Advances in Health Sciences Education*, *15*(5), 625–632.

O'Connor, D., Larkin, P., & Williams, A. M. (2018). Observations of Youth Football Training: How do Coaches Structure Training Sessions for Player Development? *Journal of Sports Sciences*, *36*(1), 39–47. https://doi.org/10.1080/02640414.2016.1277034

Odenweller, K. G., Booth-Butterfield, M., & Weber, K. (2014). Investigating Helicopter Parenting, Family Environments, and Relational Outcomes for Millennials. *Communication Studies*, *65*(4), 407–425. https://doi.org/10.1080/10510974.2013.811434

Olusoga, P., Butt, J., Maynard, I., & Hays, K. (2010). Stress and Coping: A Study of World Class Coaches. *Journal of Applied Sport Psychology*, *22*(3), 274–293. https://doi.org/10.1080/10413201003760968

Ommundsen, Y., & Roberts, G. C. (1996). Goal Orientations and Perceived Purposes of Training among Elite Athletes. *Perceptual and Motor Skills*, *83*(2), 463–471. https://doi.org/10.2466/pms.1996.83.2.463

Ostojic, S. M., Castagna, C., Calleja-González, J., Jukic, I., Idrizovic, K., & Stojanovic, M. (2014). The Biological Age of 14-year-old Boys and Success in Adult Soccer: Do Early Maturers Predominate in the Top-level Game? *Research in Sports Medicine*, *22*(4), 398–407. https://doi.org/10.1080/15438627.2014.944303

Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in Psychology*, *8*(APR), 1–28. https://doi.org/10.3389/fpsyg.2017.00422

Pankhurst, A., Collins, D., & MacNamara, Á. (2013). Talent Development: Linking the Stakeholders to the Process. *Journal of Sports Sciences*, *31*(4), 370–380. https://doi.org/10.1080/02640414.2012.733821

Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods* (4th ed.). SAGE Publications.

Pedreño, N. B., Ferriz-Morel, R., Rivas, S., Almagro, B., Sáenz-López, P., Cervelló, E., & Moreno-Murcia, J. A. (2015). Sport Commitment in Adolescent Soccer Players. *Motricidade*, *11*(4), 3–14.

Peirce, C. S. (1905). What pragmatism is. *The Monist*, *15*(2), 161–181.

Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. In *Handbook of self-regulation* (pp. 451–502). Elsevier.

Pirie, M. (2021). SPFL revenue acceleration failure laid bare as latest accounts make grim reading for Scottish clubs. *Daily Record*. https://www.dailyrecord.co.uk/sport/football/football-news/spfl-revenue-acceleration-failure-laid-25280921

Platts, C., & Smith, A. (2009). The education, rights and welfare of young people in professional football in England: some implications of the White Paper on Sport. *International Journal of Sport Policy and Politics*, *1*(3), 323–339. https://doi.org/10.1080/19406940903265590

Platts, C., & Smith, A. (2010). 'Money, money, money?' The development of financial inequalities in English professional football. *Soccer & Society*, *11*(5), 643–658. https://doi.org/10.1080/14660970.2010.497365

Platvoet, S. W. J., Opstoel, K., Pion, J., Elferink-Gemser, M. T., & Visscher, C. (2020). Performance characteristics of selected/deselected under 11 players from a professional youth football academy. *International Journal of Sports Science & Coaching*, *15*(5–6), 762–771.

Ponizovsky-Bergelson, Y., Dayan, Y., Wahle, N., & Roer-Strier, D. (2019). A Qualitative Interview with Young Children: What Encourages or Inhibits Young Children's Participation? *International Journal of Qualitative Methods*, *18*, 1609406919840516.

Puente-Díaz, R. (2012). The Effect of Achievement Goals on Enjoyment, Effort, Satisfaction and Performance. *International Journal of Psychology*, *47*(2), 102–110.

Ravizza, K., & Fifer, A. (2014). Increasing Awareness for Sport Performance. In J. M. Williams & V. Krane (Eds.), *Applied Sport Psychology: Personal Growth to Peak Performance* (7th ed., pp. 176–287). McGraw-Hill.

Rees, T. (2007). Influence of Social Support on Athletes. In *Social Psychology in Sport.* (pp. 223–231). Human Kinetics. https://doi.org/10.5040/9781492595878.ch-016

Rees, T., & Freeman, P. (2009). Social Support Moderates the Relationship Between Stressors and Task Performance Through Self-Efficacy. *Journal of Social and Clinical Psychology*, *28*(2), 244–263.

Rees, T., & Hardy, L. (2000). An Investigation of the Social Support Experiences of High-Level Sport Performers. *The Sport Psychologist*, *14*, 327–347.

Rees, T., & Hardy, L. (2004). Matching Social Support with Stressors: Effects on Factors Underlying Performance in Tennis. *Psychology of Sport and Exercise*, *5*(3), 319–337. https://doi.org/https://doi.org/10.1016/S1469-0292(03)00018-9

Rees, T., Hardy, L., Güllich, A., Abernethy, B., Côté, J., Woodman, T., Montgomery, H., Laing, S., & Warr, C. (2016). The Great British Medalists Project: A Review of Current Knowledge on the Development of the World's Best Sporting Talent. *Sports Medicine*, *46*(8), 1041–1058. https://doi.org/10.1007/s40279-016-0476-2

Reeves, C. W., Nicholls, A. R., & McKenna, J. (2009). Stressors and Coping Strategies Among Early and Middle Adolescent Premier League Academy Soccer Players: Differences According to Age. *Journal of Applied Sport Psychology*, *21*(1), 31–48. https://doi.org/10.1080/10413200802443768

Reeves, M. J., McRobert, A. P., Littlewood, M. A., & Roberts, S. J. (2018). A Scoping Review of the Potential Sociological Predictors of Talent in Junior-Elite Football: 2000–2016. *Soccer & Society*, *19*(8), 1085–1105. https://doi.org/10.1080/14660970.2018.1432386

Reilly, T., Bangsbo, J., & Franks, A. (2000). Anthropometric and Physiological Predispositions for Elite Soccer. *Journal of Sports Sciences*, *18*(9), 669–683.

Reilly, T., Williams, A. M., Nevill, A., & Franks, A. (2000). A Multidisciplinary Approach to Talent Identification in Soccer. *Journal of Sports Sciences*, *18*(9), 695–702. https://doi.org/10.1080/02640410050120078

Rhind, D. J. A., Jowett, S., & Yang, S. X. (2012). A Comparison of Athletes' Perceptions of The Coach-Athlete Relationship in Team and Individual Sports. *Journal of Sport Behavior*, *35*(4), 433.

Riessman, C. K. (1993). *Narrative Analysis* (Vol. 30). Sage.

Roberts, G. C., Hall, H. K., Jackson, S. A., Kimiecik, J. C., & Tonymon, P. (1995). Implicit Theories of Achievement and the Sport Experience: Effect of Goal Orientations on Achievement Strategies and Perspectives. *Perceptual and Motor Skills*, *81*(1), 219–224. https://doi.org/10.2466/pms.1995.81.1.219

Roca, A., & Ford, P. R. (2020). Decision-Making Practice During Coaching Sessions in Elite Youth Football Across European Countries. *Science and Medicine in Football*, *4*(4), 263–268. https://doi.org/10.1080/24733938.2020.1755051

Roca, A., Ford, P. R., McRobert, A. P., & Williams, A. M. (2011). Identifying the Processes Underpinning Anticipation and Decision-Making in a Dynamic Time-Constrained Task. *Cognitive Processing*, *12*(3), 301–310. https://doi.org/10.1007/s10339-011-0392-1

Roca, A., Ford, P. R., McRobert, A. P., & Williams, A. M. (2013). Perceptual-Cognitive Skills and Their Interaction as a Function of Task Constraints in Soccer. *Journal of Sport and Exercise Psychology*, *35*(2), 144–155. https://doi.org/10.1123/jsep.35.2.144

Roca, A., Williams, A. M., & Ford, P. R. (2012). Developmental Activities and the Acquisition of Superior Anticipation and Decision Making in Soccer Players. *Journal of Sports Sciences*, *30*(15), 1643–1652.

Rodahl, S., Giske, R., Peters, D. M., & Høigaard, R. (2015). Satisfaction with the Coach and Mental Toughness in Elite Male Ice Hockey Players. *Journal of Sport Behavior*, *38*(4), 419–431.

Roe, C., & Parker, A. (2016). Sport, Chaplaincy and Holistic Support: The Elite Player Performance Plan (EPPP) in English Professional Football. *Practical Theology*, *9*(3), 169–182. https://doi.org/10.1080/1756073X.2016.1221638

Romeo, C. (2017). *Children at Football Academies Are More Likely to 'Get Hit by a Meteorite' Than Succeed as Professionals*. Business Insider. https://www.businessinsider.com/michael-calvin-shocking-statistic-why-children-football-academies-will-never-succeed-soccer-sport-2017-6?r=US&IR=T

Rothwell, M., Rumbold, J. L., & Stone, J. A. (2020). Exploring British adolescent rugby league players' experiences of professional academies and dropout. *International Journal of Sport and Exercise Psychology*, *18*(4), 485–501. https://doi.org/10.1080/1612197X.2018.1549579

Røynesdal, Ø., Toering, T., & Gustafsson, H. (2018). Understanding Players' Transition from Youth to Senior Professional Football Environments: A Coach Perspective. *International Journal of Sports Science & Coaching*, *13*(1), 26–37.

Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist*, *55*(1), 68.

Ryom, K., Ravn, M., Düring, R., & Henriksen, K. (2020). Talent Development in Football — A Holistic Perspective: The Case of KRC Genk. *International Sport Coaching Journal*, 1–10.

Sæther, S. A., Feddersen, N. B., Andresen, E., & Bjørndal, C. T. (2022). Balancing sport and academic development: Perceptions of football players and coaches in two types of Norwegian school-based dual career development environments. *International Journal of Sports Science and Coaching*, *17*(6), 1270–1282. https://doi.org/10.1177/17479541221111462

Sagar, S. S., Busch, B. K., & Jowett, S. (2010). Success and Failure, Fear of Failure, and Coping Responses of Adolescent Academy Football Players. *Journal of Applied Sport Psychology*, *22*(2), 213–230. https://doi.org/10.1080/10413201003664962

Sagar, S. S., Lavallee, D., & Spray, C. M. (2009). Coping with the Effects of Fear of Failure: A Preliminary Investigation of Young Elite Athletes. *Journal of Clinical Sport Psychology*, *3*(1), 73–98.

Sarkar, M., & Fletcher, D. (2014). Ordinary Magic, Extraordinary Performance: Psychological Resilience and Thriving in High Achievers. *Sport, Exercise, and Performance Psychology*, *3*(1), 46.

Sarmento, H., Anguera, M. T., Pereira, A., & Araújo, D. (2018). Talent Identification and Development in Male Football: A Systematic Review. *Sports Medicine*, *48*(4), 907–931. https://doi.org/10.1007/s40279-017-0851-7

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students*. Pearson Education, Limited. http://ebookcentral.proquest.com/lib/napier/detail.action?docID=5774742

Savage, J., Collins, D., & Cruickshank, A. (2017). Exploring Traumas in the Development of Talent: What Are They, What Do They Do, and What Do They Require? *Journal of Applied Sport Psychology*, *29*(1), 101–117. https://doi.org/10.1080/10413200.2016.1194910

Saward, C., Morris, J. G., Nevill, M. E., Minniti, A. M., & Sunderland, C. (2020). Psychological Characteristics of Developing Excellence in Elite Youth Football Players in English Professional Academies. *Journal of Sports Sciences*, *38*(11–12), 1380–1386. https://doi.org/10.1080/02640414.2019.1676526

Scandura, T. A., & Williams, E. A. (2000). Research Methodology in Management: Current Practices, Trends, and Implications for Future Research. *Academy of Management Journal*, *43*(6), 1248–1264.

Scanlan, T. K., Carpenter, P. J., Lobel, M., & Simons, J. P. (1993). Sources of Enjoyment for Youth Sport Athletes. *Pediatric Exercise Science*, *5*(3), 275–285.

Scanlan, T. K., Stein, G. L., & Ravizza, K. (1991). An In-Depth Study of Former Elite Figure Skaters: III. Sources of Stress. *Journal of Sport and Exercise Psychology*, *13*(2), 103–120.

Schmid, M. J., Charbonnet, B., Conzelmann, A., & Zuber, C. (2021). More Success With the Optimal Motivational Pattern? A Prospective Longitudinal Study of Young Athletes in Individual Sports. In *Frontiers in Psychology* (Vol. 11, p. 4062). https://www.frontiersin.org/article/10.3389/fpsyg.2020.606272

Schorer, J., Rienhoff, R., Fischer, L., & Baker, J. (2017). Long-Term Prognostic Validity of Talent Selections: Comparing National and Regional Coaches, Laypersons and Novices. In *Frontiers in Psychology* (Vol. 8, p. 1146). https://www.frontiersin.org/article/10.3389/fpsyg.2017.01146

Schunk, D. H. (1983). Goal difficulty and attainment information: Effects on children's achievement behaviours. *Human Learning: Journal of Practical Research & Applications*, *1*, 107–117.

Scottish Football Association. (2017a). *Scottish FA Performance Strategy*. https://www.scottishfa.co.uk/performance/performance-strategy/

Scottish Football Association. (2017b). *What is Club Academy Scotland?* https://www.scottishfa.co.uk/performance/club-academy-scotland/

Sheridan, D., Coffee, P., & Lavallee, D. (2014). A Systematic Review of Social Support in Youth Sport. *International Review of Sport and Exercise Psychology*, *7*(1), 198–228. https://doi.org/10.1080/1750984X.2014.931999

Sieghartsleitner, R., Zuber, C., Zibung, M., & Conzelmann, A. (2019). Science or Coaches' Eye? – Both! Beneficial Collaboration of Multidimensional Measurements and Coach Assessments for Efficient Talent Selection in Elite Youth Football. *Journal of Sports Science and Medicine*, *18*(1), 32–43. https://doi.org/10.7892/boris.125698

Simonton, D. K. (2001). Talent development as a multidimensional, multiplicative, and dynamic process. *Current Directions in Psychological Science*, *10*(2), 39–43. https://doi.org/10.1111/1467-8721.00110

Singer, R. N., & Janelle, C. M. (1999). Determining Sport Expertise: From Genes to Supremes. *International Journal of Sport Psychology*, *30*(2), 117–150.

Smith, B., & Caddick, N. (2012). Qualitative Methods in Sport: A Concise Overview for Guiding Social Scientific Sport Research. *Asia Pacific Journal of Sport and Social Science*, *1*(1), 60–73.

Smith, B., & McGannon, K. R. (2018). Developing Rigor in Qualitative Research: Problems and Opportunities Within Sport and Exercise Psychology. *International Review of Sport and Exercise Psychology*, *11*(1), 101–121.

Smith, D., Driver, S., Lafferty, M., Burrell, C., & Devonport, T. (2002). Social Desirability Bias and Direction Modified Competitive State Anxiety Inventory–2. *Perceptual and Motor Skills*, *95*(3), 945–952.

Smith, S. M., Cotterill, S. T., & Brown, H. (2020). An Interpretative Phenomenological Analysis of Coach Perceptions in the Practice Environment. *Sport Psychologist*, *34*(4), 257–267. https://doi.org/10.1123/TSP.2020-0021

Smoll, F. L., Cumming, S. P., & Smith, R. E. (2011). Enhancing Coach-Parent Relationships in Youth Sports: Increasing Harmony and Minimizing Hassle. *International Journal of Sports Science and Coaching*, *6*(1), 13–26. https://doi.org/10.1260/1747-9541.6.1.13

Sparkes, A. C., & Smith, B. (2013). *Qualitative Research Methods in Sport, Exercise and Health: From Process to Product*. Routledge.

Staff, H. R., Didymus, F. F., & Backhouse, S. H. (2017). Coping Rarely Takes Place in a Social Vacuum: Exploring Antecedents and Outcomes of Dyadic Coping in Coach-Athlete Relationships. *Psychology of Sport and Exercise*, *30*, 91–100. https://doi.org/https://doi.org/10.1016/j.psychsport.2017.02.009

Stambulova, N. (2009). Talent Development in Sport: The Perspective of Career Transitions. In E. Tsung-Min Hung, R. Lidor, & D. Hackfort (Eds.), *Psychology of Sport Excellence* (pp. 63–74). Fitness Information Technology.

Stambulova, N., Alfermann, D., Statler, T., & Côté, J. (2009). ISSP Position Stand: Career Development and Transitions of Athletes. *International Journal of Sport and Exercise Psychology*, *7*(4), 395–412.

Stambulova, N., Pehrson, S., & Olsson, K. (2017). Phases in the Junior-to-Senior Transition of Swedish Ice Hockey Players: From a Conceptual Framework to an Empirical Model. *International Journal of Sports Science & Coaching*, *12*(2), 231–244.

Sullivan, G. M., & Artino Jr, A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of Graduate Medical Education*, *5*(4), 541–542.

Sutcliffe, J. T., Herbison, J. D., Martin, L. J., McLaren, C. D., Slatcher, R., Benson, A. J., Van Woezik, R., Boardley, I. D., Carré, J. M., Côté, J., & Bruner, M. W. (2021). Exploring Parent-Athlete Sport Related Communication Outside of the Sport Environment with the Electronically Activated Recorder. *Psychology of Sport and Exercise*, *54*, 101919. https://doi.org/https://doi.org/10.1016/j.psychsport.2021.101919

Swainston, S. C., Wilson, M. R., & Jones, M. I. (2020). Player Experience During the Junior to Senior Transition in Professional Football: A Longitudinal Case Study. *Frontiers in Psychology*, *11*(July), 1–14. https://doi.org/10.3389/fpsyg.2020.01672

Tamminen, K. A., Poucher, Z. A., & Povilaitis, V. (2017). The Car Ride Home: An Interpretive Examination of Parent–Athlete Sport Conversations. *Sport, Exercise, and Performance Psychology*, *6*(4), 325–339. https://doi.org/10.1037/spy0000093

Taylor, I. M., & Bruner, M. W. (2012). The Social Environment and Developmental Experiences in Elite Youth Soccer. *Psychology of Sport and Exercise*, *13*(4), 390–396. https://doi.org/10.1016/j.psychsport.2012.01.008

Taylor, J., & Collins, D. (2019). Shoulda, Coulda, Didnae – Why Don't High Potential Players Make It?". *The Sport Psychologist*, *33*(2), 85–96.

Taylor, J., & Collins, D. (2021). Getting in the way: Investigating barriers to optimizing talent development experience. *Journal of Expertise*, *4*(3), 315–332.

Taylor, R. D., Carson, H. J., & Collins, D. (2018). The Impact of Siblings During Talent Development: A Longitudinal Examination in Sport. *Journal of Applied Sport Psychology*, *30*(3), 272–287. https://doi.org/10.1080/10413200.2017.1384938

Tekavc, J., Wylleman, P., & Cecić Erpič, S. (2015). Perceptions of Dual Career Development Among Elite Level Swimmers and Basketball Players. *Psychology of Sport and Exercise*, *21*, 27–41. https://doi.org/10.1016/j.psychsport.2015.03.002

Tenenbaum, G., & Driscoll, M. P. (2005). *Methods of Research in Sport Sciences: Quantitative and Qualitative Approaches*. Meyer & Meyer Verlag.

The Premier League. (2011). *Elite Player Performance Plan*.

Thelwell, R. C., Lane, A. M., Weston, N. J. V, & Greenlees, I. A. (2008). Examining Relationships Between Emotional Intelligence and Coaching Efficacy. *International Journal of Sport and Exercise Psychology*, *6*(2), 224–235.

Thelwell, R. C., Weston, N. J. V, Greenlees, I. A., & Hutchings, N. V. (2008). Stressors in Elite Sport: A Coach Perspective. *Journal of Sports Sciences*, *26*(9), 905–918.

Thomas, C. E., Abbott, G., Gastin, P. B., & Main, L. C. (2020). Construct Validity and Reliability of The Talent Development Environment Questionnaire in Caribbean Youth Track and Field Athletes. *PLOS ONE*, *15*(1), e0227815. https://doi.org/10.1371/journal.pone.0227815

Thomas, C. E., Gastin, P. B., Abbott, G., & Main, L. C. (2020). Impact of the Talent Development Environment on the Wellbeing and Burnout of Caribbean Youth Track and Field Athletes. *European Journal of Sport Science*, *0*(0), 1–14. https://doi.org/10.1080/17461391.2020.1775894

Thomas, E., & Magilvy, J. K. (2011). Qualitative Rigor or Research Validity in Qualitative Research. *Journal for Specialists in Pediatric Nursing*, *16*(2), 151–155. https://doi.org/https://doi.org/10.1111/j.1744-6155.2011.00283.x

Till, K., Cobley, S., O'Hara, J., Brightmore, A., Cooke, C., & Chapman, C. (2011). Using Anthropometric and Performance Characteristics to Predict Selection in Junior UK Rugby League Players. *Journal of Science and Medicine in Sport*, *14*(3), 264–269. https://doi.org/https://doi.org/10.1016/j.jsams.2011.01.006

Till, K., Cobley, S., O'Hara, J., Cooke, C., & Chapman, C. (2014). Considering Maturation Status and Relative Age in the Longitudinal Evaluation of Junior Rugby League Players. *Scandinavian Journal of Medicine & Science in Sports*, *24*(3), 569–576. https://doi.org/10.1111/sms.12033

Till, K., Cobley, S., O'Hara, J., Morley, D., Chapman, C., & Cooke, C. (2015). Retrospective Analysis of Anthropometric and Fitness Characteristics Associated with Long-Term Career Progression in Rugby League. *Journal of Science and Medicine in Sport*, *18*(3), 310–314. https://doi.org/https://doi.org/10.1016/j.jsams.2014.05.003

Till, K., Jones, B., Darrall-Jones, J., Emmonds, S., & Cooke, C. (2015). Longitudinal Development of Anthropometric and Physical Characteristics Within Academy Rugby League Players. *The Journal of Strength & Conditioning Research*, *29*(6). https://journals.lww.com/nsca-jscr/Fulltext/2015/06000/Longitudinal_Development_of_Anthropometric_and.33.aspx

Toering, T., Elferink-Gemser, M. T., Jonker, L., van Heuvelen, M. J. G., & Visscher, C. (2012). Measuring Self-Regulation in a Learning Context: Reliability and Validity of the Self-Regulation of Learning Self-Report Scale (SRL-SRS). *International Journal of Sport and Exercise Psychology*, *10*(1), 24–38. https://doi.org/10.1080/1612197X.2012.645132

Toering, T., Elferink-Gemser, M. T., Jordet, G., Jorna, C., Pepping, G. J., & Visscher, C. (2011). Self-Regulation of Practice Behavior Among Elite Youth Soccer Players: An Exploratory Observation Study. *Journal of Applied Sport Psychology*, *23*(1), 110–128. https://doi.org/10.1080/10413200.2010.534544

Toering, T., Elferink-Gemser, M. T., Jordet, G., Pepping, G. J., & Visscher, C. (2012). Self-Regulation of Learning and Performance Level of Elite Youth Soccer Players. *International Journal of Sport Psychology*, *43*(4), 312–325.

Toering, T., Elferink-Gemser, M. T., Jordet, G., & Visscher, C. (2009). Self-Regulation and Performance Level of Elite and Non-Elite Youth Soccer Players. *Journal of Sports Sciences*, *27*(14), 1509–1517. https://doi.org/10.1080/02640410903369919

Toering, T., Jordet, G., & Ripegutu, A. (2013). Effective Learning Among Elite Football Players: The Development of a Football-Specific Self-Regulated Learning Questionnaire. *Journal of Sports Sciences*, *31*(13), 1412–1420. https://doi.org/10.1080/02640414.2013.792949

Topping, K. (2011). Primary–Secondary Transition: Differences Between Teachers' and Children's Perceptions. *Improving Schools*, *14*(3), 268–285.

Ungar, M. (2009). Overprotective Parenting: Helping Parents Provide Children the Right Amount of Risk and Responsibility. *The American Journal of Family Therapy*, *37*(3), 258–271. https://doi.org/10.1080/01926180802534247

Unnithan, V. B., White, J., Georgiou, A., Iga, J., & Drust, B. (2012). Talent Identification in Youth Soccer. *Journal of Sports Sciences*, *30*(15), 1719–1726. https://doi.org/10.1080/02640414.2012.731515

Vaeyens, R., Güllich, A., Warr, C., & Philippaerts, R. M. (2009). Talent Identification and Promotion Programmes of Olympic Athletes. *Journal of Sports Sciences*, *27*(13), 1367–1380.

Vaeyens, R., Lenoir, M., Williams, A. M., Mazyn, L., & Philippaerts, R. M. (2007). The Effects of Task Constraints on Visual Search Behavior and Decision-Making Skill in Youth Soccer Players. *Journal of Sport and Exercise Psychology*, *29*(2), 147–169. https://doi.org/10.1123/jsep.29.2.147

Vaeyens, R., Lenoir, M., Williams, A. M., & Philippaerts, R. M. (2008). Talent Identification and Development Programmes in Sport: Current Models and Future Directions. *Sports Medicine*, *38*(9), 703–714. https://doi.org/10.2165/00007256-200838090-00001

Vaeyens, R., Philippaerts, R. M., & Malina, R. M. (2005). The Relative Age Effect in Soccer: A Match-Related Perspective. *Journal of Sports Sciences*, *23*(7), 747–756.

Van de Mortel, T. F. (2008). Faking it: Social Desirability Response Bias in Self-Report Research. *Australian Journal of Advanced Nursing*, *25*(4), 40–48.

van Rossum, J. H. A. (1996). Psychological Characteristics of Elite Athletes According to Top Level Coaches. *High Ability Studies*, *7*(1), 15–23. https://doi.org/10.1080/0937445960070103

Van Yperen, N. W. (1995). Interpersonal Stress, Performance Level, and Parental Support: A Longitudinal Study Among Highly Skilled Young Soccer Players. *Sport Psychologist*, *9*(9), 225–241. https://doi.org/10.1128/AEM.69.3.1337

Van Yperen, N. W. (2009). Why Some Make It and Others Do Not: Identifying Psychological Factors That Predict Career Success in Professional Adult Soccer. *The Sport Psychologist*, *23*(3), 317–329. https://doi.org/10.1123/tsp.23.3.317

Wall, J. M., Baugh, L. M., Pradhan, K., Beauchamp, M. R., Marshall, S. K., & Young, R. A. (2019). The Coach-Parent Relationship in Canadian Competitive Figure Skating: An Interpretive Description. *Psychology of Sport and Exercise*, *45*, 101577. https://doi.org/https://doi.org/10.1016/j.psychsport.2019.101577

Wall, M., & Côté, J. (2007). Developmental Activities that Lead to Dropout and Investment in Sport. *Physical Education and Sport Pedagogy*, *12*(1), 77–87.

Wanat, T., & Leksowski, Ł. (2022). Short-and long-term effects of transfers on football clubs' sport performance. *Journal of Education, Health and Sport*, *12*(5), 252–260.

Wang, C. K. J., Pyun, D. Y., Li, C., & Lee, M. S. (2016). Talent Development Environment and Achievement Goal Adoption Among Korean and Singaporean Athletes: Does Perceived Competence Matter? *International Journal of Sports Science & Coaching*, *11*(4), 496–504.

Wang, C. K. J., Sproule, J., McNeill, M., Martindale, R. J., & Lee, K. S. (2011). Impact of the Talent Development Environment on Achievement Goals and Life Aspirations in Singapore. *Journal of Applied Sport Psychology*, *23*(3), 263–276. https://doi.org/10.1080/10413200.2010.543120

Ward, P., Hodges, N. J., Starkes, J. L., & Williams, A. M. (2007). The road to excellence: Deliberate practice and the development of expertise. *High Ability Studies*, *18*(2), 119–153.

Ward, P., Hodges, N. J., & Williams, A. M. (2004). Deliberate practice and expert performance: Defining the path to excellence. In *Skill acquisition in sport* (pp. 255–282). Routledge.

Webb, V., Collins, D., & Cruickshank, A. (2016). Aligning the Talent Pathway: Exploring the Role and Mechanisms of Coherence in Development. *Journal of Sports Sciences*, *34*(19), 1799–1807. https://doi.org/10.1080/02640414.2016.1139162

Wells, L. (2020). *An ethnography of the social construction of hegemonic masculinity within a Scottish professional football club*. University of the West of Scotland.

Wentzel, K. R. (2017). Peer relationships, motivation, and academic performance at school. In *Handbook of competence and motivation: Theory and application, 2nd ed.* (pp. 586–603). The Guilford Press.

West, P., Sweeting, H., & Young, R. (2010). Transition Matters: Pupils' Experiences of the Primary–Secondary School Transition in the West of Scotland and Consequences for Well-Being and Attainment. *Research Papers in Education*, *25*(1), 21–50.

Williams, A. M., Ford, P. R., & Drust, B. (2020). Talent Identification and Development in Soccer Since the Millennium. *Journal of Sports Sciences*, *38*(11–12), 1199–1210. https://doi.org/10.1080/02640414.2020.1766647

Williams, A. M., & Reilly, T. (2000). Talent Identification and Development in Soccer. *Journal of Sports Sciences*, *18*(9), 657–667. https://doi.org/10.1080/02640410050120041

Wilson, C., & Powell, M. (2012). *A Guide to Interviewing Children: Essential Skills for Counsellors, Police, Lawyers and Social Workers*. Routledge.

Winne, P. H., & Hadwin, A. F. (1998). Studying as self-regulated learning. In *Metacognition in educational theory and practice.* (pp. 277–304). Lawrence Erlbaum Associates Publishers.

Witte, A. L., Kiewra, K. A., Kasson, S. C., & Perry, K. R. (2015). Parenting Talent: A Qualitative Investigation of the Roles Parents Play in Talent Development. *Roeper Review*, *37*(2), 84–96. https://doi.org/10.1080/02783193.2015.1008091

Wolfenden, L. E., & Holt, N. L. (2005). Talent Development in Elite Junior Tennis: Perceptions of Players, Parents, and Coaches. *Journal of Applied Sport Psychology*, *17*(2), 108–126. https://doi.org/10.1080/10413200590932416

Wylleman, P., De Knop, P., & Reints, A. (2013). Transitions in Competitive Sports. In *Lifelong Engagement in Sport and Physical Activity* (1st ed., pp. 81–94). Routledge.

Wylleman, P., & Lavallee, D. (2004). A Developmental Perspective on Transitions Faced by Athletes. *Developmental Sport and Exercise Psychology: A Lifespan Perspective*, 507–527.

Yagüe, J. M., de la Rubia, A., Sánchez-Molina, J., Maroto-Izquierdo, S., & Molinero, O. (2018). The Relative Age Effect in the 10 Best Leagues of Male Professional Football of the Union of European Football Associations (UEFA). *Journal of Sports Science and Medicine*, *17*(3), 409–416.

Zeedyk, M. S., Gallacher, J., Henderson, M., Hope, G., Husband, B., & Lindsay, K. (2003). Negotiating the Transition From Primary to Secondary School: Perceptions of Pupils, Parents and Teachers. *School Psychology International*, *24*(1), 67–79.

Zimmerman, B. J. (1986). Becoming a Self-Regulated Learner: Which are the Key Subprocesses? *Contemporary Educational Psychology*, *11*(4), 307–313. https://doi.org/10.1016/0361-476X(86)90027-5

Zimmerman, B. J. (1989). A Social Cognitive View of Self-Regulated Academic Learning. *Journal of Educational Psychology*, *81*(3), 329–339. https://doi.org/10.1037/0022-0663.81.3.329

Zimmerman, B. J. (2000). Attaining Self-Regulation: A Social Cognitive Perspective. In *Handbook of self-regulation* (pp. 13–39). Elsevier.

Zimmerman, B. J. (2006). Development and Adaptation of Expertise: The Role of Self-Regulatory Processes and Beliefs. In *The Cambridge handbook of expertise and expert performance.* (pp. 705–722). Cambridge University Press. https://doi.org/10.1017/CBO9780511816796.039

Zimmerman, B. J., & Kitsantas, A. (1997). Developmental Phases in Self-Regulation: Shifting from Process Goals to Outcome Goals. *Journal of Educational Psychology*, *89*(1), 29–36. https://doi.org/10.1037/0022-0663.89.1.29

Zimmerman, B. J., & Kitsantas, A. (2005). The Hidden Dimension of Personal Competence: Self-Regulated Learning and Practice. In *Handbook of competence and motivation.* (pp. 509–526). Guilford Publications.

Zimmerman, B. J., & Martinez-Pons, M. (1990). Student Differences in Self-Regulated Learning: Relating Grade, Sex, and Giftedness to Self-Efficacy and Strategy Use. *Journal of Educational Psychology*, *82*(1), 51.

Zimmerman, B. J., Schunk, D. H., & DiBenedetto, M. K. (2017). The Role of Self-Efficacy and Related Beliefs in Self-Regulation of Learning and Performance. In *Handbook of Competence and Motivation: Theory and Application* (2nd ed., pp. 313–333). The Guilford Press.

Zuber, C., Zibung, M., & Conzelmann, A. (2015). Motivational Patterns as an Instrument for Predicting Success in Promising Young Football Players. *Journal of Sports Sciences*, *33*(2), 160–168. https://doi.org/10.1080/02640414.2014.928827

Zuber, C., Zibung, M., & Conzelmann, A. (2016). Holistic Patterns as an Instrument for Predicting the Performance of Promising Young Soccer Players - A 3-Years Longitudinal Study. *Frontiers in Psychology*, *7*, 1088. https://doi.org/10.3389/fpsyg.2016.01088