A Multi-stakeholder Perspective of Coherence, Alignment, and Integrated Strategy at Various Stages of an Elite Rugby Talent System

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Student Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor or Elite Performance (Sport) is entirely my own work, and that I have exercised reasonable care to ensure that the work is original and have conformed to the regulations on the use and declaration of Generative A1, and does not to the best of my knowledge breach any laws of copyright, and has not been taken from the work of others save to the extent that such work has been cited and acknowledged within the text of my work.

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List of Abbreviations

Abbreviation	Definition
TDE	Talent Development Environment
TD	Talent Development
TID	Talent Identification
TDEQ	Talent Development Environment Questionnaire
TDEQ-5	Talent Development Environment Questionnaire (5 Factor)
IRFU	Irish Rugby Football Union
NTS	National Talent Squad
PD	Professional doctorate
HPSE	High Performance Sporting Environment
PCDE	Psychological Characteristics of Developing Excellence
SMM	Shared Mental Model
JST	Junior to Senior Transition
HP	High Performance
TS	Talent Selection
RAE	Relative Age Effect
NFL	National Football League
IDP	Individual Development Plan
RTA	Reflective Thematic Analysis
AIL	All Ireland League
HPC	High Performance Centre
POP	Performance Outcome Process
URC	United Rugby Championship

List of Publications

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b) Lead on writing of study with collaboration from all the authors.

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Abstract

Title: A Multi-stakeholder Perspective of Alignment, Coherence and Integrated Strategy at Various Stages of an Elite Rugby Talent System.

The importance of alignment, coherence and integration as key features of successful talent development environments has been well established in talent development literature. There has been less research examining how these success factors are operationalised across talent development and high performance sporting environments. The challenges associated with achieving a coherent experience for young athletes and developing integrated practice across an entire sporting organisation are amplified when you consider the complexity and specific nuances of both the development and performance environments. Recent research highlights the need to consider integrated practice as a strategic objective, including the timing and management of talent selection. Recent research also suggests that operationalising integration, which has been conceptualised as a top-down and bottom up approach, as distinct from alignment which is driven by a top down agenda, presents opportunities to enhance practice in talent and performance systems. The aim of my thesis was to investigate and understand a multi-stakeholder perspective of coherence, alignment and integrated strategy throughout an elite rugby pathway. Chapter 3 aimed to critically examine how talent decision making occurred and how contextual and situational factors influenced selection, recruitment, and retention. Findings suggest that organisational and contextual factors influence both individual judgements and the wider selection process and a recognition that not all selection decisions are the same, carrying different degrees of uncertainty based on the stage of the talent system. Chapter 4 investigated the readiness of the talent pathway from a player and system perspective when presented with a non-normative challenge, examining alignment, coherence and integrated practice across the talent system. Players and coaches highlight the importance of the groundwork undertaken to establish alignment and coherence, both horizontally and vertically across the talent development environment, and how this contributed to navigating the challenge successfully. Chapter 5 involved a survey (TDEQ) of players at various stages of the Munster pathway to investigate their perception of the quality of the talent development environment and differences in perceived quality between stages. Findings indicated a perceived lack of quality related to a number of elements including holistic quality preparation and support network, consistent across the talent system. Chapter 6 involved an organisation wide case-study of an integrated model at Munster that examined the impact of the integrated environment on talent development practices and on senior team performance. A thematic content analysis indicated accelerated development for younger players but highlighted tensions between performance outcomes and learning opportunities.

Chapter 1: Introduction

The purpose of a talent system is to identify, develop, and select athletes deemed to have the potential for progression to elite sport (Zhao et al., 2024). A talent system often comprises multiple talent development environments (TDEs), defined by Martindale et al. (2005) as "all aspects of the coaching situation" (p. 354), across various stages of an athlete's pathway. Athletes often inhabit multiple TDEs within a talent system (e.g. school, club, and national age-grade) (Curran et al., 2021a), amplifying the need for an aligned and integrated approach across the talent development (TD) system to ensure a coherent athlete experience, widely considered a feature of successful TDEs (Henriksen et al., 2010; Hauser et al., 2024). Talent identification (TID), TD, and talent selection are considered dynamic, complex and unpredictable processes (Till & Baker, 2020), with a range of biopsychosocial variables that may affect a young athlete's progression (Abbott et al., 2005; Collins et al., 2019; Collins & MacNamara, 2022).

Talent selection decisions within the talent system are considered highly nuanced with multiple decision types necessary at various phases and stages of development (Johnston & Baker, 2022). The low conversion rates of junior to senior performers have been well documented (Güllich, 2014; Baker et al., 2018), and research has consistently highlighted the fallibility of early TID with selection based on current performance cited as a primary limitation (Bergkamp et al., 2022). Despite this, the practice of early selection into talent systems remains prevalent in many contexts e.g. Irish and English soccer (Sweeney et al., 2023), and German Handball (Thieschäfer et al., 2025). Research has consistently prompted a call for a shift away from early talent selection and TD outcomes (Bergkamp et al., 2019) to a focus on the TD process and the design and operationalisation of the talent system (Collins & MacNamara, 2022). We are unlikely to expect different outcomes unless systems invest in

long-term development, embrace a broader definition of success, and design flexible, inclusive, and athlete-centred pathways characterised by alignment and integrated practice.

1.1 Coherence, Alignment and Integrated Practice in Talent Systems

The aim of the thesis was to examine the coherence, alignment and integrated strategy at various stages of the Munster talent system. Section 2.2.1 establishes the importance of each of these elements as features of effective TDEs and Section 2.2.2 reviews the literature associated with each of the constructs. Taylor and Collins (2021) highlighted a lack of integrated working practice as a barrier to effective TD, and that without effective integration as a distinct strategic approach, counter-intuitive practice is likely to be evident across the talent system (Moran et al., 2024). Webb et al. (2016) stressed the need for an athlete's pathway to be systematically planned, based on individual needs, to promote a coherent experience for athletes. Throughout the thesis, coherence refers to a situation where different elements of an athlete's experience hold logical connection and are mutually reinforcing (Taylor & Collins, 2021a). The extent to which these inputs are systematically combined is referred to as integration (Taylor et al., 2021). Integration represents ongoing bidirectional interactions between the various stakeholders and systems that support the athlete, as distinct from alignment, which represents agreed top-down objectives across different stages of a player's pathway (Taylor et al., 2021). Coherence and integration can be seen horizontally across an athlete's level of performance, with stakeholders operating in an agreed manner, or vertically, with coordinated principles and practices across various stages of a player's pathway (Webb et al., 2016; Taylor et al., 2021). A lack of integrated strategy is likely to lead to incoherent coaching practices, including selection decision making, crucial to the success of the talent system (see Chapter 3).

1.2 Establishing Context and Biographical Positioning

Throughout the duration of this thesis, I have been employed by Munster Rugby in several roles. When I began the thesis, I had recently started a new role as Head of Academy and Pathways. My intention was to rigorously interrogate my own practice and develop a deeper understanding of TD research to be in an informed position to enhance current processes and develop optimal TD systems at Munster. The role involved responsibility for the design and operation of the TD system, including academy, National Talent Squad (NTS), age-grade representative players, and support staff that delivered the various programmes. Initially, my focus centred on establishing and developing aligned and integrated practices across the talent system. This period corresponds with the research presented in Chapter 4 and Chapter 5. Midway through the thesis my role changed to Head of Rugby Operations, a role that incorporated additional responsibilities across the entire club, spanning both the development and performance environments. In addition to oversight of the talent system, the role included responsibility for recruitment, retention, and succession planning across the entire club. Although TID and talent selection were already crucial elements in my earlier TD roles, the additional responsibilities prompted a deeper curiosity to understand how talent selection decisions occurred and the contextual factors that influenced those decisions (see Chapter 3). In line with research, and utilising an evidence informed approach, this was with the intention of understanding and enhancing the decision making process, rather than examining the validity of the decision making outcomes. Examining coherence, alignment and integrated practices remained a central theme to each study of the thesis. In the final stages of my thesis my role changed to General Manager of Rugby at the club. The role involves accountability for the strategic direction of high performance rugby across both the development and performance environments. Among those strategies at Munster, was an intervention utilising a training model (outlined in Section 1.2.1), that involved the integration of the TDE

(academy) and the high performance environment (senior team). Chapter 6, the final study of the thesis, involves a case study to examine the impact of the intervention, and explore the relative strengths and weaknesses of the integrated model, from the perspectives of the various stakeholders. From an applied perspective, the case-study findings provide a real-time opportunity to adapt or implement relevant strategies to enhance the quality of the development environment, the performance environment or the interface where both are integrated.

1.2.1 The Munster Rugby Context

Founded in 1879, Munster Rugby is one of four professional provincial clubs in Ireland, competing in the United Rugby Championship, winning the competition in 2023 and having a strong European Cup record, reaching the semi-finals or beyond 14 times. Munster's talent system centres on a three-year provincial academy for players aged 18–21, designed to allow for multiple entry and exit points. All academy players are dual contracted to Munster and the Irish Rugby Football Union (IRFU). In contrast to the normative separation of the development and performance environment in many team sports, Munster implemented an integrated training model in 2022 to enhance player development. This organisational intervention merged the academy (approximately 18 players) with the senior squad (approximately 42 players) into a single training group. Academy players trained full-time alongside the senior team, following the same schedule. The intent of the integrated model was to accelerate progression through the Junior to Senior Transition (JST) and to develop a more competitive playing roster. The National Talent Squad (NTS) is a sub academy group, made up of approximately 34—35 non-contracted players, aged 16-19. These players are considered part of Munster's talent system but do not operate within the integrated model which includes contracted academy and senior players only.

1.3 Philosophical Underpinnings

One's philosophical position is a system of generalised views of the world that forms beliefs that guide action (Moon & Blackman, 2014). Over the course of my studies, I have come to adopt a pragmatic positioning based on a desire to generate practically meaningful knowledge that can impact people and practice (Giacobbi et al., 2005; Kelly & Cordeiro, 2020). Ontology refers to the assumptions about the nature of reality (Kaushik & Walsh, 2019), the study of being and existence. Pragmatic ontology focuses on a reality shaped by active human experience and inquiry, where the nature of reality is understood through its practical effects and is ever-changing. Epistemology refers to the acquisition of knowledge, the source of legitimate knowledge, and one's possession of knowledge (Moon & Blackman, 2014). Pragmatic epistemology defines knowledge and truth by their practical consequences and usefulness in navigating the real world, rather than abstract principles. Knowledge is not something that is simply observed but actively constructed through experience and action in the world. Together these concepts frame reality and knowledge as intertwined with human action and the pursuit of useful outcomes, rather than separate from them.

Positivists and constructivists have dichotomous views, with positivists focusing on objective, universal truths found through scientific methods, and constructivists emphasising that reality is subjective and socially built. Pragmatism bridges the gap between the two, believing that a continuum exists between objective and subjective knowledge and accepting both to solve problems depending on the research question. Pragmatists are free from committing to a specific epistemological view (Giacobbi et al., 2005). One of the defining characteristics of pragmatism when applied to research is, contrasting with other paradigms where ontology and epistemology determine the research process, pragmatism is concerned with deploying an appropriate research methodology relative to specific research questions

(Kaushik & Walsh, 2019). Pragmatists, therefore, privilege the problem to be studied rather than the underlying philosophical assumptions of a given method (Giacobbi et al., 2005). Pragmatism typically distinguishes between Truth (with a capital *T*, suggesting an absolute, universal reality) and truth (lowercase, meaning provisional, contextual, and judged by utility). As such pragmatism does not maintain that all knowledge is truth (James, 1907). Pragmatists hold that knowledge is fallible and do not search for certainty but for knowledge that enables a course of action. The search for truth is considered an ongoing process of inquiry that relies on evidence and experience (Ormerod, 2020).

With the aim of generating practically meaningful information related to principles and practices within a rugby talent system, the research conducted throughout the thesis was underpinned by a pragmatic research philosophy (Giacobbi et al., 2005). A pragmatic approach supported the generation of knowledge that is useful for practitioners and stakeholders involved in TD to enhance the TD process for young athletes. Based on my pragmatic orientation, I utilised the methods deemed most appropriate for the specific context and the research question for each individual study. Accordingly, the research adopted a mixed-methods approach, employing both quantitative and qualitative techniques to address a series of research questions designed to enhance alignment and integration within the Munster talent system and inform wider TD contexts.

As an example, in line with a pragmatic approach a qualitative study was chosen in Chapter 3, with data collected using semi-structured interviews, allowing for a deep examination of participants' beliefs relating to talent selection and those of their organisations. The aim of the research being to interpret a practical problem, rather than form an absolute representation (Kelly & Cordeiro, 2020). By exploring the experiences of talent selectors across multiple sports, I aimed to generate a breadth and depth of understanding of findings grounded in real-world experiences. This allowed me to engage in a deeper

examination of the data and make sense of the findings relative to my applied context (Bryant, 2009). Throughout the research I considered myself a co-constructor of knowledge (Giacobbi et al., 2005), knowledge that was collaboratively built by both researcher and participants through interaction and shared interpretation. My positioning as a practitioner familiar with the context under investigation facilitated novel and innovative insights and guided my research throughout. As such, the subsequent research output can be used to assist Munster Rugby in enhancing TD practices within their talent system, in an evidence-informed, systematic, and holistic manner.

1.4 Aims and Objectives of the Thesis

The overarching aim of this thesis was to examine a multi-stakeholder perspective of coherence, alignment, and integrated practice at various stages of an elite rugby pathway. The aims and objectives of the research of each chapter are summarised as follows:

Research Aim:

To explore how talent selection decision making occurs and the contextual factors that influence the process (Chapter 3).

Objectives:

(a) To conduct a series of semi-structured interviews with twelve experienced talent selectors working in high performance rugby, soccer, and cricket environments.

(b) To analyse qualitative data to understand how selection decisions are made in elite sporting environments.

(c) To analyse qualitative data to understand what sources of information selectors use when making selection decisions.

(d) To understand the broader contextual and systemic factors that influence selection decisions in high-performance sport.

Research Aim:

To examine the readiness of a talent system from a system and player-development perspective when presented with an atypical challenge (Chapter 4).

Objectives:

(a) To conduct a series of semi-structured interviews with key stakeholders that were involved in a naturally occurring, but atypical challenge.

(b) To analyse qualitative data to understand key stakeholders' experiences of navigating challenge**.**

(c) To examine the groundwork, principles, and practices that underpin the 'readiness' of Munster's TD system.

(d) To understand how navigating challenge impacted the growth and development of players and support staff.

Research Aim:

To explore the utilisation of process markers at various development stages to determine the effectiveness of a talent system (Chapter 5).

Objectives:

(a) To analyse quantitative data through the five-factor Talent Development Environment Questionnaire (TDEQ-5) of young athletes at various stages of Munster Rugby's talent system.

(b) To identify and understand areas of the talent system that were perceived to be strengths and areas that could be improved.

(c) To identify and understand perceived differences in the quality of various TDEs at different stages within the talent system.

Research Aim:

To evaluate an intervention involving the integration of the talent development and high-performance environment at Munster Rugby (Chapter 6)

Objectives:

(a) To conduct a series of semi-structured interviews to explore the perspectives of key stakeholders (academy coaches, academy players, senior coaches and senior players) operating within an integrated model.

(b) To analyse the qualitative data in relation to the strengths and weaknesses of an integrated model, with particular emphasis on how coaching practices influenced player progression.

(c) To explore the tension between development and performance within an integrated model.

(d) To explore the impact of the integrated model on player development and on team performance.

1.5 Programme of Work

Initially, when I started the Professional Doctorate (PD), I was employed as a professional rugby coach working in a high performance environment, in the English Premiership. I had worked in a similar performance coaching role at Munster and had also previously worked in the development environment in Munster's academy. In the early stages of the PD, I was passionate about exploring the areas of development and performance coaching as a potential topic of my thesis research. A blend of experience across development and performance environments proved to be invaluable in supporting the design of the interview guide in Chapter 6. A contextual understanding of both development and

performance systems informed the type of questions and the nature of the follow up probes in the interviews with players and coaches. Less than twelve months into the PD, an unplanned career change resulted in me accepting a role in Munster as the Head of Academy and Pathway. This prompted a similar pivot in the direction of my thesis to develop a deeper understanding of TD research and rigorously interrogate my own practice. With the intention of utilising an evidence-informed approach to developing an optimal TD system at Munster, the purpose of my thesis shifted to investigating and understanding a multi-stakeholder perspective of coherence, alignment, and integrated strategy throughout an elite rugby pathway. In my experience, one of the key strengths of pursuing a PD has been the flexibility to adapt the direction of my research based on changing research needs. The research needs were guided by the findings of each individual study, and in my personal circumstances, several changes in my professional role throughout the duration of the PD journey. All of which influenced the direction of my research. At each stage of the PD, the link between the thesis research and the demands of the specific role significantly supported my applied practice. Interestingly, in the final study (Chapter 6), the thesis research came full circle, exploring the integration of development and performance coaching in Munster.

Chapter 2 critically reviews the literature on key themes in TD, including talent conceptualisation, TDEs, alignment and integration within talent systems, and approaches to talent identification and selection. The chapter also includes and reviews the newly conceptualised notion of a high performance sporting environment (HPSE) and features associated with both TDEs and HPSEs, with a particular emphasis on coaching practice.

The first empirical study presented in Chapter 3 aims to critically examine how team sport talent decision making occurred and the contextual and situational factors (strategy, resource allocation and pathway design) that influenced selection, and retention decisions in talent systems. As outlined in Section 1.5, the aim of the thesis was to investigate coherence,

alignment, and integrated strategy across a talent system. Before exploring the TD process and how alignment and integrated practice influences the design and operation of a talent system, I decided to begin by exploring how talent selectors across multiple high performance sports made decisions related to talent identification and selection (i.e. how athletes are selected into, and through, the talent system). This study employed qualitative research methods, involving semi-structured interviews with twelve experienced talent selectors across twelve talent systems, in three different sports. The findings reinforced the complexity and challenges associated with talent identification and selection, highlighting a wide variety of methods related to the selection decision making process, the sources of information that selectors use to support decision making, and the contextual and situational factors in high performance sport that influence talent selection decision making. Reflecting the pragmatic research philosophy outlined in Section 1.3 of this thesis, the following chapters include aims to explore how these findings influence the design and operation of a talent system (e.g. how an aligned and integrated strategy for when and how talent selection decisions are made can influence the effectiveness of the TD system).

The second study presented in Chapter 4 investigated the outcomes of practice as evidenced by a unique opportunity presented by a highly irregular event due to the Covid-19 pandemic, to determine the readiness of both the players and the talent system at Munster rugby when faced with an atypical challenge. The scenario, involving the loss of 48 players and staff for a key European cup game, provided a real-life case study from which to examine the groundwork, practices and principles that underpinned the talent system at Munster. This study employed qualitative research methods, involving semi-structured interviews to provide an in-depth and rich understanding of key stakeholders' experiences of navigating the naturally occurring challenge – to understand the readiness of academy players to perform at the senior level. The findings from the study demonstrated the importance of an aligned and

integrated talent pathway to support the senior team performance objectives and optimally support young players' development. This investigation highlighted positive features of the talent system but also indicated possible gaps or derailers in preparing players to meet the step up in challenge as they progressed through their pathway. Following the insights from this study, Chapter 5 sets out to investigate the utilisation of process markers to determine the effectiveness of the talent system.

Beyond this unique opportunity, Chapter 5 returns to the original process-based focus, specifically to examine the utilisation of process markers at various stages in the Munster talent system to determine effectiveness. Tracking and measuring elements of performance is a well-established process in talent systems, but there are many methods utilised to benchmark an athlete's progress. This research employed a quantitative questionnaire, the five-factor Talent Development Environment Questionnaire (TDEQ-5), to explore the effectiveness of the TD system. The TDEQ-5 was deployed at various stages of the talent system to examine the effectiveness as an entire system and also to differentiate between the quality of various TDEs across and between stages in the TD system. The results of the questionnaire provide insight into the players' perceptions of both the positive features and areas that need improvement in each TDE, and across the entire talent system. Building on the findings from the series of studies outlined in Chapters 3-5, related to the effectiveness of the TD system, Chapter 6 moves on to investigate the interface between the TD and performance environment at Munster Rugby.

The final study, presented in Chapter 6, sought to evaluate an intervention involving the integration of the TD and high-performance environment at Munster Rugby (outlined in Section 1.2.1). This study employed qualitative research methods, involving semi-structured interviews, including academy players and coaches, and senior team players and coaches, to

provide an in-depth and rich understanding of the strengths and weaknesses of the integrated model, from multiple perspectives. The research involved an organisation-wide case study, that examined the effectiveness of integrated practice, and the impact of the integrated environment on TD practices and on senior team performance. The results also provided insight into perceived opportunities and threats associated with maintaining and enhancing effective development and performance practices at Munster. These findings provided an opportunity to senior leadership at the club, to adopt an evidence informed approach to modify and adapt practices, to amplify strengths and opportunities, and to mitigate weaknesses and threats with the aim of evolving the effectiveness of the integrated model. From an applied perspective, the practical implications and actions directly related to this research are outlined in Chapter 7.

Chapter 7 discusses and summarises the findings of this thesis. The body of research in this thesis is underpinned by providing solutions to practical problems and informing applied practice. As such, the chapter highlights the practical implications and actions taken by Munster, enhancing their current practices and guiding their future strategy. The final chapter also discusses recommendations for future practice that could be considered in similar contexts, derived from the evidence informed knowledge developed throughout this research. Strengths and limitations of the research are considered in the final chapter, along with recommendations for the direction of future research.

1.6 Delimitations of the Research

Although the pragmatic research approach to each study in this thesis aims to generate practical and meaningful evidence informed knowledge that can be applied to rugby talent systems, it must be noted that findings are limited to the sporting context in which the research has taken place. Chapters 4, 5 and 6 incorporate research studies that focused solely

on Munster's talent system. Chapter 3 investigated talent selection decisions across three different professional sports, involving interviews with practitioners from twelve different sporting environments. Notably, the research only incorporated male athletes from Ireland and the UK. The findings of this research may be considered transferable across sporting environments and contexts, however, caution is recommended and readers should consider the transferability of these findings to their specific sporting and cultural context. By understanding the pragmatic approach to the research undertaken and carefully considering its application to similar contexts, practitioners can benefit from the research findings.

Finally, it is necessary to acknowledge my role as an insider, conducting research within my own organisation and from a population of which I am a member and in a leadership position. Among the benefits of an insider perspective is acceptance by the participants based on my understanding of the context and a level of trust that contributed to participants sharing with a greater degree of openness and depth, adding a richness to the data (Dwyer & Buckle, 2009). This positionality enhanced the ability to capture subtle and embedded practices that might be overlooked by an external observer (Chavez, 2015). This creates a pragmatic intent for the research; yet there was a clear tension between this and the power dynamic between researcher and participant, particularly the potential for impression management. Another potential disadvantage of the insider perspective is being blinded to the norms of a context, or being overly positive (Chavez, 2015). It is also possible that I may have been unable to separate my own experiences from those of the participants. Similarly, participants may have assumed shared understanding and may not have fully explained their own experiences (Dwyer & Buckle, 2009). Attempts to mitigate these limitations are outlined in detail in Chapters 4 and 6.

Chapter 2: Literature Review

The aim of this thesis was to examine coherence, alignment, and integrated strategy within a rugby talent system. Chapter 2 critically reviews the literature to conceptualise talent and talent systems, and to explore the features of effective TDE's, prior to reviewing the literature related to alignment and integration within talent systems. The chapter also includes and reviews the newly conceptualised notion of a HPSE and includes a critical review of talent selection literature with a focus on how individuals and organisations make talent selection decisions.

2.1 Conceptualising Talent

Few concepts in sport are laden with as much conceptual baggage as talent (Till & Baker, 2020). The term is interpreted in a variety of ways across contexts (Baker et al., 2019), and research indicates that talent means different things to different people under different circumstances (Johnston & Baker, 2022). The inconsistent use of the terminology related to talent has resulted in a lack of conceptual clarity (Johnston & Baker, 2022). This is evidenced by the inconsistent methodologies and practices employed across TD systems, e.g., low predictive validity in talent selection (Collins et al., 2019; Baker et al., 2018). Reflecting a lack of conceptual clarity, a nature–nurture dichotomy dominates popular discourse and remains a common framework for interpreting sporting performance (Davids & Baker, 2007). The discourse is centred on the extent to which exceptional performance results from genetic or biological factors or developed as the result of experience and environmental factors over time (Baker & Wattie, 2018). Recent research indicates perceptions of talent likely involve a complex interplay of variables reflecting both nature and nurture elements (Baker et al., 2019a). Wulf and Lewthwaite (2009) suggest that an athlete's beliefs about talent affect their motivation, behaviour, and performance, i.e., it influences whether a person believes their

performance reflects innate and unchangeable qualities or is the product of experiences and therefore trainable (Dweck & Yeager, 2019). Significantly, a coach's understanding of and beliefs about talent can also affect practice (Johnston & Baker, 2022). It has been suggested that without a better understanding of what talent looks like and how it changes over time, it will likely remain a barrier to enhancing identification, selection and development practices (Baker et al., 2018). This would suggest that misalignment between an athletes' and coaches' beliefs about talent and how it manifests, could compromise athlete development. Evidenced throughout the thesis, there are considerable challenges associated with aligning multiple stakeholders across a talent system and an aligned understanding of talent between coaches and athletes would appear essential. In my experience, this is not always the case in practice.

Literature includes a wide variety of definitions of talent, fuelling the lack of conceptual clarity that attempt to describe the nature of talent, how it can be identified and 'where it is' (e.g., within the individual or in the interaction with the environment). Cobley et al. (2012) define talent as "the quality identified at an earlier time that promotes or (predicts) exceptionality at a future time" (p.3), reflecting how talent is conceptualised by many practitioners and researchers in sport. The definition does not delineate whether a current level of performance is a result of innate predispositions or learning through experience and training. In contrast, alternative conceptualisations view talent as referring to individuals who demonstrate superior athletic ability compared to their peers who can develop over time to achieve exceptional athletic performance (Baker et al., 2017). Also, Davids et al. (2017) who defined talent as "an enhanced and functional relationship developed between a performer and a specific performance environment" (p.193). Baker et al.'s (2017) definition reflects a traditional, trait-based approach while Davids et al. (2017) represents an ecological, systems-based approach and focuses on a performer environment interaction. The former views talent as fixed traits with development potential and the latter as an emergent property from

interaction between performer and environment. Regardless of conceptualisation, there is no suggestion that heritable traits are sufficient to explain exceptional performance (Baker et al., 2018).

2.1.1 Models of Talent Development

As outlined above, definitions of talent aim to clarify the concept and delineate its scope, whereas a TD model is a framework used to inform practices supporting individuals in reaching elite performance. Zhao et al. (2024) described talent development (TD) as a nuanced process of selecting athletes to become elite level performers through extensive training and coaching programmes while providing the most appropriate learning environment for athletes to realise their potential.

Normative talent development models are generally presented as staged processes with athletes progressing in a predictable linear fashion through defined stages towards senior elite performance (Gulbin et al., 2013). Most approaches to athlete development, by researchers and practitioners alike, focus on the identification of a single approach or model to explain the TD process when there are multiple pathways to reach senior success (Collins et al., 2019; Baker et al., 2018). Despite these normative models being criticised across the literature, they are frequently used as scaffolds to support decision making in talent systems (MacNamara & Collins, 2014). TD literature has a number of theoretical models describing the process from novice to elite performer (e.g. Long-Term Athlete Development [LTAD], Balyi et al., 2013; Foundations, Talent, Elite and Mastery [FTEM], Gulbin et al., 2013; Development Model of Sport Participation [DMSP], Côté & Vierimaa, 2014). Baker et al. (2019) suggest that there are no comprehensive models related to TD in sport but talent and its development have been explored in other domains (e.g. education Gagné, 2004; psychology, Simonton, 2001), providing some relevant elements for TD practices.

Gagné (1997) introduced the Differentiated Model of Giftedness and Talent (DMGT) (Figure 2.1), highlighting a distinction between talent and giftedness, suggesting one cannot be talented without first being gifted, i.e., possess gifts or natural ability. The model proposes that talent is developed from natural abilities, defining it as "the outstanding mastery of systematically developed abilities (and skills) in at least one field of human activity to a degree that places a person at least among the top 10% of age peers who are (or have been) active in that field" (Gagné, 2000, p. 1). Gagné (2000) suggested that it is possible for exceptional natural abilities to remain as gifts and not translate to success at senior elite level, despite an athlete being identified as gifted or talented at an earlier age. Howe et al. (1998) proposed that talent be situated firmly in genetically transmitted structures and therefore partially innate, differentiated from Gagné (2004) conceptualisation of talent as "outstanding systematically developed skills" (p. 119) reflecting both genetic and experience-based elements. Gagné's model reflects a linear process in which talent develops from innate giftedness, developing gifts into talent. In contrast, reflecting the perspective that talent or exceptional performance is a result of the interaction of genetic factors and an adaptive response to the environment, Simonton (1999) proposed the Emergenic and Epigenetic model of talent and its development. The model recognises the relative contribution of physical, sociological, cognitive and dispositional traits in athletes and that talent emerges at different times in different ways for different individuals. This is consistent with Abbott et al. (2005), who highlighted the need to conceptualise talent as a multidimensional construct that develops with appropriate training opportunities. Expanding on the DMGT model, Gagné (2000) proposed that TD is influenced by an interactive dynamic of biopsychosocial factors, and the rate of TD dependent on three significant catalysts: chance factors (genetic advantage, opportunity and access to facilities or programmes); interpersonal catalysts (e.g., physical and psychological elements, influenced in part by genetic factors); and

environmental catalysts (e.g., geographic, sociological, peers, family circumstances and socioeconomic status).

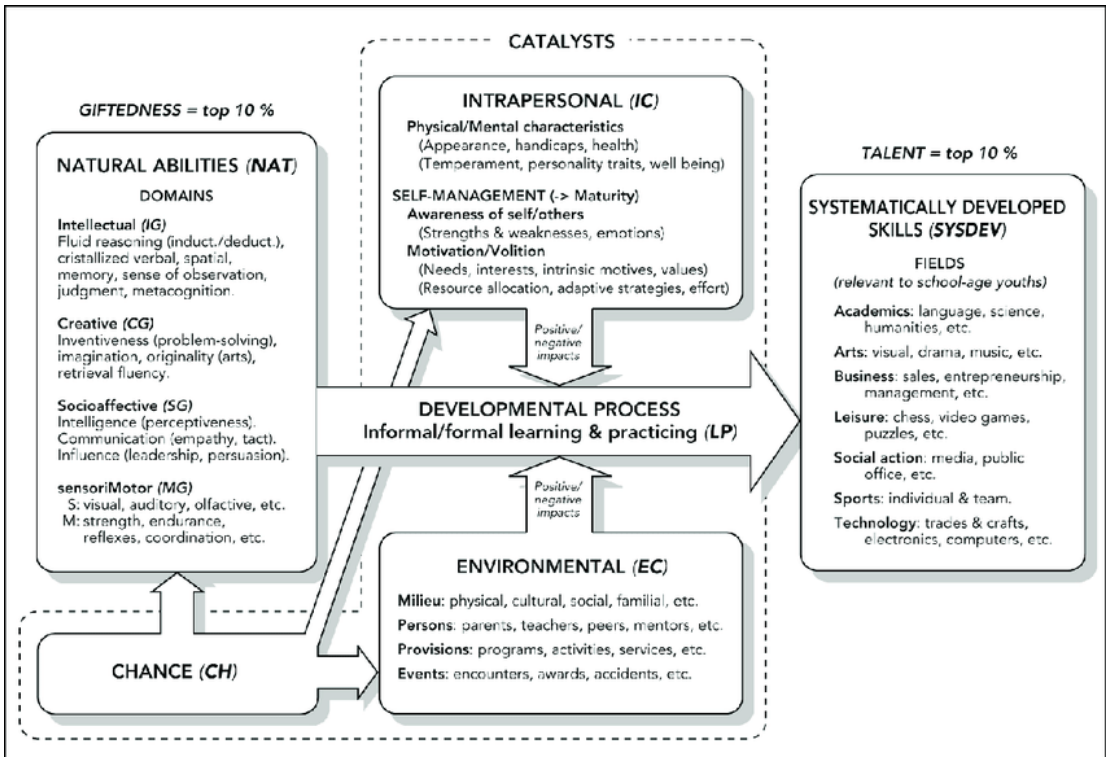

Figure 2.1 *Differentiated Model of Giftedness and Talent (see Gagne, 2000)*

Baker and colleagues (2018) proposed that talent is innate, emergenic (the result of diverse, multiplicative processes), multidimensional, dynamic (evolves over time due to interactions with the environment) and symbiotic (subject to environmental constraints). Reflecting these perspectives, talent is now recognised as a biopsychosocial concept, an interaction of biological (Epstein, 2013), psychological (Savage et al., 2017), and social variables (Henriksen et al., 2010a). As such, TD is inherently complex, nonlinear and dynamic (Collins et al., 2019).

2.2 Talent Development Environments and Talent Systems

In contrast to rigid stage-based models, the notion of a Talent Development Environment (TDE) is defined as all "aspects of the coaching situation" (Martindale et al., 2005, p. 354) that influence an athlete's long-term development. It is increasingly recognised that TD occurs across multiple environments, involving a comprehensive programme of support (Li et al., 2014) delivered by a range of stakeholders (e.g., parents, coaches, managers, and teachers) (Bjørndal et al., 2017; Taylor & Collins, 2021). This recognises the limitations of referring to a single environment as the focal point of an athlete's development. Instead, the talent system represents a shift in focus from considering a TDE as a single location, to an understanding of TD being influenced by multiple settings and a growing appreciation that an athlete's development is a collective responsibility (Bjørndal & Ronglan, 2018a). Based on the complex arrangement of TD and the range of contexts that a young athlete may find themselves inhabiting (Taylor et al., 2022), it has been suggested that it is also appropriate to look at the wider talent system and consider the impact of the multiple TDEs, people, processes and practices which an athlete experiences (Taylor & Collins, 2021). In many sporting organisations, the talent system comprises several TDEs that span across various stages and phases of the talent system or an athlete's pathway. For example, a male rugby union player might concurrently inhabit school rugby, academy, international representative and senior team environments (Shelley et al., 2025). Given this complexity, it appears that incoherence is a significant risk for the athlete (Henriksen et al., 2014). Alignment and coherence are discussed further in Section 2.2.2 and Chapter 6 explores a strategic approach to integrate a development and high performance sporting environment.

Building from the work of Martindale (2005, 2007), Henriksen et al. (2010a) proposed a Holistic Ecological Approach (HEA), that focuses on the development environment rather than solely on the athletes themselves. Henriksen's research extends

beyond coaching with a focus on the TDE and the cultural milieu. Emphasising a HEA, Henriksen and colleagues developed two TD models, an Athletic Talent Development Environment model (ATDE) (see Figure 2.2) and an Environment Success Factors model (ESF) (see Figure 2.3), with a focus on the broader environment and the influence of an athlete's sporting and non-sporting relationships (Henriksen et al., 2010a; 2010b). The ATDE is defined as "a young athlete's social relations both inside and outside of the world of sport, social relations which have a sports club or team as their core but also the larger context in which the club or team is embedded" (Henriksen et al., 2010a, p. 213). The ATDE model includes the micro and macro environment that represents the athlete's ecosystem, inside and outside of sport. This is reflected in Henriksen and Stambulova's (2017) definition of the TD process as the "progressive mutual accommodation that takes place between an aspiring athlete and a composite and dynamic sporting and non-sporting environment that supports the development of the personal, psycho-social and sport-specific skills required for elite athletic careers" (p. 272).

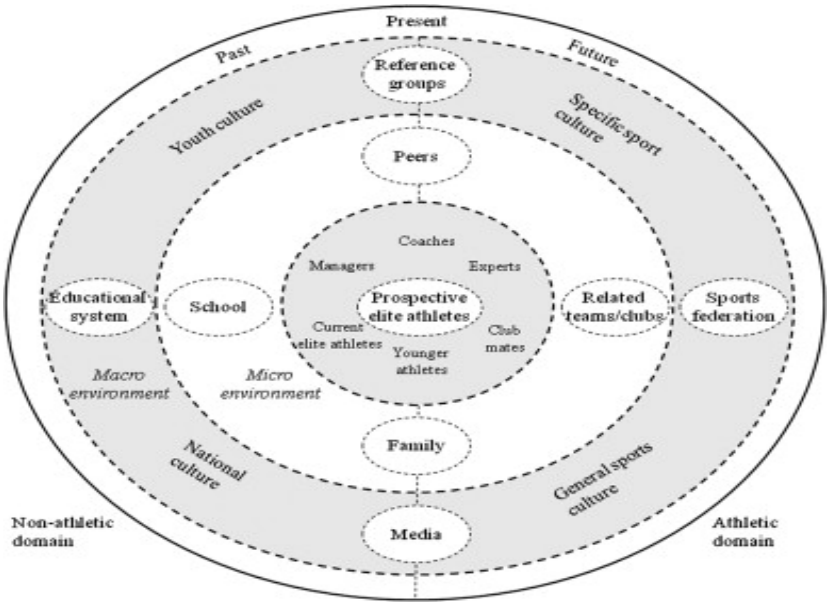

Figure 2.2 *Athletic Talent Development Environment (ATDE) (See Henriksen et al., 2010)*

The ESF model evaluates the quality of a specific club or team environment, detailing the interactions between the athlete's preconditions (e.g., financial, material, behavioural characteristics), the TD process (e.g., training and competitions), and the organisational culture (values, basic assumptions and artefacts) (Henriksen et al., 2010a, 2010b, 2011).

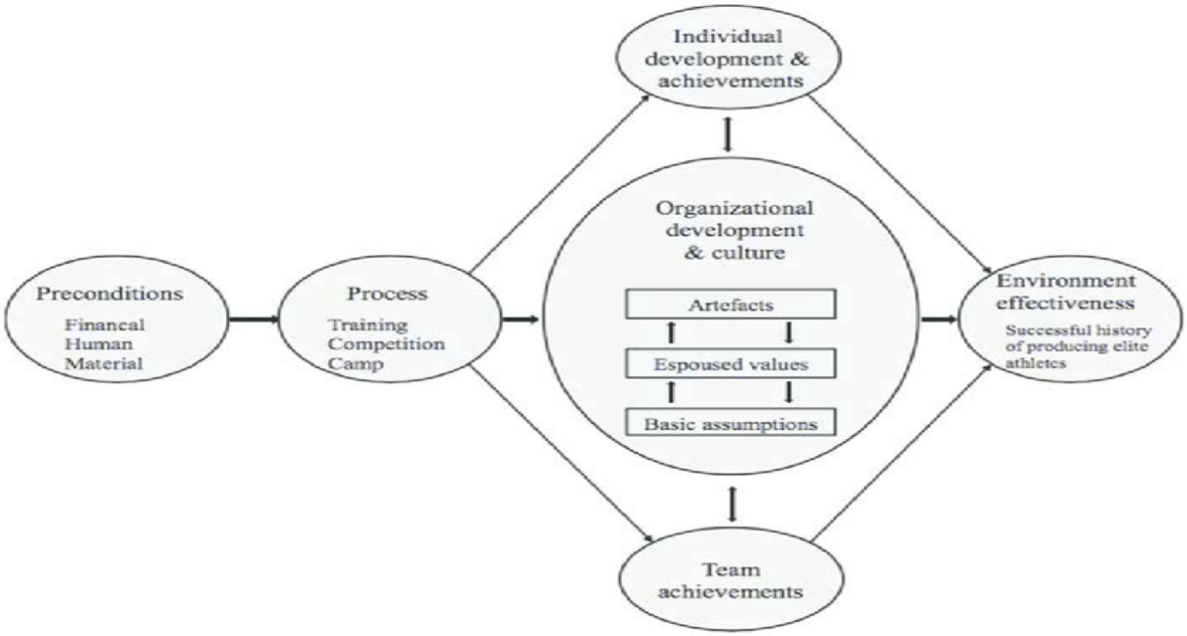

Figure 2.3 *Environment Success Factors (ESF) (See Henriksen et al., 2010)*

2.2.1 Features of an effective TDE

Martindale et al. (2005, 2007) proposed key features of an effective TDE across sporting organisations in the UK through their model of effective Talent Identification and Development. The authors proposed the need for: long-term aims and methods, wide ranging coherent messages and support, emphasis on appropriate development not early success and individual and ongoing development that is holistically and systematically integrated across the athlete's environment, a range of factors that have been tested across cultures (Ivarsson et al., 2015; Hall et al., 2019). Martindale et al. (2005, 2007) suggest that the processes required for long term development be systematic, organised, and wide ranging. The research

promotes an individual focus that recognises the range of skills, behaviours and experiences that will support development within and beyond the sport specific domain (Hauser et al., 2024).

This built upon the work of Henriksen et al.'s (2010a, 2010b) studies of specific environments to establish the common features of successful TDEs. Henriksen and colleagues' research identified and evaluated successful TDEs, including the Danish national sailing team, a Swedish athletics team and a Norwegian kayaking team. They compiled a comprehensive list of positive features considered essential ingredients in a successful environment (Henriksen et al., 2010a, 2010b, 2011). The HEA outlined three common factors that characterise successful development environments within these contexts: 1) a sense of belonging, 2) psychological well-being, and 3) a strong period of cohesion and connection within the sporting organisation's wider context (Henriksen et al., 2010a, 2010b). Their research also looked at success from the "opposite pole", a struggling golf academy in Denmark with limited success, enabling them to compile a contrasting list of factors that they suggested contributed to an unsuccessful or dysfunctional environment. Such environments were categorised by a lack of integration, an incoherence of culture and short-termism (Henriksen et al., 2014).

The findings also stress the importance of a combination of micro and macro environment success factors, including long-term individual development, proximal role models and a strong and coherent organisational culture to nurture individual athletes. In relation to the Danish 49er sailing team (Henriksen et al., 2010a), the relationship between young prospects and elite performers was at the centre of the environment at its micro level, consistent with research related to the positive influence of role models for young athletes (Henriksen et al., 2010a; Hauser et al., 2024). Organisational culture was emphasised as a key element of successful environments (Cole & Martin, 2018), evidenced by openness and co-

operation, individual responsibility and a focus on performance process versus outcome to underpin success (Henriksen & Stambulova, 2017). The environment appeared to be demanding but supportive and limited parental involvement to encourage athletes to be autonomous and develop the necessary psycho-social skills. Given limited preconditions (e.g., financial and material resources), there was an increased focus on building and maintaining organisational culture that supports the athletic and personal development of each athlete (Henriksen et al., 2010).

In addition to the many similarities, there are a number of important distinctions between the work of Martindale and Henriksen. Whilst Martindale et al. (2007) focused on the sporting and coaching domain, Henriksen et al. (2010a; 2010b) adopted a focus on a broader environmental context. The research of Henriksen et al. (2010a, 2010b) utilises a HEA to evaluate and understand a TDE in a single club context, whereas Martindale et al. (2007), based on research with 16 TD coaches across 13 different sports, adopt a broader approach identifying key features of effective TDEs across contexts. Complementing the work of Martindale and Henriksen, Hauser et al. (2024) conducted a scoping review and presented a conceptual framework highlighting functional and dysfunctional features of TDEs. The review focused on the concept of TD outcomes that are determined by the quality of: the pre conditions of the sporting environment, the organisational culture, an integration of efforts, and holistic quality preparation.

Tracking and measuring elements of performance is a well-established process in talent systems and research has highlighted that many methods are utilised across talent systems to benchmark an athlete's progress (Layton et al., 2023). As an example, Collins et al. (2019) proposed that a POP model (Performance, Outcome, Process) holds the potential to signal various markers of TD effectiveness. The POP model continuum examines ideas within a hierarchy based on what and how they contribute to the TD process and the multiple

approaches that exist. There remains a lack of evidence, however, related to how practitioners review or evaluate their sporting environments to optimise environmental conditions for their athletes (Mitchell et al., 2024). Considering the complexity of the talent system, it is essential that there is an understanding of the process markers that support effective TD, for example, psychological skills, physical skills and technical skills (Collins et al., 2019) and a valid means of investigating environmental factors within individual TDEs (Curran et al., 2021a). In addition to examples illustrated earlier, the ESF model (Figure 2.3) and Martindale's framework of effective TDE's, there are tools such as the Talent Development Environment Questionnaire (TDEQ) that can be utilised to evaluate the effectiveness of a TDE.

The TDEQ is a tool that measures the key holistic and generic processes involved in effective TD of individuals with the aim of facilitating potential to world class standard (Martindale et al., 2010). The questionnaire includes sections related to long-term focus, quality preparation, communication, understanding the athlete, support network, challenging and supportive environment and long-term development fundamentals. The TDEQ provides a validated measure, used across multiple sports and international contexts, to indicate process markers of effectiveness of the TDE (Gesbert et al., 2021; Gledhill & Harwood, 2019; Mills et al., 2014). The original 7 factor TDEQ-7 (Martindale et al., 2010) has been revised and validated further to extend its application to specific domains and contexts (Li et al., 2015; Martindale et al., 2013; Alfermann et al., 2023). The results of the TDEQ provide an opportunity for intervention strategies and track impact over a defined period of time (Hall et al., 2019; Curran et al., 2021). Chapter 5 also explores the utilisation of the TDEQ to guide evidence-based interventions within a rugby talent system (Hall et al., 2019).

2.2.2 Coherence, Alignment and Integrated practice as a key feature of Talent systems

The importance of coherence, alignment and integrated practice as distinct strategic approaches within talent systems (Taylor et al., 2022) was established in Chapter 1 and featured prominently as key features of effective TDEs in Section 2.2.1 (Curran et al., 2022a). Webb et al. (2016) describe the need for an athlete's pathway to be systematically planned to promote a coherent experience for athletes complemented by a bandwidth of varying developmental experiences between and within developmental stages. As outlined in Chapter 1, coherence is a situation where different elements of an athlete's experience hold logical connection and are mutually reinforcing (Taylor & Collins, 2020). Webb et al. (2016) suggested that coherence was underpinned by a clear understanding of the needs of a performer at each stage of the pathway facilitating the use of complementary and adaptive methods to be used in an age and stage appropriate manner.

This can be seen horizontally across an athlete's level of performance, or vertically across multiple stages of the pathway, building chronologically from previous experiences towards a long-term agenda (cf. Taylor & Collins, 2021b). The operationalisation of these shared understandings among multiple stakeholders and the extent to which different inputs to the athlete are systematically combined is referred to as integration (Taylor et al., 2022). Horizontal integration of different processes would see stakeholders working with an athlete in an agreed manner across a stage to optimise their development experience and vertical integration is the extent to which principles and practices are coordinated through different stages of the pathway (Abraham & Collins, 2011; Taylor & Collins, 2020). Integration, as distinct from alignment which is evident when different hierarchical environments are working towards agreed top-down objectives, represents ongoing bidirectional interactions between stakeholders, systems and processes which support the athlete, both vertically and horizontally (Taylor et al., 2022). The outcome of integration is a coherent athlete experience, with multiple stakeholders engaging in an aligned and coordinated manner (Andersen et al.,

2015). To promote greater coherence of athlete experience, it has been proposed that talent systems can pursue alignment or, alternatively, integration as distinct strategic approaches (Curran et al., 2021). Chapter 4 explores alignment and coherence as part of the research to determine the readiness of a talent system to navigate a non-normative challenge. Chapter 6 examines the impact of (mis)aligned and (in)coherent principles, and integrated practice, between and within stages of a complex rugby talent system.

Without integration across the system, counter-intuitive practices are likely to be evident at different ages and stages and ultimately a lack of coherence for the athlete (Moran et al., 2024). Taylor & Collins (2021a) suggested that failures of coaching practice and a lack of integrated working practice were barriers to effective TD, supported by Henriksen et al. (2014), who highlighted a lack of integration and incoherence of culture as a feature of an ineffective environment. Webb et al. (2016) indicated that talent systems were characterised by, 1) a clear definition of the goals to be achieved (as understood by the system, athlete, coach, parent, etc.), 2) role clarity (e.g., across coaches and stakeholders), and 3) the type of performer the sport requires at general and specific phases of development. At the micro level, an athlete's coherent pathways would be characterised by consistency in the perceptions and behaviours of the coach and performer, both with a shared understanding on the outcome goals, and the process and rationale for doing what they are doing to achieve these (Webb et al., 2016). If organisations do not have a clear definition of the outcomes they want to achieve and the type of athletes they need to produce, this is likely to lead to incoherent coaching and talent selection practices (Larsen et al., 2013), discussed in Section 2.4. At a macro level, a shared and coherent understanding of the factors that contribute to effective TD amongst the various stakeholders involved in young athletes' development is a critical factor in their progression to elite senior levels (Bjørndal & Ronglan, 2018b). Mismatches between practices and strategic objectives of key stakeholders (e.g.,

management, support staff and board of directors) will pose major issues for alignment and coherence within a club (Cruickshank et al., 2014).

Research across many sporting contexts has reinforced the importance of an integrated approach across a talent system. Pankhurst et al. (2013), however, highlighted a concern suggesting there was a mismatch between theory and what actually happens in practice. Curran et al. (2021b) examined a national hockey system, observing a lack of coherence across the pathway, characterised by poor levels of communication between coaches across developmental contexts, a misalignment in expectations between stakeholders and the international age groups, a lack of an integrated systematic approach, and a perceived lack of attention to the holistic development of players. Mills et al. (2014) qualitatively examined the factors that ten professional soccer coaches perceived to underpin optimal TDEs specific to their sport. Findings suggested a lack of coherence, highlighting the need for an integrated approach to TD to establish a strong link between stakeholders.

Investigations into the talent systems of soccer academies in the UK have identified a lack of coherence and integration across the pathway, characterised by low levels of communication and misalignment between coaches and parents' expectations (Clarke & Harwood, 2014; Harwood, 2010). Bjørndal et al. (2017) identified that youth athletes competing in the Norwegian handball talent pathway experienced a lack of coherence between the multiple environments in which they were involved. This resulted in excessive and mismanaged workloads, a lack of planning which led to losses in athlete motivation, underperformance, and an increased risk of injury. In some cases, a lack of coherent practices posed a threat to overall well-being through insufficient recovery, injury or burnout (Bjørndal & Ronglan, 2018). There has been limited research on coherence and integrated practice in Rugby Union (c.f. Shelley et al., 2025). Hall et al. (2024) carried out research on the early

stages of the English talent system and highlighted the need to develop more integrated approaches to nomination and selection and proposed a shared understanding of the purpose of selection (see Section 2.4) to enhance overall system integration and effectiveness. Chapter 3 examines the factors that contribute to a talent selection decision and explores the prevalence of shared understanding and integrated approach in talent selection decision processes.

An important distinction is that coherence does not suggest a lack of variability. It has been suggested that a talent system should be designed for an appropriate bandwidth of variability of coaching methods and practices throughout an athlete's development journey (Webb et al., 2016). Coherent talent pathways are characterised by logical, intentional, progressive, and consistently applied coaching methods (Webb et al., 2016) that are complementary (not identical), and adaptive (rather than resistant) to the changing demands and challenges, and are specifically designed and combined in an age and stage appropriate manner (c.f. Bailey & Toms, 2010). The level of challenge or a particular focus at specific stages of an athlete's development should be tailored to individual needs and the long-term development plan (Martindale et al., 2007). This approach is based on the need to develop Psychological Characteristics of Developing Excellence (PCDEs); clear and observable behaviours, including commitment, focus and distraction control, self-awareness, goal setting, quality practice and ability to seek and utilise support (MacNamara et al., 2010a, 2010b) that support developing athletes achieve their potential (Webb et al., 2016; MacNamara et al., 2010) (See Figure 2.4).

PCDEs Established in the Literature (e.g., MacNamara et al., 2006, 2008; Kamin et al., 2006)	PCDEs Established in This Study
Motivation	Competitiveness
Commitment	Commitment
Goal setting	Vision of what it takes to succeed
Quality practice	Imagery
Imagery	Importance of working on weaknesses
Realistic performance evaluations	Coping under pressure
Coping under pressure	Game awareness
Social skills	Self-belief

Figure 2.4 *Psychological Characteristics of Developing Excellence (PCDE) (MacNamara et al., 2010)*

Taylor and Collins (2021b) also suggest developing Shared Mental Models (SMMs) to support the process of enhancing coherence and integrated practice. Developing SMMs facilitate the sharing of knowledge, information, and expectations across a broad team allowing greater efficiency and effectiveness in the TD process (Gershgoren et al., 2013; Mathieu et al., 2000). Layton et al. (2023) suggested the value of talent systems building coherent SMMs of player development to support the needs of the athlete and the organisation. Creating a shared understanding may guide practitioners in how they evaluate and record judgements related to athletes (Moran et al., 2024) and evaluate the perceived effectiveness of specific practices within the talent system. A particular challenge appears to be the integration of working practice between the senior elite and TD level and these differences may also exacerbate the well-established challenge of the Junior to Senior Transition (JST), discussed in Section 2.3.1 (Relvas et al., 2010). Chapter 6 examines integrated practice in an integrated development/high-performance rugby environment.

2.3 Characterising the High Performance Sporting Environment (HPSE)

Given the complex arrangement of TD and range of contexts a young athlete inhabits (highlighted in Section 2.2), there are many challenges associated with achieving a desired outcome of integrated practice and coherence for the athlete (Webb et al., 2016). One of the key challenges centres around appropriate coaching practice when moving between a development and a performance context. In the following section, I will outline fundamental differences (and similarities) between coaching principles and practices evident in both contexts, including coaching objectives and priorities, that make it difficult to create an aligned, coherent coaching approach between development and performance environments (Taylor & Collins, 2021). Up to this point, this chapter has focused primarily on the characteristics of a TDE. Before contrasting a development and performance environment, it would be helpful at this time to introduce recent literature conceptualising the High Performance Sporting Environment (HPSE), proposed by Schlawe et al. (2025).

In a conceptual paper, Schlawe et al. (2025) define the HPSE as a context with an "emphasis on optimising athlete performance and addressing fundamental needs related to peak performance" (p. 2), acknowledging that HPSEs are complex, dynamic, and contextually distinct environments. Talent systems are designed and operationalised to support and optimise player development, whereas HPSEs are built on optimising performance. Each HPSE is unique, shaped by specific demands of the sport and the broader context in which it is situated (Schlawe et al., 2025). In comparison with TDEs there is limited research examining how HPSEs develop the current and future capacities of athletes while simultaneously striving to support their well-being (Schlawe et al., 2025). The authors propose that HPSEs can be examined through shared principles, such as comprehensive performance support services, a performance-driven focus, and the fulfilment of basic psychological needs. Similar to a TDE, an HPSE will have a range of performance support

staff and various stakeholders that possess relevant expertise to support their performance needs (Brocherie & Beard, 2021). In contrast to a long-term development agenda, HPSEs generally have a focus on short-term performance and a pressure to win, and can often correspond with a turnover of coaches and performance staff (Eubank et al., 2014). The organisational culture of HPSEs appear to play an important role in their sustainability and success (Cruickshank & Collins, 2012). A successful HPSE is perceived as one that supports performance, career excellence and promotes well-being, rather than purely performance (Schlawe et al., 2025).

Research into TDE practice has suggested the benefit of a permeable layer between a TDE and HPSE, characterised by a coherent organisational culture (Cole & Martin, 2018) and an integration of efforts (Hauser et al., 2024). Where academy (development) and senior (performance) departments are physically or organisationally separate, this appears to hinder athlete development (Eubank et al., 2017) and exacerbate the well-established challenge of the JST. The case study in Chapter 6 examines Munster Rugby's integrated environment, where the academy and senior team are physically and organisationally connected, and explores the impact of an integrated model on elements of athlete development such as the JST.

2.3.1 The Junior to Senior Transition

The Junior to Senior Transition, that is progressing from youth (TDE) to senior level (HPSE) on a full time basis, is a normative but significant challenge considered to be the most difficult and complex transition in sport (Stambulova et al., 2009). In professional sport, a range of literature has highlighted the difficulties of the JST (e.g., Stambulova et al., 2009), a period where athletes are exposed to a range of novel pressures (Finn & McKenna, 2010). This corresponds with the environmental shift from development to performance (Richardson

et al., 2012), necessitating that young players navigate increasing demands and pressures, and changing priorities and agendas. Young high-potential athletes transitioning from youth level to senior elite level concurrently experience increased pressures in athletic and non-athletic domains (Gledhill et al., 2017; Stambulova, 2017; Wylleman & Lavallee, 2004). The step up to HPSE is accompanied by increases in physical intensity of training and competition demands (Brewer et al., 2010), heightened perceived pressure, and emotional disturbances (Taylor & Collins, 2021b; Williams & MacNamara, 2022). Beyond performance demands, an athlete also needs to navigate distinct factors such as psychosocial (e.g., new environment, and managing personal relationships in a new group) and academic (e.g., balancing training with study) demands (Wylleman & Lavallee, 2004).

The focus in TD coaching has been weighted more towards physical, technical, and performance factors than psychosocial skills associated with high level performance in that particular sport (Bjørndal & Ronglan, 2018; Dimundo et al., 2021). Despite widespread recognition of the role of psychological factors as determinants in both performance and development contexts (e.g., MacNamara et al., 2010a, 2010b), less attention has been paid to the systematic development of psychological factors to support a successful JST (Stambulova & Wylleman, 2019). Unsurprisingly, research indicates that successful athletes at senior level possess a host of psychological characteristics and behaviours conducive to reaching high levels of performance (Holt & Dunn, 2004; Martindale et al., 2005). As such, psychosocial skills should be prioritised to aid in coping with the significant demands and changes that occur during the JST (Stambulova et al., 2021). The development of psychological skills (e.g., PCDEs) should be deliberately incorporated as part of the development process both horizontally and vertically on the pathway (Collins & MacNamara, 2017; Taylor et al., 2022a). Literature in career transitions highlights that a match between an athlete's personal resources and the demands of a transition will allow an athlete to enjoy a successful transition

whereas a mismatch is likely to result in a crisis transition (Alfermann & Stambulova, 2007; Stambulova, 2009). This reinforces the importance of intentionally and systematically preparing an athlete for challenge, exposing them to appropriate levels of challenge and providing opportunities to learn and reflect from the experience, all facilitated by the appropriate level of support (MacNamara et al., 2010a, 2010b; Taylor et al., 2022a). In addition to the physical and psychological readiness of an athlete, the JST literature examines many other factors that impact the success of a JST including: an athlete's social support network (Alfermann & Stambulova, 2007), the influence of role models and supportive training groups (Hauser et al., 2024), and the influence of psychological and performance safety.

Young players report perceiving a significant increase in pressure and demands when transitioning from a TDE into a HPSE (Savage et al., 2017). One such demand being a lack of safety driven by the judgement and selection, inherent to HPSEs. The concept of a psychologically safe environment has been of significant interest in sport psychology literature, stemming from the work of Edmondson (1999) in organisational literature. Varying conceptualisations and definitions have resulted in conflicting meaning. Psychological safety was originally conceptualised as a shared belief that people can speak up without interpersonal risk and that making mistakes won't have consequences (Edmondson, 2018). Recent research has explored the transferability of the performance-based elements of psychological safety to HPSEs (Vella et al., 2024). Athletes must experience errors to facilitate learning (Metcalf & Leake, 2017), but they also need to perform in conditions where errors have consequences. To enable transferability of psychological safety to HP sport, Taylor et al. (2025) differentiated between psychological safety and performance safety, the former related to the ability to be able to express oneself verbally, and the latter related to the implications of performance based consequences. In

contrast to performance safety, which relates to a fear of the consequences of making a mistake, psychological safety relates to a fear of speaking up (Jowett et al., 2023). Taylor et al. (2025) defined performance safety as a "temporally dynamic perception emerging from individual-environment interactions, specifically concerning perceptions of consequence from error" (p. 2).

Taylor et al. (2022) examined the extent to which matched international and released professional rugby players perceived psychological safety as an adaptive feature of their environment. The findings indicated that players perceived a lack of safety to make mistakes; and while some viewed this as detrimental, others viewed it as performance-enhancing. Players reflected on the analogy of a double-edged sword, where the demanding conditions of the HPSE represented the reality of their context, and many players believed that performance levels were enhanced by a lack of performance safety. Research has suggested that a lack of safety is an accepted feature of a HPSE and was often perceived to promote focus and attention to detail but did not impact players' ability to speak up (Sweeney et al., 2025). Indeed, considering the ability to seek out and utilise feedback is important for player development, a perceived lack of psychological safety could potentially limit a young player's ability to effectively utilise the support network within the organisation (Hauser et al., 2024). In addition to fears that the consequences of making mistakes would result in non-selection, players were concerned about social consequences such as a lack of acceptance or judgement from senior players and coaches (Taylor et al., 2022).

Edmondson and Bransby (2023) suggest that there is lack of understanding of specific interventions that can support increasing perceptions of psychological safety. Although, as evidenced by the many complex and nuanced decisions coaches make when designing and delivering a training session (Lyle & Cushion, 2016) coaches can utilise various methods to

manipulate performance safety to achieve desired learning or performance outcomes. Critical to any session design decision is the "framing" of the session in advance with players, to minimise fear by establishing clear expectations and guidelines (Rudolph et al., 2014). A session may be designed with the intention of inducing errors through task difficulty (Hodges & Lohse, 2022) or deliberately encouraging athletes to experiment and focus on learning from mistakes. Edmondson (2023) suggests establishing a spectrum of the causes of error where certain types are accepted or even promoted. Carson and Collins (2016) proposed a method that establishes clarity around an element of training where athletes know they are in a safe place to experiment and explore. We also know that in a HPSE context, training under pressure, with a low tolerance of mistakes, is an important element of preparing for competition pressure (Ferguson et al., 2023). Coaching can rarely be simplified to a prescribed coaching stance (Abraham & Collins, 2011), as will be evident in Section 2.3.2 when discussing the nuances of development and performance coaching. It is worth keeping in mind that at present, we know very little about how the demands and pressures of professional sport within a HPSE could constrain long-term development (Baker et al., 2024).

An increasingly common context to consider is a situation where academy players or young athletes alternate between the TDE and the HPSE (Swainston et al., 2020). In such a case, athletes have the safety of returning to their development environment and so not yet exposed to the same expectations and pressures as a young athlete who has transitioned fulltime into an elite senior squad (Røynesdal et al., 2018).

2.3.2 Development and Performance Coaching Contexts

Previous research has emphasised the differing priorities along the athletes' pathway and the contrasting needs of development and performance contexts (Lyle & Cushion, 2016). There is increasing recognition that the role of the TD coach is distinct from that of coaching high-

performance (HP) athletes (Collins et al., 2019; Collins & Taylor, 2020). There is a well-established body of research that recognises that effective development coaching provides young athletes with an appropriately challenging and supportive environment that promotes the acquisition of the broad range of physical, technical, tactical, and psychobehavioural skills, and a long-term focus required to fulfil an athlete's potential (Collins et al., 2019; Williams & MacNamara , 2020). Indeed, the features of an effective TDE (Martindale et al., 2005), discussed in Section 2.2, provide the ideal framework to characterise effective development coaching. That is, quality development coaching promotes long-term aims and methods, wide ranging coherent messages and support, prioritises appropriate development over early success, supports the need for individual and ongoing development, and delivers integrated, holistic, and systematic development practices (Martindale et al., 2007). Lyle and Cushion (2016) indicate clear boundary markers that delineate differences between the nature of coaching practice at performance pathway and senior elite levels including, but not limited to, more focus on performance later than performance now, and a greater focus on the individual than the performance of the group (Lyle & Cushion, 2016). In the reality of HPSEs, the inherent tension between the need to win now, and develop young athletes for the future, can be a critical barrier to optimal developmental experiences for young athletes (Taylor & Collins, 2021). Challenges associated with (and potential solutions to) the delivery of optimal development coaching practices in a high pressure, high-performance context, are presented throughout this section.

In practice, a 2021 UK Sport position statement characterised development coaching as defining the future characteristics of an athlete and performance coaching as refining previously developed characteristics of an athlete. From a conceptual perspective, this distinction between development and performance coaching is helpful but oversimplifies the complexity of coaching, with practice often requiring differential emphasis on development

or performance (Barry et al., 2025). It seems that qualitatively different phases can be identified across an athlete's career, defined by changes in the weighting of developmental priorities (Baker et al., 2024). From a practical perspective, a more developmental approach might be suitable to meet the longer-term needs of individuals and groups, while a more performance-oriented stance might support the delivery of shorter-term needs (Barry et al., 2025). This does not infer that a coach working with athletes on a TD pathway requires a consistently developmental approach or a coach in a HPSE needs a consistently performance-orientated approach (e.g. Balyi et al., 2013). In reality this requires a far more nuanced approach that reflects the dynamic and unpredictable nature of athlete performance and athlete development in both a TD and a HP context (Barry et al., 2025). The implicit concept that 'development stops' at the elite level is problematic, and it limits our understanding of talent and expertise development (Till & Baker, 2020). In contrast, athletes across disciplines are consistently engaged in competition or preparation for competition and frequently experience significant performance-related pressure.

HPSE norms may result in ineffective TD due to short-termism and pressure to deliver results (Taylor & Collins, 2021). Despite the tension between short-term performance and long-term development agendas, there remains little research pertaining to the practical actions that might be taken by a talent system to navigate the dilemmas of practice (cf. Cushion, 2013). The use of the term 'tension' refers to the natural and persistent friction that occurs with two or more contradictory organisational aims. In this sense, the differing priorities between development and performance leading to a tension in practice. Engeström (2001) describes tension as a form of contradiction, an inherent force within and between activity systems that fuels learning, innovation and transformation and considers tension essential to understanding how human practices develop over time. Martindale & Mortimer (2011) suggest coaching methods utilised to promote shorter-term adaptation and

performance should not undermine longer-term needs: “the subtleties of understanding the nature and requirements of development within a long-term agenda are often overlooked and the external pressures of what typically constitutes perceived effectiveness, particularly at developmental stages (e.g., winning) can take over” (p. 3). The authors believed the external pressures are further complicated by the social rewards associated with winning, even at early stages. However, this does not mean that methods enhancing short-term performance are driven solely by a desire to win. Preparing to win can serve as a valuable developmental tool when appropriately contextualised (Taylor & Collins, 2020). While winning may have limited impact on the long term (cf. Barth et al., 2023) the opportunity to learn from winning and losing may offer developmental benefit (Taylor & Collins, 2020). It is considered important that such an approach should not drive coaching decisions throughout an entire season, but remain balanced within a broader framework and nested in macro-level development goals (Abraham & Collins, 2011). Research has shown that as the focus shifts more onto winning in a HPSE, young athletes can experience a lack of performance safety (discussed in Section 2.3.1), i.e., feel that it was no longer acceptable to take unnecessary risks or play in a way that was previously commended in the academy setting. As HPSEs increasingly prioritise winning, young athletes may feel less performance safety, making them avoid risks or playing styles once encouraged in academy settings (Swainston et al., 2020). The opportunity to expand and explore is an essential ingredient in athlete development (Taylor et al., 2022) and the conditions that produce the most errors during acquisition are often the conditions that produce the most learning (Soderstrom & Bjork, 2015). Chapter 6 includes qualitative accounts of academy players’ and coaches’ experiences of operating in an integrated TDE and HPSE, where similar challenges and tensions as outlined above exist.

Working in a specific domain should not be oversimplified to a prescribed coaching stance (Abraham et al., 2009; Barry et al., 2025). Instead, coaches should act based on a clear view of athlete needs and their context. The responsibility lies with the coach and the broader environment to understand the tensions between athletes' present and future needs, and to plan accordingly, rather than defaulting to socially normative coaching practices (Jones et al., 2002). To support coaches to navigate the complexity of the development versus performance agenda, Barry et al. (2025) proposed a framework, utilising the concept of proximity to performance, as a temporal anchor to guide coaching decisions. The authors propose time and temporality should be central to a coach's coaching practice, a relative need to perform now or perform later. The proximity to a performance serves to inform decisions that lead to weighting more towards a development approach or a focus on performance. The framework also allows coaches to consider their approach based on the breadth of the curriculum (Barry et al., 2025). It has been suggested that optimal athlete development is facilitated by the coherence of curriculum experience (Webb et al., 2016). Achieving coherence across a curriculum presents an opportunity to align developmental processes with performance objectives. A coherent curriculum promotes aligned and integrated coaching practice (Moran et al., 2024) between coaches operating in an organisation's development pathway and with the elite senior squad, similar to the concept of utilising SMMs, discussed in Section 2.2.2. Kelly (2009) describes the curriculum as the totality of an athlete's experience and there is increasing research considering how the totality of an athlete's experience impacts developmental outcomes (e.g., Moran et al., 2024), the key consideration being the extent of variability and breadth of experience. A broad yet coherent coaching curriculum can provide a broader experience, while a more narrowly focused approach may foster greater performance (Barry et al., 2025). The challenge however, is that a narrower focus could potentially constrain overall adaptability and versatility. This is one of the many complex,

nuanced decisions to be made when designing and operationalising a talent system (Collins et al., 2019; Taylor & Collins, 2020), that has implications for the effectiveness of both the TDE and the HPSE.

Recent research suggests that curriculum knowledge, rather than pedagogical expertise alone, underpins a coach's capacity to orchestrate long-term development (Taylor et al., 2023). In summary, research would suggest that rather than being bound to a single distinctive (development or performance) approach, that coaches should make informed decisions and continuously refine their practice, guided by a clear and evolving understanding of the athlete, their context and proximity to performance.

2.4 Talent Identification and Selection

The purpose of a talent system is to develop players to perform at the highest level (Collins et al., 2019). Collins and MacNamara (2022) conceptualised the process of developing talent as involving a series of inputs and outputs. Building on the work of Gagné (2000), the gifts or natural ability of an athlete are seen as the input to the TD system, and talent, abilities and competencies developed throughout the process, seen as the output. The coaching process facilitates the transfer of natural ability or potential into talent or high level performance (Collins & MacNamara, 2022). For this reason, it is common practice for talent systems to seek to identify and select athletes based on characteristics deemed most likely to yield later progression to high-performance.

Talent identification (TID) and talent selection are two terms that are often used interchangeably and as a result make them difficult to distinguish (Zhao et al., 2024). Research suggests that TID refers to an attempt to predict the future capacity of performance of an individual, i.e., identify young athletes with the potential for success in senior elite sport

(Abbott & Collins, 2004; Larkin & O'Connor, 2017; Baker et al., 2019). TID is considered to be part of the selection process that occurs prior to the TD process (ideally allowing multiple entry/exit points), whereas talent selection decisions are made through the entire TD programme (Zhao et al., 2024). Talent selection refers to the identification of an appropriate individual, already part of the talent system, who can best carry out a given sporting activity within a specific context, e.g., selection for an event, transition to a senior contract (Baker et al., 2017). Till & Baker (2020) describe talent selection as an ongoing process, supporting the view that talent emerges and is dynamic and multidimensional (Baker et al., 2019), of identifying individuals at various stages of development demonstrating prerequisite levels of performance. This description reflects the complexity and challenges associated with talent selection, proposing that there are multiple decision types, at various stages and time points across a talent system (Baker et al., 2020; Larkin et al., 2022). How these decisions are made and what sources of information are used to make them is discussed further in Section 2.4.1.

Decisions related to TID and talent selection are nuanced and are a critical part of any high performance or talent system. Given the complex and typically non-linear journey to high performance, the ability to make predictive decisions about the distant performance potential of young athletes has long been acknowledged to be highly limited (Abbott et al., 2005; Baker et al., 2018; Bjørndal et al., 2018). This is especially so when long-term predictions are made based on current performance (Johnston et al., 2018). To this end, TID research consistently highlights the limitations of early selection (e.g., Bergkamp et al., 2022), especially when underpinned by a deterministic assumption that an athlete's future performance can be predicted by their current performance (Güllich & Barth, 2023). Despite this understanding, early TID and selection remains prevalent in many contexts, perhaps a result of systemic pressure and resource allocation decisions in TD systems (Sweeney et al., 2021). Limitations associated with early selection are evidenced in the lack of success in

translating young athlete's potential into senior elite level performance. Güllich (2014) examined the development programmes in German soccer and found that only 7% of players identified under 10 were still in the programme at under 19 level and Brustio et al. (2024) who assessed youth to senior transition rates in soccer across five European countries, found that only 15% of players progressed from U17 to senior level and 40% from U21 to senior level. A conversion rate of only 40% from U21 to senior level is particularly significant considering that common practice for soccer academies is to identify players for inclusion in their programmes as young as eight years old (Mills et al., 2014). Although there is limited research in rugby union in comparison to soccer, the findings seem similar. Durandt et al. (2011) found that only 24% of U13 representative players in South Africa progressed to the U18 representative squad, suggesting early selection is flawed due to high levels of deselection.

Ongoing debate in the TD literature centres around the timing and access to selection. The limitations of early selection have been introduced above but the practice is prevalent in many high performance sporting systems (Baker et al., 2018). Early selection is often viewed as an opportunity to shape athlete development over time (e.g., Hendry & Hodges, 2018). However, in addition to a lack of evidence to support early selection, (de)selection removes the advantages associated with accumulated exposure to a TDE and a lack of opportunity for long-term engagement and personal development (Erikstad et al., 2021). Two independent factors, relative age effect (RAE) and biological maturation, and their associated biases, have been examined in depth in TD literature and are believed to influence athlete selection in talent systems (McCarthy & Collins, 2014; Hill et al., 2020). RAE is a selection bias that favours individuals born towards the start of the selection year and is reflected in a disproportionate representation of players born in the first three months of the year (Wattie et al., 2015; Sweeney et al., 2023). Research suggests that RAE is as a result of attributes

related to age, experience and developmental differences, leading to an over-selection of athletes displaying elevated performance levels based on early physical advantages (Parr 2020). RAE appears to be prevalent in many sporting talent systems (Sweeney et al., 2023). Research across five leading European countries confirms the prevalence of RAE in soccer talent pathways e.g., 40% at U17 level in England, 49% in France and 52% in Germany at the same age level (Brustio et al., 2024). A recent study of 360 of the best U14 soccer players in Portugal found that 46.4% of players were born in Q1 (Bonito et al., 2025). Evidence in rugby union, although limited by comparison to soccer, also suggests RAE is present across all underage grades from U7-18 within the English union (Kelly et al., 2021).

Biological maturation is the process of progression toward the mature adult state and can be defined in terms of status (the age/stage of maturation attained at the time of observation), timing (the chronological age specific maturation events such as peak velocity occur) and tempo (the rate the maturation progresses) (Bradley et al., 2019). Young athletes of the same chronological age can vary significantly in terms of their biological maturation, research suggesting a variation of as much as five to six years in skeletal age and somatic maturity (Gundersen et al., 2022). Biological maturation is influenced by a combination of primarily genetic, and to a lesser extent, environmental factors (Beunen et al., 2006). There are many physical, physiological and cognitive advantages associated with early maturation that impact performance (Hill et al., 2020) and influence the (de)selection of young athletes. Most of the literature on biological maturation related to talent identification has tended to be in youth soccer (e.g., Bradley et al., 2019; Cumming et al., 2018). Johnson et al. (2017) found that those more advanced in maturation are up to 20 times more likely to be retained within a soccer academy system. Bonito et al. (2025) suggested that coaches' selection for a youth national team showed a maturation bias, with 90% of players selected being either on time or early. Both RAE and biological maturation are important factors to consider in any sport as

part of the talent identification and selection process but may have relatively greater influence in sports where the performance demands are weighted towards attributes that develop later, such as strength and power in Rugby Union (Owen et al., 2023; Till et al., 2020). Late-maturing athletes are more likely to be overlooked or excluded from talent systems, thus denying them access to advantages such as specialist coaching, training resources, and high levels of competitive challenge (Bradley et al., 2019). It is common practice in rugby union to delay selection decisions into academies until between the ages of 17 and 19 (Hall et al., 2024), which may offset some of the challenges associated with early deselection.

Literature, however, has challenged the assumption that being relatively younger or biologically late-maturing is detrimental to development (McCarthy & Collins, 2014; Cumming et al., 2018). An example is the reversal of relative-age advantage, referred to as the 'underdog hypothesis' (Gibbs et al., 2012), where despite a disproportionate number of relatively older athletes being selected into the talent system (Till et al., 2016; Gibbs et al., 2012), relatively younger athletes are proportionally more likely to reach elite senior status (McCarthy et al., 2016). Various mechanisms have been suggested to explain this reversal of advantage including the adaptive development benefits associated with the increased levels of challenge when competing with relatively older athletes who have age and experience associated advantages (Sweeney et al., 2023). Similarly, the relatively greater challenge that is experienced by later maturing athletes has been proposed to encourage the development of superior technical, tactical, and psychological skills when they are competing with early maturing athletes with physical, physiological and cognitive advantages (Cumming et al., 2018). It has been suggested that these skills enable later maturing athletes to thrive in an environment where they may be physically disadvantaged (Gibbs et al., 2012).

Considering the challenges related to the timing of selection outlined above and the interaction of multiple performance factors including physical, technical, tactical, psychological and sociological influences, talent selection decision making is a complex process (Güllich, 2014; Baker et al., 2018). There has also been a high degree of variability in methods, philosophies, and processes used to identify and select athletes across contexts (Johnston & Baker, 2020) and a high degree of variability in the factors found to discriminate between talented and less talented individuals (Larkin et al., 2022). Researchers often utilise cross-sectional designs, comparing age groups and skill levels to deselect perceived less talented individuals (Johnston et al., 2018). This methodology is based on assumptions that characteristics of future success can be determined from performance at a point in time (Bjørndal et al., 2018). More recent literature (e.g., Morganti et al., 2023) has pointed to alternative approaches, such as probabilistic reasoning (developed further in Chapter 3), which suggests the potential for TID to be responsive to what an athlete could become, i.e., that is the interdependence of selection and development, which is influenced by socio-cultural, individual, and environmental factors. This has prompted a call for a shift in focus away from talent identification and selection at a young age, to enhancing the quality of the talent system (Baker et al., 2018). Erikstad et al. (2021) proposed an approach of keeping "as many as possible as long as possible" within the talent system also with a focus on the quality of the environment and TD practices instead of early (de)selection. This type of approach is consistent with the perspective that talent is emergent, dynamic, multifactorial and symbiotic, rather than static or immutable, and based on both individual and environmental factors (Baker et al., 2019).

2.4.1 Talent Selection Decision Making

Røsten et al. (2023) suggest that sporting organisations acknowledge and accept that talent identification and selection is characterised by high levels of uncertainty regarding future

outcomes. Despite an understanding that making long term predictions based on current performance is limited and a decade's worth of research pointing to the fallibility of TID (Johnston et al., 2021), there have been limited investigations of the processes recruiters undertake during the selection process (e.g., Larkin et al., 2022). In addition, research has largely focused on evaluating the accuracy and reliability of identification decisions (e.g., Schorer et al., 2017) rather than the decision making process. Indeed, much existing literature has been conducted under the heuristics and biases decision making paradigm, critiqued as focusing on the more flawed features of human decision making (e.g., Gigerenzer, 1996), rather than on skilled performance and expertise. This is not to cast doubt on the limitations of making long term TID predictions; however, if selection decisions are highly nuanced and informed by knowledge acquired through extensive experience and formal education (Roberts et al., 2021), there is a need to consider how these decisions happen in context. Chapter 3 examines the situational factors that talent selectors consider when making decisions in different contexts.

Put together, the literature seems to suggest a situation whereby there is a necessity for coaches to form a clear definition of talent as a prerequisite for engaging in identification practices in their unique sporting contexts (Jones et al., 2020). This would seem something wholly at odds with current practice. The findings in Chapter 4 highlight that not all coaches throughout the talent system are as knowledgeable about talent as might be expected, particularly at earlier stages. Chapter 7 presents practical examples of addressing this situation through evolving practices such as delivering workshops, to develop coaches' knowledge and support aligned practice. Similarly, the literature would suggest that central to all talent selection decisions is the judgement of the individual actors. Yet, as suggested by Johnston et al. (2018), there is minimal evidence with which to inform complex selection decisions in TID or how people make judgements about the future success of an athlete. Who

is selecting talent can be considered as important as what is being identified (Johnston & Baker, 2022). Perhaps the greatest influences affecting the selection of athletes are the preferences, beliefs, experiences, and goals of the selector (Jokuschies et al., 2017). Research suggests that when speculating about prospective players, coaches often emphasized their physical gifts; however, when retrospectively reflecting on who their most talented or most successful players were, the coaches highlighted 'intangible' qualities, such as work ethic and determination (Jones et al., 2020). Indeed, Hill et al. (2015) found that rugby union coaches perceived commitment, self-regulation, resilience, and realistic performance evaluation were among key characteristics that discriminate successful players. Despite its perceived importance, in comparison to other sports there has been minimal research, that has examined psychological characteristics in rugby union.

Recent research suggests that selectors reduce their efforts to identify and evaluate talent through quantitative measurement (Røsten et al., 2023) and instead utilise coaches' experiential knowledge (Woods et al., 2021). Furthermore, it is important to recognize that expert decision making and intuitive expertise draw upon broad and holistic interpretations, rather than singular events (Røsten et al., 2023). To this end, the notion of the 'coach's eye' has been developed to reflect what have been characterised as the intuitive, subjective, and experienced based inputs of coaches in selection (Lath et al., 2021). That is, the human inputs to selection decision making have tended to be characterised as intuitive, rather than considering the more deliberative features of thinking. The process by which these qualities are assessed (i.e., the "how"), however, has been largely absent from the research (Jones et al., 2020), and few researchers have attempted to study how knowledge and experience plays a role in decision-making (Larkin & O'Connor, 2017). Similarly, there is also a need to understand the sources of information (e.g., game observation, video footage, interviewing players, and reference checks) used to inform selection decisions (Larkin et al., 2022).

Bjørndal et al. (2022) suggests that TID through standardised tests and measurements are of limited value as these tests reduce and decontextualise the complex acts of sports performance and do not consider how performance is shaped by the changing opportunities and constraints of the environment in which they are located (Hristovski et al., 2012). In contrast, Larkin et al. (2022) reported that Australian rules recruiters adopt a multifaceted approach, evaluating the athlete from a holistic perspective, collecting wide-ranging data to inform their judgement and evaluation. Developing a shared understanding, or a Shared Mental Model (SMM), identifying characteristics that coaches associate with elite-level performance could support enhanced, coherent, talent selection practices within a sporting organisation (Collins et al., 2022). Chapter 3 explores the data sources that coaches utilise to make informed decisions and also how they triangulate information to support selection decisions.

The literature in this field has also tended to examine selection decisions as discrete moments in time, with the notion of 'talent wastage' associated with selection decision making errors where athletes are wrongfully selected into or deselected from a pathway (Pinder et al., 2013). Johnston and Baker (2020) expanded on this, suggesting that talent wastage is connected to poor predictive capabilities, a lack of understanding of what talent is and the way it manifests, cognitive biases affecting human judgment, and situational factors affecting the quality of decisions being made. By classifying selection errors as being type I (false positive) and type II (false negative), there is a sense that selection decisions are final and binary. Where this is the case, perceived errors will have significant consequences for individuals and organisations, both of which are magnified by the limited resources at an organisation's disposal (Taylor et al., 2022). There are a multitude of selection points in sport that present this type of binary decision, for example North American sports' draft system (Johnston & Baker, 2022). This type of binary decision may not always be as strong a feature

in other contexts, especially in professional team sport academies, where retain or release decisions are likely to take place over a period of time. This is the difference between what Klein (2022), referred to as 'tree felling' and 'hedge trimming' (p. 357). 'Tree felling' is a binary decision, from which there is likely no turning back (e.g., the NFL draft), whereas 'hedge trimming' decisions are subject to continuous updating and reduced risk of error. 'Hedge trimming' type decisions are influenced by constantly updating new information related to an athlete, or their specific context, where staff can adjust and adapt their predictions based on feedback throughout the development process. As outlined in Section 3.4 and Section 7.3, however, there are practical challenges associated with implementing a hedge trimming approach. In addition to the financial challenges with resourcing more athletes for longer, there is also a risk of reducing the quality of athlete in the system, compromising the competitiveness and training standards, and diluting the individual focus of coaches (Shelley et al., 2025).

Selection does not take place in a vacuum nor is it solely dependent on the judgement of individual actors. As a result, in addition to considering the type of decision, there is a need to consider the context of a decision and the conditions in which selection decisions occur, especially as these decisions may be based on contextual demands and broader objectives beyond an athlete's perceived future potential (Johnston & Baker 2022a). Decision making can be influenced at all levels in a sporting organisation (Taylor et al., 2022). The micro level comprises the individual interactions of daily practices, for example individual judgements regarding selection. The meso level represents a collection of micro systems in the form of a single organisation, academy (Martindale et al., 2005; Mills et al., 2014) or TDEs (Henriksen et al., 2010; Hauser et al., 2024). The macro is the wider system in which micro/meso interactions take place, and is under the influence of a governing body, national, or international sporting systems. This means that depending on the circumstance, talent

selection can be influenced at the micro level (the judgements of individual actors), meso level (systems and processes of an individual organisation), and macro (resource allocation and policy). Developing a greater understanding of the complexity and dynamics of talent selection decisions at every level of a sporting organisation could support an evidence-informed approach related to the design and operation of the talent system, beyond the standard models of talent identification (Røsten et al., 2023). Taken together, the literature highlights significant limitations in current decision-making frameworks, reinforcing the need for broader research into the talent selection practices of experienced talent selectors. As such, and in line with Johnston and Baker (2022a) recommendations, Chapter 3 examines the contextual demands and situational factors that affect talent selection decision making in elite talent systems and HPSEs.

Chapter 3: Hedge Trimming or Tree Felling? Context and Systemic Factors in Talent System Recruitment and Selection Decisions

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3.1 Introduction

As discussed in Section 2.4, talent selection decisions represent a critical element of a talent system, and decision making related to the future potential of athletes has received increasing research attention (e.g., Johnston & Baker, 2022). Given the non-linear and dynamic nature of an athlete's development journey, such decisions are inherently complex, highly nuanced, and influenced by a multitude of factors (Baker et al., 2020; Larkin et al., 2022). Research suggests that selection decisions vary considerably across environments and sports, particularly in relation to the timing at which they are made (Güllich, 2014; Baker et al., 2018) As outlined in Section 2.4, the capacity to make predictive decisions about an athlete's future performance levels is limited, particularly so, when those predictions are based on current performance levels. (Baker et al., 2018; Bjørndal et al., 2018). There is a dearth of research that attempts to study how knowledge shapes decision-making (Larkin & O'Connor, 2017) and there is a need to understand the sources of information that selectors use to inform selection decisions (Larkin et al., 2022). This chapter aims to address the lack of empirical evidence guiding complex talent selection decisions and the scarcity of research investigating the processes by which selectors make judgements about the future success of an athlete (Johnston et al., 2018).

Existing research has consistently focused on assessing the accuracy of selection decisions rather that exploring the quality of the decision making process (Schorer et al., 2017). Within the TID literature, selection decisions are frequently conceptualised as discrete events, evaluated retrospectively based on whether the athlete has been correctly selected or not (Pinder et al., 2013), creating a sense that decisions are final and binary. There are multiple examples in sport that present this type of binary decision e.g., the NBA or NFL draft (Johnston & Baker, 2022), but this type of decision is less prevalent in talent systems, where retain and release decisions take place over a longer period of time. As presented in Section 2.4, this reflects a 'hedge-trimming' approach (Klein, 2022), where athletes are retained in the talent system for longer durations, and decisions are subject to continuous updating, reducing the risk of error. As outlined in Section 7.3, however, there are practical challenges associated with implementing this approach, including the level of resources required to optimally support a higher number of athletes (Shelley et al., 2025).

Rather than examining the selection process, much of the research has been focused on the individual level, suggesting that an selectors preferences, experiences, and beliefs about talent shape their judgements and decision making (Jokuschies et al., 2017). As highlighted in Section 2.4, these individual decisions are often underpinned by a lack of conceptual clarity, with evidence indicating that talent is interpreted differently by different individuals across contexts (Johnston & Baker, 2022). Despite the central role, selectors play in talent systems, there remains limited understanding of how individual make judgements or assess athletes' qualities (Jones et al., 2020). Applied practice across talent systems continues to demonstrate an over-reliance on individual judgement.

In addition, there is limited research that considers the broader system in which selection decisions are made. Johnston and Baker (2022) proposed that selection decisions

may be shaped by contextual demands and broader objectives beyond an athlete's perceived future potential. As outlined in Section 2.4.1, selection does not occur in a vacuum and there is a need to consider the context and conditions in which selection decisions occur. Røsten et al. (2023) highlighted that talent selection decisions can be influenced by wider cultural factors, or as a result of systemic pressure (Sweeney et al., 2021). Reflecting this complexity, Røsten et al. (2023) suggest that sporting organisations need to be able to operate in conditions where selection is characterised by high levels of uncertainty regarding future outcomes. Developing a more nuanced understanding of the complexity and dynamics of selection decisions at every level of a sporting organisation could support an evidence-informed approach related to the design and operation of talent systems (Røsten et al., 2023). Taylor et al. (2022) indicated that decision making can be influenced at all levels in a sporting organisation and referred to the notion of micro, meso, and macro levels as lenses to consider the application of strategy in a talent system. In this context, depending on the circumstance, talent selection can be influenced at the micro level (e.g., individual judgement), meso level (e.g., an organisation' systems and processes), and macro (e.g., resource allocation).

As a consequence of this, and taking my applied role into account, there is very little literature I can use to inform the structuring of selection processes at Munster Rugby. Thus, this chapter builds on previous research to critically explore selection decision making processes at an individual (micro) and systemic (meso/maco) level. My aim being to explore how team sport talent selection decision making occurred and examined the contextual and systemic factors that influenced the process.

3.2 Method

3.2.1 Research Philosophy and Design

Given my philosophical positioning outlined in Section 1.3, a pragmatic research philosophy underpinned this research, aiming to generate practically meaningful knowledge that can develop practice (Giacobbi et al., 2005). Rather than holding a specific ontological perspective, pragmatism is concerned with deploying an appropriate research methodology relative to the research question. In line with a pragmatic approach, a qualitative study was chosen, with data collected using semi-structured interviews, allowing for a deep examination of participants' beliefs relating to talent selection and those of their organisations. The aim of the research being to interpret a practical problem, rather than form an absolute representation (Kelly & Cordeiro, 2020). By exploring the experiences of talent selectors across multiple sports, the aim was to generate a breadth and depth of understanding grounded in real-world experiences. This allowed for a deeper examination of the data by the researchers and making sense of the findings by relating them to applied experiences (Bryant, 2009).

3.2.2 Participants

A purposive sampling approach was used to identify experienced talent selectors across three professional sports. Based on the need to understand the systemic factors involved in selection, there was a need to sample from sports with well-established TD systems. Accordingly, three male professional sports were sampled (rugby union (n = 4), cricket (n = 4), and soccer (n = 4)) to ensure a rich account of how selectors make complex talent decisions across multiple sports and multiple environments. Each of the individual sports exhibits different selection practices, specifically related to age and stage of selection. Traditionally in soccer, selection decisions are made at a relatively young age in contrast to rugby union, where decisions are made much later and post-adolescence, and cricket sits

between the two sports where selection decisions generally take place slightly earlier than they do in rugby. Multiple selection systems are employed across sporting organisations, as evidenced by variation in (a) *when* decisions were made (age, stage, number), (b) *how* decisions were made (the processes employed to support decision making), and (c) who was involved (the number and background of selectors).

Rugby union participants were employed across three National Governing Bodies (NGB) and one English Premiership club. Soccer participants were employed across two Category 1 and one Category 2 academies, with the fourth participant employed by an NGB. Cricket participants were all employed at professional county cricket level. The participants (all male) were recruited based on employment in key talent selection and recruitment positions, and extensive experience (M = 9.4 years, SD = 3.25). The study protocol was approved by the institutional research ethics committee (DCUREC/2023/001). All participants who were contacted via email consented and participated in interviews.

Table 3.1. *Participants' background and level of experience.*

Participants	Sport	Experience (years)
Selector 1 (S1)	Rugby Union	10
Selector 2 (S2)	Rugby Union	12
Selector 3 (S3)	Rugby Union	12
Selector 4 (S4)	Rugby Union	6
Selector 5 (S5)	Soccer	16
Selector 6 (S6)	Soccer	11
Selector 7 (S7)	Soccer	11
Selector 8 (S8)	Soccer	6
Selector 9 (S9)	Cricket	7
Selector 10 (S10)	Cricket	10
Selector 11 (S11)	Cricket	7
Selector 12 (S12)	Cricket	5

3.2.3 Procedures

Data were collected via semi-structured interviews, scheduled at the participants' convenience. Due to the geographical spread of participants, the Zoom platform was selected, offering logistical benefits to both researchers and participants (e.g., syncing schedules in professional sport; Archibald et al., 2019). A semi-structured guide was developed to shape the interview, including probes and follow-up questions to clarify and expand on the participants' answers (Smith & Sparkes, 2016). The interview guide was jointly developed by my supervisors and me, both of whom have significant TD experience across sports, both in practice and as researchers. A pilot interview was conducted with an experienced talent selection practitioner to refine the interview guide, resulting in changes to the structure of the

interview, that included swapping the order of question 4 and 5, and modifications to the prompts and probes. An example of modifications included the addition of a secondary element (Why do you think it happened?) to both Question 6 and 7. This prompted the participant to deeply consider the reasons they believed a player reached, or failed to reach an expected performance level. The Interviews lasted between 45—68 minutes (M = 57).

Table 3.2. *Semi-Structured Interview Guide.*

QUESTIONS
1. Could you introduce yourself and provide an overview of the work you have done in talent pathways?
2. What characteristics and behaviours do you look for when you identify and select players into your environment?
3. What factors do you consider when making a decision? What sources of information do you use?
4. Does your organisation influence your selection decisions? If yes, how?
5. Looking back over your career, what are the biggest mistakes you feel you have made when identifying and selecting players?
6. Could you tell me about a player that didn't realise the potential you thought he had? Why do you think that happened?
7. Could you tell me about a player that you feel overachieved in terms of the potential you thought he had? Why do you think that happened?

3.2.4 Data Analysis

All interviews were transcribed verbatim and subsequently checked for accuracy against audio recordings. Analysis was completed using a Reflective Thematic Analysis (RTA), considered epistemologically coherent and appropriate to explore, in-depth, the factors influencing decision making in the participant's context. RTA recognises the researcher's experience and values as being a resource in the process of analysis and theme generation occurs through active engagement with the data (Braun & Clarke, 2019). Given the pragmatic underpinning of the research, thematic analysis was appropriate for translating findings into practice (Sandelowski & Leeman, 2012).

Analysis was conducted utilising the six phases outlined by Braun & Clarke (2019) which promote a reflexive and flexible approach to the phases of analysis. All phases used *NVivo (version 14)* as a tool to support this flexible movement between stages. The first phase involved becoming familiar with the data, reading and re-reading transcripts, highlighting and annotating areas of interest. Second, coding was conducted on a surface (semantic) level, followed by generating latent codes capturing underlying meaning (Braun & Clarke, 2019). Codes were then organised into initial themes through an active and interpretive process (Braun & Clarke, 2021). This step entailed significant involvement of one of my supervisors, acting as a critical friend in questioning the shared meaning of codes. This involvement led to a joint process of review and refinement of themes to ensure coherence with the overall data set (Braun & Clarke, 2019). In the fifth stage, iterative steps were taken to finalise the definitions and naming of overarching themes and sub-themes. The final stage of analysis is the write-up, presented below.

Professional male team sports provides an appropriate context for understanding these decisions as it has a history of developed practice related to talent selection decision making. The study involved twelve experienced talent selectors operating in twelve individual talent systems, across three professional sports, to ensure rich data from a wide range of sporting contexts. The results are presented through a micro, meso and macro framework.

3.2.5 Trustworthiness

Given the importance of credibility and trust, I aimed to develop a level of rapport with participants prior to interview through email and phone exchanges (McGrath et al., 2019). Credibility and rapport were enhanced by my positioning in a similar role within Munster Rugby (Berger, 2015), which may also have increased the likelihood of participant openness. Following the six-phase RTA process, member reflections were utilised, which

involved sending all participants a tabulated summary of final themes to invite reflections of the themes generated (Smith & McGannon, 2018). I chose to provide participants with a summary of their account rather than the full transcript because, within interpretivist qualitative methodologies, member reflection is used to confirm that participants' meanings have been represented fairly not, to have them verify a verbatim transcript or endorse the researcher's interpretation. A concise, summary enabled participants to verify that the key points, events, and intentions they had expressed were accurately captured without being overwhelmed by the level of detail contained in a verbatim transcript. Participants were encouraged to share reflections with further comments, or any additional information or experiences that they felt was relevant to share. These reflections were used to add to the overall richness of the dataset and were integrated in the main body of analysis. An example is selector one commenting on the impact of frequent staff turnover on the organisation's shared decision making processes, a result of less expertise amongst individuals and less shared understanding.

Throughout data collection and analysis, I kept a reflexive journal to reflect participants' experiences related to selection and against my positionality as a relative 'insider' (Dwyer & Buckle, 2009). The reflexive journal was used as an audit trail and to critically reflect on the research process, data collection, and analysis. This augmented trustworthiness both through deep engagement with the data and reflection of my interpretation of participant experience (Finlay, 2006; Patton, 2002). Importantly, I used this reflexive journal to examine my personal assumptions, something particularly important given my experience and professional role. This was not to control positioning, but to reflect on my presuppositions, experiences and overall rationale. Further, my supervision team, who are both experienced qualitative researchers, acted as critical friends throughout (Shaw, 2010;

Braun & Clarke, 2022). Finally, sampling across three professional sports and multiple environments was intended to enhance transferability.

3.3 Results and Discussion

This chapter explored how team sport talent selection decision making occurred and the contextual factors that influenced the process. Data analysis generated three themes: (1) Micro-level factors, representing the judgements of individual actors; (2) Meso-level factors, how the systems and processes of an individual organisation influenced selection; (3) Macro-level factors, how resource allocation and policy at the national level led to specific decision processes. The developed themes are presented in Table 3.3, with all sub-themes presented in italics.

Table 3.3. *Overarching themes, themes and sub-themes produced by the RTA.*

Overarching Themes	Themes	Sub-Themes	RAW DATA EXEMPLAR
Micro-level Factors	Education/experience of individual actors	Declarative Knowledge	The lack of understanding of coaches to the concept of talent and what transfers to the professional game at the top end (S4)
		Experiential Knowledge	You build up a sort of experiential knowledge base of what you instinctively understand to be true of those that will transition. And then trying to articulate that, and make sense of that and process that for yourself, I guess is the ultimate key because some of that will be highly nuanced, it'll be ambiguous and it will be come with a high degree of cognitive bias. (S3)
	Working in Complexity	Sources of Information	So I think it's more a case of how can we utilize this information to make sure that whatever we do next, has a positive impact on the player. Rather than utilising it on the basis of you're in or you're out. (S3)
		Changing weighting of information over time	I wasn't as educated as I am now around maturation and getting too excited about players at too young an age I think we're all guilty of. (S10)
		Organisational Awareness	Yeah, so I try to not let the organization's current position affect my long-term decision making. I try and put both hats on, right what do we need now and what are biases from first team staff and from technical director that I need to manage, what are we looking at for long term? (S8)
	Organisational Influences	Organisational Culture	The conceptualisation of talent in the organisation is top down driven so, whether implicitly or explicitly, there will be a weighting of subjective views on individuals on what the organisation values. (S8)
		Succession Planning	I think succession planning is everything around managing elite performance in our environment, and being really clear on what our recruitment targets are and what exactly we really need within the group, communication with people that are in your program as well, and making sure everyone's really clear on what you're actually trying to do. (S11)
	Group decision Processes	Decision Hygiene	Anything that we collect from scouts is their opinion. It's also backed up with any match data you collect over time, more than one scout or more than one coach. And then, by the end of the season, or the end of the phase, you've got a package of information to provide a case. (S10)

Meso-level Factors		Retrospective Reviews	It was really interesting to go and sit down with people and go through all our decisions, we called it 'black box thinking', why did we do what we did? And, you know, let's learn from what we've done. (S5)
		Interdisciplinary Triangulation	So I do rely on my coaches' eye and on my belief system quite a bit. But I try to step back from that. And our decision making and the process that we go through, it's a multidisciplinary approach. Every member of every department that works with the player is in the initial meetings, everybody gets a voice around what we feel we should do for giving or not giving scholarships, same with professional contracts, that then gets accelerated and then it starts to become streamlined and it is key decision makers. (S10)
	Shared Understanding	Shared Model	We've worked quite hard on that over the last five years, because that was certainly something we weren't doing well. And I think a good pathway lead will also establish very clearly from a pathway and Academy point of view, how you're going to recruit players, and how you're going to talent ID. The challenge is then making sure that it taps into the succession planning of the club and that does take a lot of work. (S10)
Macro-level Factors	Systemic Resourcing	Impact of resourcing on decision making	Huge financial and resource challenges and a relatively small number of staff who have a lot of roles that they need to fulfil so they are stretched and thin in their ability to put the right amount of time and resource into these decisions. (S4)
	Macro system design	Placement of selection points	And I think because our pathway is also capped at 18 there is also this unnecessary pressure to make a decision on a player at 18, when you should be able to engage with them beyond that. (S10)
	The High Performance Milieu	Job Security	They're getting judged over the next three games, if you lose those games you're out of a job. So anything longer than that often, not always, they're not so interested in supporting your recruitment decisions on players. (S5)
		Short-termism	We need to have a youth player development model that stays in, it's not changed every couple of years based on a new direction from a new high performance director. We've had several changes at the top in recent years and each time a new technical model. (S6)

3.3.1 Micro-level factors that influence individual judgements.

The first generated theme concerned the micro factors that influence individual judgements in the process of talent selection, relating specifically to the judgement of specific actors. These subthemes were the education and experience of the individual actors and working in complexity.

Education and experience of individual actors

Whilst aware of the limitations of their individual capacity to make predictions, participants perceived that over time, their individual contribution to selection decisions was significantly enhanced. This perception was the result of deliberate steps taken by participants in their own education and development, alongside the accumulation of experience, and reflection on this experience. This combination of knowledge forms and experience was perceived to be a core feature of enhanced decision-making (cf. Klein et al., 2006). As an example, participants reflected on early decisions made in their careers and how errors in judgement perceived to stem from a lack of knowledge about the difference between current performance and future potential (Baker et al., 2018):

> When I reflect on my decisions I made early in my career I was looking at players based on current performance and didn't have an understanding of how that linked to potential because I didn't have experience at the top end of the pathway. The critical bit is that the longer I was exposed to the senior game, I had a reference point for how I could look at an individual relative to that. Having that reference point was critical (S4).

Indicating the complex interaction between knowledge and experience, participants discussed how these perceived errors acted as catalysts for reflection and how they sought *declarative knowledge* to support the evolution of their selection beliefs and enhance their selection practices:

> You come to the conclusion, when you've mucked up a couple of times, that 'what you see isn't what you always get'. So that's what drove me into the research and exploring the dynamics of human development, ultimately, because I couldn't believe how some people presented and how quickly they changed (S3).

This process of developing declarative knowledge was perceived by the participants to enhance more intuitive selection judgements (Klein, 2015). Selector 11 reflected on how they "built up a sort of *experiential knowledge* base of what you instinctively understand to be true of those that will transition". As selectors accumulated experience, initial judgements made about individuals were perceived to be "very much implicit, intuitive decisions around players on the basis of feel and understanding of previous experiences" (S2). Notably, for all participants, there was a sense of the fallibility of this knowledge and the limitations of drawing on individual personal experience when "those previous experiences inform the prediction of future potential" (S1) (cf. Johnston & Baker, 2022). This acknowledgement of fallibility seemed to influence a conscious, deliberative auditing of their judgement using different techniques and processes.

Working in Complexity

Against the need for greater understanding of the information and processes used to inform selection decisions (Larkin et al., 2022), participants outlined a variety of techniques and processes used to gather information and deliberatively consider judgments (Johnston & Baker, 2022). Participants highlighted the use of both objective and subjective *sources of information* to inform judgements (Roberts et al., 2019), with objective data often used for development rather than selection purposes: "we use data once the players are actually in the building as a source to improve rather than as a source to make [selection] decisions" (S11). Selector 9 provided an example of blending the various data sources to "build a powerful case" to support their talent selection decisions:

> There is a blend of both subjective and objective data, which involves both your senses and experience telling you this kid will hold up from a skill point of view and from a character, personality and behaviour point of view (S9).

Participants discussed the collection and use of anthropometric and performance data across talent systems. Yet, they expressed significant caution of the interpretation of objective data, especially if seen as a means of 'debiasing' the selection process:

> So I think it's more a case of how we can utilise this information to make sure that whatever we do next has a positive impact on the player, rather than utilising it on the basis of whether you're in or you're out (S3).

Utilising data as a development tool in this way is supportive of using data to 'hedge trim' rather than 'tree-fell' (Klein 2022). That is, decision making was enhanced by continuously updating information, rather than deselection on the basis of a data point or performance in a single trial. This seemed to reflect a heightened appreciation of the multifaceted and emergent nature of talent (Baker & Wattie, 2018), that enabled selectors to become more comfortable dealing with uncertainty: "I've learned much more to live in the grey, I've learned much more to hedge my bets" (S1). Supporting the need to manage complexity and uncertainty, many participants discussed something akin to a probabilistic approach (Morganti et al., 2023). Aligned with the more deliberative and less intuitive auditing of decisions, participants perceived the need to continuously update their view of an athlete over time, using more information and data to inform the selection process: "these decisions need to be made around a player's capacity to develop further and how much room you can give that person to do that over the next 3-4 years" (S3).

Participants also reflected on the *changing of information weighting* over time, emphasising the contribution of particular data sets over others when making talent selection decisions. Participants attached greater weighting to a range of subjective data, based on a

perception of greater validity, while recognising potential limitations: "[selection] is highly nuanced, ambiguous and it will come with a high degree of cognitive bias" *(S3)*. Inexperienced selectors were "drawn towards making decisions based on what was visceral and obvious" (S7) and had a "mental model of what current performance looked like but had a limited understanding of the value of psychosocial characteristics, which are harder to identify" (S4). Participants reported an increased weighting of psychosocial factors in making judgements, perceiving less observable and measurable factors to be a key differentiator in players transitioning to senior level (Collins & MacNamara, 2017; Rees et al., 2016): "looking back I know now that he was ridiculously driven and focused" (S6). Selector seven reported a shift away from predominantly focusing "on an athlete's current performance to more of a consideration of their future potential". Thus, participants put significant weight on data from the 'coach's eye' (Sieghartsleitner et al., 2019; Lath et al., 2021), but this was not only considered an intuitive phenomenon (Roberts et al., 2020), with participants also drawing on deliberative reflection and use of mental models: "you build a knowledge over a period of time and your experience comes through successes and failures" (S8). Participants described selection judgements as "a classic combination of art and science and a lot of the art is knowing the individual" (S10).

Individual *organisational awareness* was considered essential when dealing with uncertainty and working effectively in complex and dynamic environments (see Chapter 4). Participants discussed an awareness of how organisational factors (meso) could influence their selection decisions: "I try to not let the organisation's current position affect my long-term decision making" (S6), highlighting the challenge associated with maintaining a long term development focus against the backdrop of a short-term position in the organisation. Participants believed that while it was important to consider many contextual factors, a key principle guiding selection decisions was: "what are we looking at for the long term?" (S6),

allowing for complex interactions in development and further mitigating the risk associated with time-pressured decisions (Henriksen & Stambulova, 2017). Reflecting on the tension between short term and long term agendas, selector seven acknowledged the importance of organisational awareness: "I try to put both hats on, 'what do we need now?' and 'what are biases from first team staff and from the technical director that I need to manage?"' A long-term development perspective supported a "shift from early on making decisions based on what a player cannot do, and therefore more likely to deselect" *(S2),* towards an approach that encouraged a focus on "what they can do and what we can do to improve players" (S4). This speaks clearly to individual context as it considers not only what an athlete could do or could become (Morganti et al., 2023), but also considers how this matches the resources and expertise available to an athlete in their environment to support their development and realise their potential (Araújo & Davids, 2011).

3.3.2 Meso-level factors that influence talent selection

The second theme centred around the meso factors that influence talent selection, focusing specifically on the systems and processes of an individual organisation. These were organisational influences, group decision processes, and shared understanding.

Organisational Influences

Organisational culture was described by Henriksen and Stambulova (2017, p. 272) as a key ESF consisting of cultural artefacts, espoused values, and basic assumptions. Participants perceived that selection decisions were consciously influenced by cultural considerations within their organisation (Hodge et al., 2014). Some participants reflected that: "whether implicitly, or explicitly, the conceptualisation of talent is top-down" (S4), with athletes needed to demonstrate qualities valued by the upper echelons of an organisation. These beliefs were seen to influence selection throughout the talent system: "there will be a

weighting of subjective views on individuals based on what an organisation values" (S7). Selector eight reflected that his was "a very working class club" where visible demonstrations of commitment were central to the culture of the club, and recognised as a key positive factor in promoting selection. The *'no dickheads'* selection policy of the New Zealand All Blacks (Hodge et al., 2014), is an explicit example of how selection has been used to maintain, or change organisational culture (Cruickshank et al., 2013), and although the culture of the senior team was acknowledged as an influencing factor, participants stressed that "you wouldn't exclude players solely on the basis of that [senior team culture]" (S1).

In addition to the perceived potential of the individual, participants discussed the need to consider if there was a vacancy for an athlete to move into. Thus, *succession planning* was considered a prominent organisational factor influencing selection decisions: "succession planning is everything around managing elite performance in our environment and being really clear on what our recruitment targets are and what we need in the group" (S11). There was an expectation among participants that "you have to fulfil a role on what the needs of the professional environment are" (S4) and they recognised that "there are context decisions to be made" (S3). Selection decisions are often based on a range of contextual factors including available opportunities within an organisation: "you are going to be influenced to recruit based on what that environment needs at that particular time" (S4). Participants recognised situations where opportunities for selection were compromised, for example, where there is a "strong financial position and a larger playing senior squad and academy players have always got to do more to get a playing opportunity…which affects future selection decisions" (S10). In this sense, effective succession planning could be stripped back to "knowing who needs to be ready when" (S11).

Group Decision Process

Interdisciplinary triangulation was highlighted as common practice in talent selection used by organisations in this study. This involved integrating information, subjective and objective data, techniques and perspectives from a number of specialised teams within an organisation to support decision making. Røsten et al. (2023) found that coaches compared how they evaluated and analysed players by putting information together, much like completing a puzzle. Reflecting the variety of approaches to talent selection between organisations, Selector 10 described a less common process "where a specific person oversees the recruitment of staff and recruitment of players" with the aim of "taking the load and the pressure and the conflict of interest off the remaining staff members". An interdisciplinary decision process however was found to be utilised in many organisations with "all departments having their say within a thorough internal audit process" (S7). These processes were used to deliberatively audit predictions made by sport specialists to "try to step back" (S6) and involve the wider support team to work in an integrated manner to strengthen selection processes (Burns et al., 2024):

> The decision making process we go through is a multidisciplinary approach, every member that works with that player is in the initial meeting and everyone gets a voice and an opinion on suitability for scholarships or professional contracts (S10).

Kahneman et al. (2021) introduced the concept of *decision hygiene,* suggesting its purpose is to improve human judgement by reducing the influence of noise. Decision hygiene techniques within an organisation were found to be part of a more deliberative and formal approach used to reduce noise in selection. These techniques include the use of consistent, preventative measures to minimise the chance of noise such as thinking statistically, choosing and training better judges, and aggregating judgements with participants sharing examples of these techniques:

> We had certain criteria for people that we would bring forward to those selection meetings. How many times have we seen them? We need to have seen and reported on their plan at least five times. There was a threshold, and we would grade them. But we wouldn't even discuss a player that hadn't been seen that many times. (S5)

Selector 10 reflected on a process that involved decomposing talent indicators (Lüdin et al., 2023) where "players were assessed and graded based on previously identified performance characteristics and indicators and limiters of potential" (S10), which was perceived to promote more deliberative thinking and reflection, ultimately enhancing the selection process (Marcoci et al., 2023). Predictions or assessments based on predefined decision rules suggest something akin to an actuarial approach which often leads to superior performance predictions (Den Hartigh et al., 2018). An aggregation of judgements (Kahneman et al., 2021) has been associated with improved decision-making accuracy and by extension a similar multidisciplinary approach utilising collective intelligence (Radcliffe et al., 2019) and appropriate decision hygiene techniques could be expected to strengthen the validity of talent selection decisions.

Reflective practice has been established as common practice in coaching (Cushion, 2018), including talent selection decisions. Participants in the current study provided various accounts of *retrospective reviews* post-selection to evaluate the validity of a decision and potentially strengthen future decision making. Selector five reflected on a review of the decision process: "we examined why we did what we did, with no blame, just to learn from what we did, why we did it" rather than focus on the ultimate outcome: "was it a bad decision if he went on to flourish at another club?" (S7). As was captured by the reflections of participants, binary notions of poor decision making were rejected:

> It's very hard to evaluate successful decision making because once deselected and players move outside your environment there are so many factors no longer in your control it's almost impossible to justify that with future status (S4).

Indeed, this suggests that a review procedure with a focus on the decision making process rather than the outcome might be considered more appropriate when evaluating the efficacy of selection decisions.

Shared Understanding

Collaboration and coherence within a TDE is considered to be a feature of a functional environment (Hauser et al., 2024) and developing a *shared model* related to talent selection was considered by the participants to have a positive effect on their decision making (Mathieu et al., 2000). Taylor et al. (2022) proposed that developing shared models at all levels of the talent system may have a positive effect on enhanced practice. Participants recognised the importance of a SMM (Barraclough et al., 2023), but reflected on how a lack of shared understanding resulted in incoherent selection practices: "no, we don't, [have a shared model] it's not aligned, we tried to do it a few years ago and we got to a certain stage but certain people still went on their own track" (S2). Participants stressed that a shared model should "tap into the succession planning of the club" (S1) but acknowledged the difficulty in implementing principles related to talent selection and developing a collective understanding across their organisation:

> I don't believe that the time and effort had been put into yet to actually lead to a shared mental model top-to-bottom. It had been produced and was being promoted but hadn't yet entered the social consciousness of everyone on the pathway. (S4)

Participants described "bespoke mental models" (S3) and reflected that: "in terms of joining up philosophies on scouting, recruitment and retention across the club, we are as joined up as ever, we worked hard over the last five years because it was something we weren't doing

well" (S10). Participants believed that the development of a shared understanding was influenced from the top down as it was "established very clearly from a good pathway lead on how you talent ID and how you recruit players" (S4). To mitigate against the risks that might result in a misaligned philosophy within the club, S4 reflected that their organisation: "did a lot of work internally to understand talent" and developed a "strong collaborative approach to understand what we were trying to identify and why".

3.3.3 Macro-level factors that influence selection

The third generated theme concerned the macro factors that influence talent selction, focusing on the wider system in which micro/meso interactions take place, e.g. levels of systemic resourcing, macro system design, and the high-performance milieu.

Systemic Resourcing

There was shared awareness amongst the participants of the *impact of resourcing on decision making* as it shaped processes and systems related to talent selection at all levels in their respective organisations. Taylor et al. (2022) proposed that selection should be considered from a resource allocation perspective and that decisions about when and how to select should be viewed as a matter of strategic priority. Participants acknowledged that resources were often limited and that there were "huge financial and resource challenges" (S5), due to a "relatively small number of staff who have multiple roles to fulfil so they are stretched thin" (S1). This not only challenged the capacity of the staff to "put the right amount of time and resources into these [selection] decisions" (S5), but also had a significant impact on many athletes by challenging how long individual organisations could keep athletes in the talent system to make more informed selection decisions:

> One of the key things from a strategic point of view is where do you put resources and time and energy? You're saying realistically you've got to make some strategic decisions from a TID point of view with limited resources" (S2).

Such challenges are amplified when there is a lack of clarity and consistency in the existing literature regarding good selection practice (Till & Baker, 2020).

Macro System Design

Another example of the impact of resources on talent selection is decisions related to the *placement of selection points*. Participants highlighted a high degree of variability in the selection method and the timing of selection points in the various talent systems (e.g., soccer selection decisions were made significantly earlier than rugby). Participants struggled to provide an evidence-informed rationale for the regulatory mechanisms that imposed selection points. For example, in the case of one sport, it was perceived that decision points early in the system were regulated by a governing body, but lacked the necessary resourcing for an appropriate selection process:

> Structurally there are huge challenges, so the whole structure of the system is fundamentally flawed where the initial point of selection happens outside the remit of the academy (S4).

Instead, selection decisions often rested with less experienced staff without the individual capacities, or group processes for effective decision making. Often regulatory cut-off points: "pathway selection was capped at 18 years of age" (S10), created "unnecessary pressure to make a decision on a player when you should be able to engage with them beyond that" (S10). This may suggest that rather than individual actors being 'guilty' of type II errors of decision making, these errors are a feature, or by-product of macro-level policy decisions. Where macro policies encouraged early selection instead of 'hedge-trimming' decisions, participants believed that it compromised their ability to make well-informed selection decisions over time (Johnston & Baker, 2020). The potential risks (errors) associated with this type of selection method become magnified in organisations with limited resources that need to make challenging decisions based on the optimum deployment of those resources.

Chapter 7 includes macro polices employed at Munster rugby to support a hedge-trimming approach and practical measures to ensure experienced academy staff are involved in decision making at the early stages of the talent system.

High-performance Milieu

Short-termism within an organisation, a feature associated with a dysfunctional environment (Hauser et al., 2024), was highlighted as a key element that had the ability to influence talent selection decision making. Participants believed that where short-termism was driven from the top down, it conferred pressure and forced inappropriately early selection decisions: "people focus on what they want now at the top end and don't appreciate the process or the journey people go on to get there" (S3). Selector 2 reflected that senior coaches "didn't react positively to somebody who doesn't fit what they need them to be at a moment in time". This acted to make future selection decisions overly cautious, to prevent further conflict or reputational consequence.

Elite sport is a high-pressure, result-driven business and in many situations the *job security* of senior staff in an organisation (cf. Taylor et al., 2022) was cited as influencing talent selection decision making:

> They're getting judged over the next three games, if you lose those games you're out of a job. So anything longer than that often, not always, they're not so interested in supporting your recruitment decisions on players. (S5)

Talent identification and selection are inherently uncertain and unpredictable (Røsten et al., 2023). Participants reflected on the challenges associated with operating in unpredictable conditions, about to "work with his fourth director of [club name] in ten years" (S9). Some participants aimed to mitigate these stressors by generating "a player identification and development model that stays in and not changed every couple of years based on a new direction from a new performance director" (S10). In summary, participants reflected that in

such a volatile, dynamic environment, pressures within the organisation and a lack of alignment often made it "difficult to adopt a consistent long-term perspective to talent identification and development" (S11).

3.4 General Discussion

This study aimed to explore how team-sport selection decision making occurred and examined the contextual factors that influenced the process. Micro (individual), meso (organisational) and macro (system) lenses were used to capture the range of factors that impact talent selection across an entire talent system. The research also sought to contribute to an underexplored area of study within talent selection by exploring the sources of information that talent selectors use when shaping and updating beliefs about an athlete's potential, how they utilise that information to form judgements, and provide insight into the process of decision making for talent selection rather than the outcome itself.

Till and Baker (2020) describe talent selection as an ongoing process of identifying individuals at various stages of development that demonstrate prerequisite levels of performance. This description acknowledges the complexity of talent selection highlighting that there are multiple decision types, at various stages and time points across a talent system, and it was found that initial selection is often the responsibility of staff with limited understanding and experience related to the nuances of talent identification. Also, despite participants stressing its importance, there seemed to often be a lack of a shared understanding within participants' organisations to guide complex talent selection decisions. Internal turnover of staff and frequent changes at the top level of an organisation, features associated with elite-level sport, challenge the integration and consistency of talent selection philosophies and practices. Short-term pressure to win at senior level has the potential to influence selection decisions and compromise an athlete's long-term development plan by

prematurely promoting an athlete or in some cases limiting opportunities for an athlete to progress to senior level.

Recognising that talent selection is an ongoing process supports the view that talent emerges and is dynamic and multidimensional (Baker et al., 2019). Practically, this favours a hedge-trimming approach, with the continual updating of judgement and beliefs through repeated observation and interaction with athletes. (see Chapter 7, Section 3.1, for a discussion on the implementation of this approach in Munster Rugby). Both in practice and research, this should be contrasted with a tree-felling approach with static selection time points where an athlete is simply in or out. It is in this manner that both practice and research should consider the significant differences between types of decision making. Hedge-trimming acknowledges the limits of long term prediction and supports the ideal of "as many as possible, for as long as possible" (Erikstad et al., 2021), to provide athletes with the opportunity to develop over an extended period of time (Till & Baker, 2020). Bjørndal and Ronglan (2021) propose a similar strategy based on incremental analysis and decision making as preferable when faced with complex problems. There is also a need to recognise that in many cases, regulatory mechanisms and practical considerations mean that 'tree-felling' will be prominent across contexts. It is the 'tree-felling' sense that type II errors should be of concern, where athletes are deselected prematurely, but with no opportunity for return (Baker et al., 2018).

There are numerous challenges, including limited resources and suitable expertise associated with compiling, analysing and interpreting data to support talent selection. Interestingly, participants in the current study perceived subjective data as more valid than objective data, considering psychosocial data in particular, critical to inform selection decisions. This became increasingly important the closer athletes were to transitioning into senior squads. Bar-Eli et al. (2023) also argue that a big data approach could be applied to

strengthen the link between subjective and objective approaches. Once again, this raises the question of resources that would be required to invest in the education of key stakeholders to interpret and utilise the data. Güllich and Barth (2023) suggest that regardless of data or information available to selectors, junior performance has limited predictive value for senior performance, questioning the relevance of deploying limited resources to collection and analysis of data that may not be helpful in making selection decisions in the talent system. Finally, specifically considering the context, talent selection decision making in elite sport lacks continuous feedback (often a delay of years) to update information and enhance the ability to forecast or make predictions based on an athlete's future success (Johnston & Baker, 2020). In this respect, it is important to note that there is a dearth of existing longitudinal data that could be utilised to understand and support decision making.

The findings of this chapter have the potential to influence how talent systems are structured to support decision making at every level. Whilst acknowledging the practical necessity of the use of 'tree-felling', systems should be structured in a manner that allows for 'hedge-trimming' as far as possible to expand opportunities for players to emerge as talented athletes (Røsten et al., 2023). However, there are practical challenges associated with implementing this approach, including the level of resources required to optimally support a higher number of athletes (Shelley et al., 2025). Selection decisions should be relatively low risk for athlete re-entry and allowing for the non-linearity of progression so often a feature of the literature (e.g., Güllich, 2014). Within organisations, the need for recognition of the type of decision that is being taken is required. For 'tree-felling' decisions that utilises less longitudinal information, the recommendations of Klein (2022) suggest the need for more classical decision making approaches that are prominent in the talent literature (e.g., Bar-Eli et al., 2023; Kahneman et al., 2021). Regardless, despite views that developing SMMs can enforce conformity and groupthink, if content is appropriate they offer the potential for

greater collective understanding and coherence of approach to selection. These findings, when considered alongside literature pointing to the complex interactions between an athlete's environment, tasks and experiences, suggest that retrospectively considering the validity of selection decisions is, at best, unproductive. Instead, focusing on the decision making process rather than the outcome of the decision itself is likely to be a more productive use of limited resources, time and energy. Further research into applied talent selection practices will impact our ability to make effective decisions related to how, where and when we allocate and deploy limited resources at various points on the pathway, to optimise the selection and development process in the future.

Chapter 4: Stand up and Fight: A Case Study of a Professional Rugby Club Negotiating a Covid-19 Crisis, a Talent Development Perspective.

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4.1 Introduction

The overarching aim of the thesis is: "to examine a multi-stakeholder perspective of coherence, alignment and integrated practice at various stages of an elite rugby pathway." Chapter 4 directly aligns with this aim by providing a real-world, naturally occurring stress test of the Munster talent system to examine the readiness or effectiveness of a talent system from a system and player development perspective. The Covid -19 crisis created an atypical, high-stakes situation that revealed: the degree of alignment across the pathway, the level of coherence in players' experiences, and how well integrated practice between academy and senior environments was functioning. These constructs are identified in Chapter 1 and Chapter 2 as essential features of effective talent systems (e.g., Henriksen et al., 2010; Taylor & Collins, 2021) and form the central conceptual spine of the thesis.
Thus, Chapter 4 operationalises and examines these core concepts under real pressure, providing direct evidence toward the thesis aim. The research involves a case-study of a professional rugby team, investigating the outcomes of practice as evidenced by a once-off opportunity, presented by a highly irregular event.

In December 2021, during the worldwide Covid-19 pandemic, Munster Rugby travelled to South Africa on a two-game tour as part of the United Rugby Championship (URC). Immediately on their return, they were scheduled to play Wasps in the first round of the Heineken Champions Cup. Following Covid testing, fourteen players and staff remained

in quarantine in South Africa, while a further 34 isolated in Ireland for ten days upon their return. This resulted in all members of the squad that travelled to South Africa, both players and staff, being unavailable for preparation (and selection) for the game against Wasps. A small number of senior contracted players (n = 10) had not travelled with the squad to South Africa (seven staying due to participation in an Irish Rugby series of matches, while three were returning from injury). To fulfil the Wasps fixture, Munster were forced to select a squad comprising of those 10 senior players, along with young academy and NTS players chosen from the Munster pathway. Fourteen players were selected to make their European debut in this game; twelve of those represented Munster at senior level for the first time. In addition, the senior coaching staff were unavailable due to covid protocols meaning that the Academy staff led preparations for the game, and coached and managed the team on game day itself.

I had been appointed Munster Academy Manager in July 2021, six months prior to the game in question, after returning from coaching professionally in the UK for five seasons. I had previously held positions in Munster Rugby as a senior team assistant coach from 2010-2016 and as academy coach from 2008-2010. With all Munster senior coaches forced to isolate as described above, I became the de facto head coach for the Wasps game on 13th December 2021. Coincidentally, my last three years coaching in the UK, immediately prior to my return to Munster, were spent working as an Assistant coach with Wasps Rugby, during which time I enrolled on a Professional Doctorate exploring TD systems.

Reflecting the need for coherence, alignment, and integrated practice as key requirements of player development (Webb et al., 2016), there is increasing consideration of how best to design and operationalise the TD system. Defined in Section 2.2.2, coherence refers to different elements of a players experience holding logical connection and being mutually reinforcing; integration refers to the extent to which inputs are systematically

combined (Taylor et al., 2022). In professional sports such as rugby, the talent system often includes an academy and sub-academy, with the academy linked both structurally and systematically with the senior team in a club. The objective of an academy in these settings is primarily the development and nurturing of high potential players to facilitate their progression to first-team performance status (Till & Baker, 2020). To meet this outcome, it is important that there is alignment and integration between principles and practices at different stages of the TD pathway (Taylor & Collins, 2021), along with a shared understanding of processes and behaviours at different phases to facilitate this movement. These factors became significant, contributing to an insightful case study, exploring a scenario where a number of development players were effectively fast-tracked into the senior squad, to compete at an elevated performance level.

A strategic strength of an effective talent system is alignment between stakeholders operating both horizontally (within a stage) and vertically (between stages), where shared values, expectations, and behaviours support the development of high potential players (Taylor et al., 2022). In reality, however, there are often a diverse range of philosophies, beliefs, and methodologies being applied to many aspects of TD, with what is best described as a lack of joined up thinking (Hauser et al., 2024). A lack of horizontal and vertical coherence, along with a lack of SMMs (Price & Collins, 2023), has been identified as a barrier to optimising the TD experience (Taylor & Collins, 2021), especially where relationships are suboptimal between stakeholders. In this study, I wanted to qualitatively explore the perspectives of multiple stakeholders to determine the readiness of both the players and the talent system at Munster rugby to navigate the challenge.

The effectiveness of a talent system is especially tested when young players encounter non-normative transitions that stretch their skills and capabilities. This study takes advantage of a naturally occurring, but highly atypical developmental challenge to examine factors

influencing the efficacy and effectiveness of Munster's talent system. The role of challenge in TD has drawn considerable attention (and challenge!) since seminal work in 2012 which identified that 'talent needs trauma' (Collins & MacNamara, 2012). A wealth of literature examines the role of challenge from an individual psychological perspective (Stambulova et al., 2009). However, the extent to which a talent system can proactively support its players to successfully meet the demands of top level professional sport is less prevalent in the research. This is an important consideration given that, from a systems perspective some transitions are well flagged and prepared for (e.g., a JST, discussed in Section 2.3.1) (Wylleman & Lavallee, 2004), but high potential young players often encounter a range of non-normative and unexpected transitions as part of their development journey.

A player's ability to navigate challenge depends on a well-developed skillset (physical, technical, tactical, and psycho-behavioural) and support system (Stambulova et al., 2021). In this respect, the importance of psycho-behavioural skills as the mechanism that supports the navigation of the challenge, and as the foundation for further learning and development as a result of the challenge, has been well explored (Taylor et al., 2022; Sweeney et al., 2025). Critically, the importance of identifying developmental challenges that can be optimally deployed to develop this skillset and maximise growth is recognised (Taylor & Collins, 2021). Although some attention has focused on the purposeful operationalisation of artificial 'speed bumps' on the pathway (Collins & MacNamara, 2012) as a means of ensuring the skills are tested, taught, practiced, and embedded, it is also apparent that high-potential young players will encounter a range of naturally occurring challenges as part of their trajectory. Players' and coaches' experiences of navigating and learning from such naturally occurring challenges represents a naturalistic lab to test the efficacy of the talent system, and the ability of young players to navigate and grow from challenge.

This chapter provides an in-depth and rich understanding of key stakeholders' experiences of navigating this non-normative challenge on the TD pathway.

4.2 Materials and Methods

This chapter presents a case study of Munster's TD system, with a particular focus on how one challenge (outlined in Section 4.1) was navigated. The case study approach allowed an exploration of this phenomenon in context, using a variety of data sources (Hafiz et al., 2008). An ethnographic approach enabled capture of the phenomenon from the viewpoints of the coaches and players involved in the match by using fieldwork, observation and informal interviews to gain a rich understanding of the experiences within Munster Rugby, and examine the complexities of the interactions and experiences in the group. As the academy manager in the club throughout this period, I was ideally placed for prolonged and in-depth engagement required for an ethnographic approach.

4.2.1 Data Sources

Date were collected using a combination of field notes, and informal interviews.
Ethical approval for the study was granted by the institutional Research Ethics Committee (DCUREC/2022/015).

4.2.1.1 Field Notes. As part of my normative practice, I recorded daily observations and reflections of coaching and strategic decisions within this environment from July 2021 to February 2022. Records comprised oral and written notes of incidents, events, documents, unusual occurrences, meetings, decisions, and observations. Reflecting the importance of prolonged engagement in ethnographic research, this study was completed over thirty-two weeks of daily contact. These data took both oral and written form and captured a wide range

of data, including incidents, routine and unusual events, internal and external communications, official and informal documents, as well as meetings, decision-making processes, and spontaneous observations.

I engaged in this process of maintaining field notes not only as a mechanism for documenting events that occurred during this period but also as a means of reflexive engagement with these events, allowing me to interrogate my own positionality and evolving interpretations of the field. This allowed me to attend to both the mundane, day to day events and the exceptional events and episodes surrounding the timeline; these notes allowed me consider practice, shifting priorities of the organisation and how this played out over time. Reflecting the importance of prolonged engagement in ethnographic research, the study was conducted over a sustained period of thirty-two weeks, with daily contact enabling a deep familiarity with the setting and its actors. Such immersion afforded me the opportunity to move beyond surface-level description to capture the meanings that shaped the lived reality of these events. The field notes therefore served as a critical foundation for the analysis presented in subsequent sections, offering a detailed and contextually rich account of the environment under study.

4.2.1.2 Interviews. I carried out a series of internal group and individual interviews with players (n = 11) and coaching staff (n = 4) involved in the Wasps-Munster match preparation and game day. These interviews were conducted informally at the Munster Rugby training base at times that were convenient for the participants. All participants were involved in the preparation for the Wasps-Munster match either as NTS players, academy players, first team players or coaching staff. The interviews were scheduled after a brief cooling-off period rather than immediately post-event to reduce affect-driven recall bias and participant burden (Forgas, 2017), and were carried out over a four week period. The

interviews lasted between forty-five and sixty minutes, and included following up with individuals post hoc for clarifications and further probing as part of a member reflection process (Smith & McGannon, 2018). During interviews, participants were asked questions about the preparation for the game, the environment during the two weeks preparation, their experience of the game, how groundwork in the previous six months supported them during the event, and if they had experienced any post event impact.

4.2.2 Data Analysis

Data analysis in ethnographic research is inherently complex, and therefore no single method is universally accepted as a strategy for data analysis (Green et al., 2007). This complexity arises from the interpretive nature of ethnography, the breadth and richness of qualitative data as detailed above, and the central role of the researcher in shaping meaning. An iterative, flexible process of theme building allowed patterns to emerge inductively from the data rather than being imposed a priori. As such, an iterative process of theme building was undertaken (Fetterman, 2010) using the dataset as a whole. As a first step, text from field notes, observations and interview transcripts were labelled and then categorised and sorted according to a theme using a constant comparative method of analysing the data (Lincoln & Guba, 1985). This step involved multiple reviews of the data and then coding for similarities, differences, groupings, patterns, and items of particular significance (Green et al., 2007). At this stage, attention was given to identifying both recurring regularities and outliers within the data, ensuring that thematic development was grounded in empirical evidence rather than my assumptions as a researcher and staff member of Munster Rugby.

I was very conscious that this process was not linear but cyclical. I undertook multiple rounds of review, where earlier codes were revisited, refined, or collapsed into broader categories. At other times, codes were split into more specific sub-categories when new

layers of meaning became apparent. In doing so, the analysis moved progressively from surface-level description to more interpretive abstraction. Particular emphasis was placed on recognising similarities and differences, mapping groupings and relationships, and tracing patterns that revealed underlying cultural or organisational logics (Green et al., 2007). Items of particular significance, were carefully noted, as these often carried disproportionate analytical weight and provided entry points into deeper interpretive understanding.

4.2.3 Trustworthiness and Integrity

This study was underpinned by a pragmatic approach to research and therefore decisions about methodology and data analysis were chosen with these philosophical underpinnings in mind. Of course, given the nature of this study, it was important to consider and implement steps to ensure the trustworthiness and integrity of the data collection and data analysis. Reflecting Bradshaw et al's (2017) suggestion, a number of quality markers were implemented:

i. Firstly, reflecting the importance of in-depth and prolonged engagement, and to ensure the credibility of the findings, data were collected over thirty-two weeks. This data collection was supported by my thorough and rich understanding of the context and reflected a process of collection, reflection and analysis. This process was further supported by my positionality and my thorough and contextually rich understanding of the setting. This familiarity enabled the collection of subtle and meaningful insights while also allowing space for continuous reflection and iterative analysis throughout the research process.
ii. Triangulation of data was employed using a range of data sources, including observations, interviews, focus groups, and reflections in order to increase the rigour of the data. This methodological strategy not only reduced the risk of bias or over-

reliance on a single data type but also facilitated a more comprehensive and multi-dimensional understanding of the phenomena.

iii. Throughout the study, from conception through to write-up, critical friends were employed to address the trustworthiness and credibility of the findings. My supervision team provided constructive challenge, questioning my assumptions, and encouraging my reflexivity at key junctures during the data analysis phase. This contributed to the overall trustworthiness of the findings by helping to ensure that interpretations remained transparent, balanced, and justifiable. These critical friends also served as an important check against the potential influence of researcher bias, strengthening the credibility of the analysis.

iv. Rich and in-depth accounts of each theme are offered using contextualised data to offer the reader an opportunity to consider the transferability of the findings to other contexts. This allowed thick description and interpretations of the data whilst also providing sufficient detail to allow informed judgments about the transferability of the findings to other settings. In this way, the study does not claim generalisability but instead offers meaningful insights that may resonate with and inform practice in comparable contexts.

As described earlier, I was appointed academy manager at the start of the data collection process, thus bringing an insider perspective, deeper knowledge and interactions to the research (Green et al., 2007). Of course, this also presented some potential challenges to the rigour of the research and it was important to recognise that I was not a neutral instrument but an active participant in the data analysis. To counter this, reflexivity was employed to enhance rigour (Berger, 2015), and I kept a reflective diary to record my thoughts, behaviours, and actions during the data collection. This process supported the development of

self-awareness, criticality, and flexible thinking during the data collection, and data analysis phases of the research. This approach also fostered criticality by encouraging me to continually question my decisions, interpretations, and the potential impact of my subjectivities on the research process. Reflexivity further facilitated flexible thinking, as returning to the diary entries allowed me to reconsider earlier assumptions, identify blind spots, and consider the analysis. This process extended into the analysis and interpretation phases. By revisiting the reflective diary alongside the empirical material, I was able to contextualise themes, trace the evolution of my thinking and ensure that findings were grounded in the data. In this way, reflexivity acted as a continuous thread throughout the study, contributing to the overall credibility, coherence, and methodological robustness of the study.

4.3 Results and Discussion

The results derived from the multiple sources in this ethnographic study provide a rich, in-depth understanding of key stakeholders' experiences of navigating a naturally occurring challenge on the TD pathway at Munster rugby. The three key themes as highlighted in Table 4.1 were:

- Groundwork to establish alignment and coherence on the pathway
- Preparation for the Munster-Wasps Game
- Impact post-challenge

Each theme is supported by the use of vignettes to capture the participants' voices in portraying events.

4.3.1 Groundwork to Establish Alignment and Coherence on the Pathway

As outlined previously, prior to the Munster-Wasps game a number of key principles were prioritised, many of which centred on establishing alignment and coherence on the pathway. The groundwork undertaken in the six months prior to the Munster-Wasps games certainly appears to have been an influential factor in how players and coaches successfully navigated the challenge. There was a significant degree of integration and alignment between the senior and academy training programme resulting in academy players training regularly with the senior team, and in addition the academy coaches had regular access to all senior meetings and sessions. An academy player who played in the match talked about how seamless the transition was as a result;

> *'We train the exact same as the seniors. If we hadn't been training week in week out with the seniors we wouldn't have been aligned, we wouldn't have known all the roles and every single call, all as one group the whole time, it was seamless really'*

This vertical alignment within the club (Webb et al., 2016) enabled the academy players and coaches to get on the same page quickly when preparing for the game. The groundwork that had been carried out in relation to establishing SMMs (Taylor & Collins 2021; e.g., game plan, playing detail, coaching practices) proved to be invaluable when presented with so many potential challenges during the build-up to the game.

Recent improvements to connections and communications that had been made between senior and academy coaches was considered a positive factor in alignment between groups (Mills et al., 2014), and proved important when it came to making informed selection decisions in assembling a squad that included so many players outside the traditional senior squad. An academy coach highlighted the following;

"We started the practice of having regular pathway meetings with the senior coaches (every 6 weeks) so that they were familiar with the players coming through but also so we have a shared understanding of what we were looking for in players"

Another academy player referenced the fact that, unlike in the past, academy players were now included in senior social functions, which *"really helped us all to work together*" in challenging circumstances during the build-up to the game when a group of players who had never played together needed to come together as a team, connect and build relationships quickly.

Connecting the pathway was a critical part of the groundwork in establishing vertical alignment and coherence (Mills et al., 2012). The academy coaches consistently work at all stages up and down the pathway, and had spent eight weeks the previous summer coaching the NTS players. This particular group of players were pivotal during the two-week preparation leading into the game, and in fact, two NTS players (sub-academy) were named in the match day squad. This regular contact between academy coaches and pathway players enabled coaches to develop strong relationships with these players, and exposed these pathway players to the training methods and practices employed at academy and senior level. An academy coach talked about the value of this;

"The sessions we did in the summer (with the NTS players) were very similar to what they experienced during the two weeks. They had trained that type of format and they were familiar with the academy coaching staff. Coaching up and down the pathway stood to us in the preparation."

The deliberate practice of academy coaches and pathway coaches regularly working together meant that in relation to both coaching philosophies and coaching practices, there was a SMM and a common coaching framework (Williams & MacNamara, 2020). An academy coach reflected that this which allowed everyone to get on the same page quickly;

"Academy coaches and the NTS and Talent coaches worked closely together for the 6 months leading into game, so when all the players and staff came together to prepare for the Wasps game we were on the same page."

Striving to create a high performing environment in the academy, based on high challenge and support, was recognised as an important piece of the groundwork undertaken in the previous six months, that enabled the coaches to operate effectively and cohesively under unusually demanding circumstances in the build-up to the Wasps game (Lara-Bercial & Mallett, 2016);

"Our coaching environment (academy) is very open and honest and based on challenge and support, we have each other's backs but we challenge each other to be operating at the highest standards."

A process facilitated by the academy's performance psychologist, began six months prior, to establish a clear purpose for the Academy with an agreed set of values to guide behaviours. At the core of the purpose was a focus on raising standards across the pathway, and a commitment to long-term development versus a short-term performance focus, as highlighted by an academy coach;

"As a newly formed academy team (Multidisciplinary Team, MDT) we had a focus on raising the standards right across the board in the whole Pathway. This began with establishing a clear purpose and an agreed set of values and this was brought to life through our behaviours. We aligned to a key message of the whole Munster organisation 'we rise by lifting each other'."

Munster is a complex landscape, and the local schools and All-Ireland League (AIL) clubs are key stakeholders in the TDE. Horizontal alignment between Munster and these important stakeholders was a specific focus coming into the Academy Manager role six months earlier, with the aim of establishing strong relationships and building on them

throughout the season (Hall et al., 2020). The majority of players that are in the senior squad have come through the Academy and from local clubs and schools. Most Academy players will play their rugby each week in the AIL and the importance of aligning that experience to the Academy was stressed by one of the coaches;

> "*We communicated with each AIL head coach twice per week regarding Academy players and we offered the coaching support to all the clubs. This was vital when we needed club players to prepare for the Wasps game, we had incredible support with releasing players to train etc*."

One academy coach spoke about the process of mapping out more regular visits to AIL matches to scout academy and pathway players and to build up relationships with club coaches; *"Each month we mapped out a schedule so that coaches rotated regularly to watch different club games"*. This process proved invaluable when it came to making informed selections for the game and also getting co-operation from club coaches to release their players to train for the game, with another academy coach noting "*Increased visibility of all the academy coaches at club games helped to get to know coaches and players which helped with selection for Wasps*".

4.3.2 Preparation for the Wasps v Munster game

As the Covid-19 situation unfolded and it became apparent that forty-five senior players and staff would be unavailable for the Munster-Wasps game, a number of alignment meetings with coaching staff and players were organised to navigate the unique challenges that were presented. The coaching staff made a number of decisions to employ specific strategies based on bringing an unfamiliar squad together, building connections and integrating the group to get them on the same page as quickly as possible, to optimise the two-week preparation for and performance in the Wasps game.

One of the first decisions made by coaching staff was to organise a meeting with the senior players that had not travelled to South Africa, with a purpose of outlining a 'dual-management' model (shared ownership) between the coaches and senior players, across all aspects of preparation (Hodge et al., 2014). This involved empowering senior players, and giving them the responsibility to lead the group and provide input across both on-pitch and off-pitch components of preparation. An academy coach recalled that *"Senior players had input into game plan design and session content and they presented throughout the two weeks in training reviews and opposition previews".* The senior players bought in to this approach and invested heavily in preparing the squad for the game. An academy player observed the impact this had on the wider group;

> *"The coaches gave the senior players a licence to help take the sessions as well, there was an emphasis that they would lead from the front. It gave us confidence that they trusted us and the coaches trusted us. There was real sense of trust around and that brought a closeness".*

This approach aligns with practices employed by the All Blacks (New Zealand rugby team) as documented by Hodge et al. (2014) and is consistent with the coaching philosophy of the academy coaches at Munster. Many of the principles associated with dual-management are consistent with autonomy supportive coaching (Lyons et al., 2012), and emotional leadership coaching (Chan & Mallett, 2011). One of the senior players who was part of this leadership group captured the impact that it made during the preparation;

"If you empower players it creates a different type of trust and bond in the group, coaching each other, not you (coaches) deciding what we are doing but coming up with it together".

Following on from the theme of player empowerment, the participants noted the impact of a buddy system (Bushmaker et al., 2019), between each senior player and a younger player, that was implemented during the preparation phase. This provided a

mechanism for connecting players that were either new to the group, or had never played at European cup level before, with established senior players. An academy coach noted that;

> *"Every senior player was partnered with a young player, took him under their wing and supported him throughout the two weeks right up to presenting the jersey to their 'mentee' the night before the game".*

The influence of role models is well documented (Henriksen et al., 2010a) with proximity and access to role models documented as one of the key ESFs in TDEs.

The buddy system concept was deployed to optimise the resources available to help all the new players get up to speed with Munster game principles and specific detail in the game plan. This was particularly important as key coaching staff were also absent from the preparation phase. This dual management approach complemented the role of the senior players by giving them more responsibility in preparation for the game while also serving to build connections between players that had never played together. In addition to the technical and tactical benefits in relation to match preparation, an academy player talked about how he was inspired by working so closely with his role models;

> *"It was kind of inspiring as well because you're having intimate conversations about your game with players who you grew up watching that you really respect and admire".*

It is worth noting that in addition to the short-term benefits observed from establishing these connections, the relationships forged between the players remained long after the Wasps game, presented below as part of the third higher order theme.

There was a general acceptance from all participants from the outset that there were going to be aspects of preparation that would be far from perfect (in fact it became a bit of an inside joke). To this end, both players and coaches accepted that they were in a highly untypical situation and, as described by one coach, embraced a theme of *'improvise, adapt,*

overcome' for the two weeks prior to and during the match. For example, the coaches observed the influence of the senior players played in relation to creating an environment that accepted that mistakes would be made in these circumstances; *"the senior lads were great at helping the younger players move past mistakes, it happens, learn, move on"*. This approach to the game appeared to be supported by the steps taken to integrate the squad and build trust and connections as quickly as possible, which was a primary focus of initial preparation. An academy coach pointed out the importance of this; *"Every meeting and session always included an element of connecting players, building relationships, we had to bring the squad together, get on the same page quickly".* The team psychologist played a major role in connecting the squad early in the preparation phase. For both the inexperienced players and senior internationals alike, this match represented one of the biggest challenges of their rugby careers to date, but steps were taken to ensure it was presented as an opportunity to write their own history rather than as an insurmountable challenge. As one example, the team psychologist organised formal team meetings centred on developing team culture to augment the technical and tactical preparation. Developing this vision through formal meetings and facilitation by team staff was identified as a critical moment in the team's preparation as highlighted by a senior player; *"The psychologist's meeting had a big role to play in that, the connection and vulnerability piece settled everyone as a group. We left that meeting feeling like a real team."*

Central to preparation for the game was creating a positive, task focused environment (Jackson & Roberts, 1992). As stated above there was a genuine acceptance that preparation would be disrupted and that mistakes were to be expected. In what was potentially a high-pressured situation, there was a deliberate focus on creating a balance between working hard but also embracing and enjoying the novelty of the situation. A senior player remarked that

"*there was a good balance of work and enjoyment, the days just flowed better. It was enjoyable to work".*

As is well documented, team cohesion is a trait associated with successful teams in sport (Bruner et al., 2014). Lack of cohesion represented a significant challenge for this particular group of players, most of whom had never played together, and many who had never played a professional game of rugby. To mitigate a potential lack of cohesion, the coaches' and senior players' focus was on creating a task focused environment, by managing the information flow, and stripping back the level of detail in the game plan to give (especially the younger) players a freedom to play. One of the coaches talked about how the game plan was simplified: *"We gave the players a little bit less detail, were very concise, gave them freedom to play"*. As part of creating a positive, task focused environment the coaches intention was to manage the level of challenge and the pressure on the players which less experienced players in particular responded positively to;

> *"You had freedom to show what you could do, show your skills, what you had learned up until now, don't get bogged down on errors and go out and enjoy it. An example of that was a coach saying 'I just can't wait to see you play' gave me great confidence anyway".*

There was a tangible sense of playing for a cause and playing with a deep sense of purpose among the playing group and the staff. There are numerous examples of successful teams in many different sports that try to connect to a deep sense of purpose, or a cause that allows them elevate their performance by being part of something greater than themselves (Johnson et al., 2013). It was clear that these steps were built around the identity of Munster and the coaches deliberately tapped into this fact by positioning the game "*as a legacy, something special to be a part of, another special Munster moment".* A senior player who had been involved in many of what would be considered famous games from Munster's past,

felt that it was *"a sense of the old Munster when we were in a corner fighting our way out. It was another chance to add to the Munster history, which it has".*

As outlined earlier, throughout the entire preparation there were players and staff that had remained in South Africa, others in quarantine at home in Ireland, and the staff and players fortunate to be involved in preparing for the game, embraced the privilege and responsibility of representing the entire club and its proud history. An academy player captured the sense of responsibility saying that everyone was *"representing the players that weren't there, you were doing a job for them".*

4.3.3 Impact Post-Challenge

In the period following the Munster-Wasps game, it was clear that there were both positive and negative impacts. Following the match, there seemed to be an increased vertical alignment along the pathway, and reports of significantly enhanced interpersonal relationships since the game. Some players reported that they were inspired and highly motivated by playing in the game, with others sensing that they were within touching distance of playing in top level games. Some of the academy and pathway players described how their involvement in the match instilled a confidence and belief in their ability to play at senior level. Senior players reported more confidence in the young players coming through the pathway and their ability to make the step into a senior performance environment. Academy staff reported an enhanced level of trust from the senior players and staff, which all contributed to increased vertical alignment between both groups:

> *"Positive things that have come from the situation are that we [*academy staff*] are trusted a lot more now by senior staff and by players due to the feedback from the senior players that were here".*

Both players and staff reported improved interpersonal relationships in the High Performance Centre (HPC) creating a sense of being one big squad:

> *"The dynamic between the younger and senior players is different now, it's like they are one squad now. The senior players are far more inclusive and engaged with the academy players, any previous divisions are gone".*

Previous authors (Collins & MacNamara 2012; Taylor & Collins 2022), cited a lack of alignment on the TD pathway as a barrier to creating an effective environment. Enhanced trust and improved interpersonal relationships between the academy and senior squad at Munster potentially eliminates, or at least reduces that barrier, facilitating greater alignment and coherence on the club's pathway in the future if maintained.

For several Academy players the Munster-Wasps match acted as a catalyst for their development with many describing how their experience left them inspired, hungry for more and with a renewed confidence in their ability to progress. One academy player reflected that; *"It was my first taste, my first cap, it will probably be my motivation for quite a while".* While another academy player's account was that; *"It left you wanting more. It was so much more enjoyable to be centrally involved in the team. I wish it was the same every week".* An academy coach, in relation to the players that were involved in the game, felt that; *"Some of them definitely have grown a lot, the confidence that experience has given them, being able play at a level above what they thought they were capable".* For those players who helped the team prepare but didn't make the match day 23 there was also a benefit, with a realisation that they were within touching distance;

> *"Looking at player A, player B, and player C playing, who you train with all the time, you're thinking that if they are able to do that there's no reason why I can't do that as well, it gave you belief, that it's there for you".*

Again, these findings point to the importance of proximal role models on the talent pathway, along with the need to support players prior to and during challenge and transitions to optimise progression (Savage et al., 2017).

In contrast to the post-event *bounce* experienced by many players, a small number of players and staff experienced a post-event *slump,* or anti-climax, after the success of the Wasps game. This is not uncommon with sportspeople who have been involved in what they consider to be major sports events (Bradshaw et al., 2021). In the two weeks following the game, the majority of the regular squad members returned from quarantine and were selected in subsequent match days squads. Many of the young players that had experienced the high of a European cup game now found themselves with limited opportunities and a return to lower levels of competition; *"There was definitely an anti-climax, I feel like I'm at this level and you're not playing for the next few weeks, the disappointment because you have a taste of it".* This feeling wasn't reserved solely for the players however, as academy staff also reported the same sense of anti-climax after being centrally involved in preparation for such a big game; *"People were almost disappointed to go back into normal weeks, a come down, after an occasion as special as this. It was different energy".*

As mentioned earlier, the benefits of the mentoring system employed during the two week preparation were evident as the season continued, suggesting that there was longevity in the impact of the match, and the match preparations, on systems and behaviours. Many inter-player relationships that had been forged during the build-up to and during the game have continued to develop since then. One of the senior players talked about; *"texting player A & player B during the U20 Six nations, you wouldn't normally have a relationship with them but now I do and I've a genuine interest in how they are getting on".* Another senior player talked about academy players *"coming up to me looking for advice and if we didn't go through that experience together that wouldn't be happening"*. Providing developing players

with access to role models in their environment is a factor strongly associated with successful TD environments (Henriksen et al., 2010). The ongoing relationships between academy and senior players, arguably a spin off from the buddy system employed during the game preparation, is a very welcome and positive one.

Finally, senior players noted a renewed confidence in the quality of players that are coming through the Munster system. One senior player stated that we *"have a different calibre of player coming through now"* and a second senior player addressed that fact that he was previously concerned with the throughput of players from within our pathway, but after this experience he believes the future is bright; *"My biggest thing now is that I'm not worried what's coming through, I had a big worry but not anymore".* While the perceived 'security' of the club is without doubt of benefit, there are also unseen, and perhaps unexpected, additional advantages in this, in that senior players will be aware of very genuine competition for places on the starting team. Genuine competition for places within a squad is associated with enhanced team performance (Passos et al., 2016).

Table 4.1. *Higher-order themes, Lower-order Themes and Raw Data Themes Produced by the RTA*

Higher Order Themes	Lower Order Themes	Raw Data Themes
Groundwork to Establish Alignment and Coherence on the Pathway	Integration/Alignment of Academy and Senior Team (players and staff)	Training programme alignment
		Senior & academy coaches alignment
		Social Integration between academy & 1st team
		Connections and communications with senior coaches
	Connecting the Pathway	Coaching up and down the pathway
		Shared mental models/ common coaching framework
		Relationships between Academy coaches and pathway players
	Creating a High Performing Environment	High Challenge Support environment
		Clear purpose and vision guiding behaviours/practices
	Horizontal Alignment with Key Stakeholders in the TDE	Links to clubs and mutual support
		Practices to inform player selection
		Increased visibility of Munster coaches at club games
Preparation for the Munster-Wasps Game	Dual Management – Player Empowerment and Responsibility	Empowering senior players
		Building trust between coaches and players
		Shared ownership of game preparation
		Player led sessions and meetings
	Squad Integration, Building Trust and Connections	Getting on the same page quickly
		Connecting the squad
	Creating a Positive Task Focused Environment	Creating balance between work and enjoyment
		Managing information flow
		Managing pressure and challenge
		Excitement to embrace the challenge
	Role Models and Mentoring	Buddy system
		Inspired by role models
		Support from senior players
	Playing with a Cause & a Deep Sense of Purpose	Creating a legacy, a Munster moment

		Clear sense of identity and history
		Representing the whole club
Impact Post Challenge	Inspired and Highly Motivated Players	Motivation from first cap
		Inspired and hungry for more
	Increased Vertical Alignment and Interpersonal Relationships Between Staff & Players	Acceptance as a Munster senior player
		Established trust between Senior and Academy staff
		Increased engagement and inclusivity in the HPC
		Stronger relationships across the club
		Connection through shared experiences
	Newfound Confidence and Belief to Play at this Level	Confidence in own ability
		Belief that opportunity is within touching distance
	Post-event Anti-climax	Disappointment with limited playing opportunities post Wasps game
		Academy staff experienced an anti-climax slump
	Confidence that the Future is Bright	Confidence in players coming through pathway
		Belief in young player's ability

4.4 General Discussion

This study leveraged a naturally occurring, albeit highly atypical, challenge to pressure-test the readiness of both the players and the talent system. This scenario provided a real life case study from which to examine the groundwork, principles, and practices that underpinned the talent system, and how navigating a significant challenge provided opportunities for growth and development of both players and staff following the experience (Taylor & Collins, 2021). As highlighted in Chapter 3, selection decisions may be based on contextual demands and broader objectives beyond an athlete's perceived future potential (Johnston & Baker, 2022b). In this context, the opportunity for many young players to be selected for a senior European cup debut arose out of necessity.

The outcome of the match was not the focus of this study, but it is important to acknowledge that the fact that Munster won the game (35-14) might influence the findings. It is possible that the match result could reshape the participants' accounts of the event (Prosoli et al., 2023), and influence the narrative after the event. This may have influenced the participants' perceptions of the impact post challenge (the third higher order theme), specifically related to the lower order themes; confidence that the future is bright, inspired and highly motivated players, and the newfound confidence and belief to play at this level. However, the primary focus of the research was exploring the groundwork to establish alignment and coherence within the pathway, connecting the pathway, integrating the academy and senior team, and the processes and principles that underpinned the 'readiness' of the players and the talent system to navigate the challenge.

Findings of this study demonstrate the importance of an effective talent system in supporting performance objectives at senior level (Webb et al., 2016), and the need for coherent and aligned systems that support young players to be ready to progress. Arguably, this may be even more important in relatively under-resourced sports such as rugby union, where squad size and depth is constrained by budget limitations (Till & Baker, 2020). At a system's level, the results point to the importance of vertical and horizontal alignment and integration, with development and performance clearly overlapping on the talent pathway (Taylor & Collins 2021). In these particular circumstances, the academy (development) players performed and the senior (performance) players developed. As discussed in Section 2.3.2, this raises an interesting question in terms of 'Where does performance begin and development end?'. Given the dynamic environment of elite sport, and the need for high potential young players to optimise development opportunities when they arise (however they arise), it would seem that the performance–development dichotomy is more an academic delineation rather than an applied reality (Barry et al., 2025). Considering the performance

pressures and competitive characteristics that are inevitable features of HP (Lyle & Cushion, 2016), the need for a TD system to be both efficient (getting players there as quickly as possible) and effective (getting players there as 'ready' as possible), points to the importance of a TD system having both short-term and long-term objectives (Martindale et al., 2007).

Preparing for and learning from challenge is central to the talent systems approach (Savage et al., 2017). The role of challenge as a development catalyst is well established (Taylor & Collins, 2019), provided the TD system supports its players to proactively prepare for challenge (Alfermann & Stambulova, 2007), and just as importantly, players are managed post challenge to ensure learning and growth are facilitated moving forward (Taylor et al., 2022). The findings of this study highlight the importance of both the *player* being prepared, and the TD *system* being prepared to proactively support its athletes. The findings support that the practical steps taken at Munster to connect the pathway by aligning the key stakeholders from top to bottom, and increasing coherence between different groups at various stages (Webb et al., 2016), were influential in navigating the significant challenges that were encountered. The importance of empowering players (Hodge et al., 2014); creating a high performing, positive, task focused environment (Lara-Bercial & Mallett, 2016), utilising role models (Henriksen et al., 2011), and establishing trust, connections and a deep purpose in a playing group, were all considered influential in achieving a successful outcome in navigating the considerable challenge.

Given the considerable discussion about the role of TD in sport, from a system perspective, examining the effectiveness and efficiency of the pathway holds both academic and applied interest moving forward. Effective TDEs are characterised as deploying long-term aims and methods and being structured against long-term agendas (Collins et al., 2019), but these research findings point to an obvious overlap on the pathway between development and performance phases. Highlighted in Section 2.3.2, this creates potential conflict between

a '*win later'* development approach and a *'win now'* performance philosophy, usually associated with a much shorter term agenda. There is a lack of research into the nuances of development coaching versus performance coaching (Williams & MacNamara, 2020), and often, development coaching is not clearly conceptualised. Building on the findings in this Chapter and the discussion in Chapter 2, Chapter 6 explores the impact of an intervention to integrate a development and performance environment with a particular focus on the implication for development coaching practices. More research is needed investigating the in-situ contextual practice of coaches working in successful TDEs. Such research would serve to inform and develop coaching practice *for* the coach, rather than *of* the coach, in the TD space. With increasing pressure in professional sport to get more players ready to perform at the top level, even earlier in their development, continuing to explore how we optimise the design and operation of an effective talent system is critical, along with further research investigating, informing, and developing practices of (development) coaches.

The study presented in this chapter provided a real-life opportunity to examine the groundwork, principles, and practices that underpinned the talent system, and how navigating a significant challenge provided opportunities for growth and development. Chapter 5 specifically explores the utilisation of process markers to determine the effectiveness of a talent system at various stages of development, before Chapter 6 examines the interface between the talent system and the HPSE, with a focus on how coaching practices in an integrated environment influenced player development.

Chapter 5: Explore the Utilisation of Process Markers at Various Development Stages to Determine the Effectiveness of a Rugby Talent System.

5.1 Introduction

Chapter 5 supports the aim of the thesis, which is to examine a multi-stakeholder perspective of coherence, alignment and integrated strategy at various stages of a rugby talent system, features associated with effective TDEs (Martindale et al., 2010; Henriksen et al., 2010). The study explores the utilisation of process markers at various development stages to investigate the effectiveness of the Munster talent system. Chapter 4 identified strengths and weaknesses in Munster's talent system, with a focus on the groundwork, principles, and practices to support alignment and integration. Where Chapter 4 provides qualitative evidence of coherence, alignment and integrated practices, Chapter 5 measure these areas quantifiably from the players perspective and provides data about these concepts. Together, these chapters provide a comprehensive insight into the effectiveness of the Munster talent system before Chapter 6 investigates the interface between the development and performance environment.

The overarching aim of a talent system is to identify, develop, and select athletes deemed to have the potential for progression to elite sport (Güllich & Barth, 2023; Zhao et al., 2024). TID and TD are considered dynamic, complex, and unpredictable processes (Till & Baker, 2020). Chapter 3 highlighted that talent selection decisions are highly nuanced, with multiple decision types, at various stages and time points across a talent system, all influenced by the conditions in which selection decisions occur and many broader contextual factors (as discussed in Chapter 3). The literature, as outlined in Section 2.4, consistently highlights the fallibility associated with early TID and selection (Bergkamp et al., 2022), and the challenge of making long term predictions based on current performance cited as a

primary limitation (Johnston et al., 2018). Whilst these selection decisions may prove to be 'efficient' by focusing resources on a small number of athletes, research suggests that it is not the most effective, or even ethical methodology (Abbott & Collins, 2002; Baker et al., 2019). In this sense, 'efficient' denotes early concentration of resources; 'effective' denotes maximising long-term conversion to senior performance. Despite limitations, early TID remains prevalent in many TDEs (Sweeney et al., 2021). For this reason, significant bodies of research have aimed to move the focus from the identification and subsequent resourcing of a small number of athletes to the development of greater numbers of individual athletes (e.g., Martindale & Mortimer, 2011; Hall et al., 2019) as it is considered the most manageable dimension (Gesbert et al., 2021). It could be argued that it would be more effective to prioritise TD, with a specific focus on the quality of the talent system and with the aim of optimising the selection and development processes within the overall talent system (Baker et al., 2017).

With that in mind, research has consistently validated elements of what constitutes an effective TDE and the development principles and practices associated with a quality environment (as discussed in Section 2.2.1). In many talent systems, including Munster Rugby's, the talent system comprises many TDEs that span across various stages and phases of an athlete's pathway. As discussed in Chapter 4, this emphasises the need for an integrated approach to promote both vertical and horizontal coherence for the athlete across the talent system. Considering the complexity of the talent system, it is essential that there is an understanding of the process markers that support effective TD (Collins et al., 2019), and a valid means of investigating environmental factors within individual TDEs (Curran et al., 2022b). Understanding of the key effective processes, in conjunction with how these processes can be evaluated will enable the broader and coherent application of evidence-

based practice (Martindale et al., 2010). This is particularly important considering the scale of the long-term nature of investment in athlete development (Till & Baker, 2020).

Tracking and measuring elements of performance is a well-established process in talent systems and research has highlighted that many methods are utilised across talent systems to benchmark an athlete's progress (Layton et al., 2023). However, many assessments to measure player progress appear to be outcome-focused and based on a single test snapshot (Reilly et al., 2000). As an example, Layton et al. (2023) examined the measurement and tracking practices in English football academies and suggested that there was a differential weighting of performance factors between academies with technical, tactical and psychological factors considered the most important. In contrast, Collins et al. (2019) proposed the POP model (Performance, Outcome, Process) to hold the potential to signal various markers of TD effectiveness (See Section 2.2.1). The POP principle proposes a practical means of outlining the performance goals within a talent system, the outcome variables to support achieving these goals, and the processes believed to be appropriate for effective development at a particular TD pathway stage. The authors suggest that utilising the POP framework to understand effectiveness can enhance strategic coherence and support decision making related to the strategic allocation of resources (Collins et al., 2019).

Chapter 5 conveys and interrogates process markers which are indicators that represent features of effective TDE's, discussed in Section 2.2. Unlike outcome markers, that focus on the *what* of development, process markers emphasise the *how* and *why* underpinning development processes. The TDEQ, as outlined in Section 2.2.1, is a tool that is used to indicate the process markers, that has been utilised and validated across multiple sports and international contexts (Gesbert et al., 2021; Gledhill & Harwood, 2019; Mills et al., 2014). Quantitative work has investigated the relationship between the quality of the environment

and important development outcomes (Martindale et al., 2010). As outlined in Section 2.2, there are multiple TDEs situated within the Munster talent system, including NTS players who are playing in a school environment, NTS players who are playing in a club environment, and academy players who train full time with the senior team.

Based on the desire to understand effective practice, the aim of this chapter was to explore the utilisation of process markers at each of the three development stages to determine the effectiveness of the Munster talent system. The ultimate intention being to inform intervention strategies. (Hill et al., 2019; Curran et al., 2021).

5.1.1 Munster Talent System

Outlined in Chapter 1, the Munster talent system includes players across various TDEs and development stages. The scope of the current research involves an examination of three distinct TDEs within the talent system; Academy (age range, 19-22), NTS 1 (age range, 18-19; post school), NTS 2/3 (age range, 16-18; in school). Academy players are contracted to the province and train full-time with the senior squad. The academy operates on a three-year cycle with a relatively even number of players distributed across each year group. NTS players are organisationally separate from the academy and senior team. All NTS players are non-contracted but are supported by Munster academy and pathway staff. They play representative rugby with Munster at their respective age-level, and also play with either a school or club depending on development stage.

5.2 Materials and Methods

5.2.1 Participants

Forty-four rugby pathway athletes were purposefully recruited from the Munster rugby talent system to participate in the study. The participants were selected from three development stages within the talent system (NTS 2 [N=14], NTS 1 [N=14] and Academy [N=16). All participants selected were over 18 years old. NTS 2 players attending school, under the age of 18 (N=6), were excluded from the study due to school commitments and limited access to the Munster academy training programme.

5.2.2 Instrumentation

The 25 item, 5-factor TDEQ-5 was used in this study (Li et al., 2015). Using a 6-point Likert scale, ranging from 1 (strong disagreement) to 6 (strong agreement), the TDEQ-5 measures the following five factors: long-term development (5 items); holistic quality preparation (7 items); support network (4 items); communication (4 items); and alignment of expectations (5 items). The internal consistency of the questionnaire shows adequate to good internal reliability (α = .79–.86) (Li et al., 2015) and, as such, the TDEQ-5 is considered a tool that can be used with confidence in TDE research across multiple countries and sporting environments (Brazo-Sayavera et al., 2017; Li et al., 2018; Siekańska & Wojtowicz, 2017; Thomas et al., 2020).

5.2.3 Procedure

Ethical approval was obtained from university's ethical review board (DCU REC 2024/029). Informed consent was obtained from each participant, all over 18 years of age. The questionnaire took approximately 15 minutes to complete. Participants were asked for

demographic information and informed that there were no right or wrong answers, given assurance about the confidentiality of their responses, and encouraged to be honest and to ask questions if necessary.

5.2.4 Data Analysis

The TDEQ-5 responses were coded on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Scores from negatively worded items were reversed before data analysis so that higher scores reflected perceptions of a higher-quality experience. As recommended by Martindale et al. (2010), mean scores were analysed and reported for each factor. This allowed evaluation and comparison of the players' perceptions of their TDE between stages.

Differences in the TDEQ-5 subscales between the three stages of development [i.e., NTS 1, NTS 2 and academy] across contexts were assessed using a one-way ANOVA, with Bonferroni correction used to protect against Type I error. All items were subsequently ranked by quartile by proportion of agreement to determine the key strengths and areas for improvement as perceived by players. Items ranked more often by players in each group in the top quartile (i.e., top 25th percentile) were classified as strengths of the TDE. Conversely, items ranked more often by players in each group in the bottom quartile (i.e., bottom 25th percentile), were therefore classified as areas for improvement within the TDE.

5.3 Results

5.3.1 Subscale and Item-Level Analysis

The TDEQ-5 results are presented as the mean subscale scores of the main variables (Table 5.1) to show how the perceived quality of the TDE across the various stages of the talent

system (Academy, NTS 1, NTS 2/3). Each variable is presented in more detail to understand the trends at an item level (Table 5.2). At an item level, the key strengths (light grey) and primary areas of improvement (dark grey) across the groups are highlighted (top and bottom 25th percentile).

Results between development stages and across contexts differed for each subscale, and are presented below along with the item level analysis to provide further insights into the TDE for each subscale score. In line with previous research, Long-Term Development (LTD) was the highest rated sub scale overall ranked first for both NTS groups and second highest for the academy group. Items from LTD were the most positively perceived across all groups (NTS 2/3, N=3; NTS 1, N = 3; Academy, N=2). This finding was consistent with research across multiple contexts Irish hockey (Curran et al., 2021), English football (Mills et al., 2014), Caribbean Athletics (Thomas et al., 2020), and rugby league (Cupples et al., 2021). Aligned with the findings of Gangsø et al. (2021) in a Norwegian football academy context, but contrasting with the research cited above, academy players ranked Support Network as the highest subscale (4.92). Findings showed that the Holistic Quality Preparation (HQP) subscale was the lowest ranked for all three groups, (3.29-3.71). Items from HQP were the least positively perceived (NTS 2/3, N=5; NTS 1, N-4; Academy, N=4).

5.3.2 Long-Term Development (LTD)

LTD focus related to the degree to which development opportunities afforded to athletes were specifically designed to facilitate long term success (Martindale et al., 2013). The one-way ANOVA results showed significant differences across development stages on perceptions of LTD ($F(2, 45) = 6.38$, $p = .004$). Post-hoc tests showed that academy players scored significantly lower than both NTS1 ($p = .005$) and NTS 2/3 ($P = .032$) suggesting that

academy players perceive less support for long-term development compared to NTS players. There was no difference between NTS 1 and NTS 2/3 (p =.80).

At an item level, participants across all three stages reported that item 1 - their coach emphasised the need for constant work on fundamental and basic skills was a strength (M±SD; NTS 2/3=5.78±0.43, NTS 1= 5.65±0.5, Academy=5.5±0.52). Similarly, item 4 was perceived as a strength – 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 (M±SD; NTS 2/3=5.36±0.5, NTS 1= 5.29±0.72, Academy=4.94±0.93). One item showed a marked difference between the three stages. Academy players perceived item 6 – I would be given good opportunities even if I experienced a dip in performance, as a primary area of improvement. NTS players in contrast perceived they would have more opportunity even if they had a dip in performance (M±SD; NTS 2/3=4.43±1.02, NTS 1= 4±1.18, Academy=3.35±1.41).

5.3.3. Holistic Quality Preparation (HQP)

HQP refers to the strength of intervention programs both within and outside the formal talent development situation (Li et al., 2015). Quality preparation is related to the extent to which clear guidance and opportunities are in place to provide and reinforce quality practice through training, recovery, and competitive experience (Martindale et al., 2013). The one-way ANOVA results showed no significant differences across development stages on perceptions of HQP ($F(2, 45) = 0.31$, $p = .74$) suggesting that all groups reported similar levels of holistic preparation.

Deeper insights at an item level highlight HQP subscale as the lowest-performing subscale containing the highest number of areas requiring improvement. There were two

items highlighted by all three groups as requiring improvement: item 19 – I don't get much help to develop my mental toughness in sport effectively (M±SD; NTS 2/3=3.86±0.92, NTS 1= 3.71±1.29, Academy=3.56±1.28) and item 18 – My coach rarely takes the time to talk to other coaches who work with me (M±SD; NTS 2/3=4±1.29, NTS 1= 3.57±1.27, Academy=3.5±1.09). This reflects the challenges associated with collaborating effectively with schools and clubs outside the Munster environment, particularly a lack of consistency in communication between Munster and schools coaches. Players in the NTS 1 and academy groups (both who have finished school) perceived that coaches spoke to them more regularly about their well-being whilst the NTS 2/3 group perceived this as an area for improvement (M±SD; NTS 2/3=3.86±1.08, NTS 1= 4.36±0.93, Academy=4.13±1.41)

5.3.4 Support Network (SN)

Support network related to the extent to which a coherent, approachable and wide ranging support network was perceived as available to aid development (Martindale et al., 2013). A challenging and supportive environment relates to the extent to which athletes are challenged appropriately by development experiences and supported through them (Li et al., 2013). The one-way ANOVA results showed a significant difference across development stages on perceptions of SN (F, 2, 45) = 4.94, p = .011) suggesting differences across the three groups. NTS 1 reported significantly stronger support networks than NTS 2/3 (p = .009) suggesting that NTS 1 athletes perceive better support networks compared to NTS 2/3. No significant difference was evident between academy and either NTS group.

Players in the NTS 1 and academy groups perceived that item 24 – I can pop in to see my coach and support staff whenever I need to, was an area of strength (M±SD; NTS 2/3=5±1.03, NTS 1= 5.43±0.46, Academy=5.14±0.75). All groups of players also perceived positively that they had access to a variety of different professionals to support their sports

development (item 23), with all groups indicating a mean score >5. Only one item in the SN subscale across the three groups was highlighted as an area for improvement. NTS 2/3 players (those still in school) highlighted item 27 – my coaches ensure that my school/uni/college understand about me and my training/competitions (M±SD; NTS 2/3=3.86±1.51).

5.3.5 Communication (COM)

Li et al. (2015) identified communication, the ability of coaches to communicate effectively with the athlete formally and informally, as an important aspect of the TDE. This includes feedback, goal setting, development planning and emphasis on progression (Li et al., 2015; Martindale et al., 2010). The one way ANOVA showed a significance difference between groups ($F_{2, 45} = 7.49$, $p = .002$ on perceptions of COM. Academy players scored significantly lower than both NTS 1 ($P = .002$) and NTS 2/3 ($p = .016$). This suggests that communication is perceived as weaker in the Academy compared to the NTS groups. There were no differences between NTS 1 and NTS 2/3 ($p > .80$). A perceived lack of communication between academy coaches and players might reflect academy players seeking feedback from senior coaches instead of academy coaches, the closer they come to senior selection and contract decisions.

One item, item 12, on the COM subscale was identified as a strength for all three groups: my coach and I regularly talk about things I need to do to progress to the top level in my sport (M±SD; NTS 2/3=5.43±1.33, NTS 1= 5.29±0.6, Academy=5.06±1.34). Across all 4 items, communication was perceived to be lower for the academy players than both NTS group with the largest differences across item 13 (M±SD; NTS 2/3=4.71±1.01, NTS 1= 4.86±0.6, Academy=4.19±1.17) and item 14 (M±SD; NTS 2/3=4.86±1.09, NTS 1= 4.93±0.77, Academy=4.31±1.3).

5.3.6 Alignment of Expectations (AOE)

AOE refers to the extent to which goals for sport development are coherently set and aligned and is highly related to the other factors (Li et al., 2015). The one-way ANOVA results showed a significant difference across development stages on perceptions of AOE ($F(2, 45) = 3.76$, $p = .031$). NTS 2/3 reported significantly higher alignment than Academy ($p = .026$). There were no differences between Academy and the NTS 1 or between NTS 1 and NTS 2/3. Alignment of expectations seemed particularly stronger for NTS 2/3 compared to Academy.

Interestingly, both perceived strengths and areas for improvement highlighted were across the AOE subscale. Two items were identified by two groups as an area for improvement and one item that all three groups perceived as a strength. Both the NTS 1 and academy groups identified the same 2 items as an area for improvement; item 8 – the advice my parents give me fits well with the advice I get from my coaches (M±SD; NTS 2/3=4.57±0.93, NTS 1= 3.92±1.2, Academy=3.81±1.22) and item 7 – my coaches make time to talk to my parents about me and what I am trying to achieve (M±SD; NTS 2/3=4.14±1.4, NTS 1= 3.5±1.45, Academy=3.44±1.42). Item 12, on the subscale was identified as a strength for all three groups – my coach and I regularly talk about things I need to do to progress to the top level in my sport (M±SD; NTS 2/3=5.43±0.75, NTS 1= 5.29±1.07, Academy=5.0±0.82).

Table 5.1.

TDEQ-5; subscale mean (M) and standard deviation (SD) of player perceptions of the TDE quality per stage of the Munster talent system

		Long Term Development		Holistic Quality Prep		Support Network		Communication		Alignment of Expectations	
		M	SD	M	SD	M	SD	M	SD	M	SD
	(N)										
ACADEMY PLAYERS	16	4.49	0.58	4	0.79	4.73	0.57	4.56	0.55	4.35	0.72
NTS 1 PLAYERS	14	5.1	0.39	3.83	1.04	5.01	0.54	5.04	0.65	4.6	0.64
NTS 2/3 PLAYERS	14	5.15	0.47	3.72	0.79	4.57	0.7	4.98	0.49	4.92	0.65

Table 5.2

TDEQ-5, mean (M) and standard deviation (SD) of TDEQ-5 items within each factor per development stage: key strengths (light grey) and areas for improvement (dark grey) are highlighted (top and bottom 25th percentile)

		NTS 2/3		NTS 1		ACADEMY	
	Factor 1: Long-term development	**Mean**	**SD**	**MEAN**	**SD**	**MEAN**	**SD**
2	My training is specifically designed to help me develop effectively in the long term	5.57	0.43	5.71	0.46	4.56	0.89
4	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	5.36	0.5	5.29	0.72	4.94	0.93
5	My coach allows me to learn through making my own mistakes	5	0.68	5.14	0.86	4.68	0.95
6	I would be given good opportunities even if I experienced a dip in performance	4.43	1.02	4	1.18	3.5	1.41
3	My coach emphasises that what I do in training and competition is far more important than winning	4.79	0.97	4.86	0.66	3.75	1.065
1	My coach emphasises the need for constant work on fundamental and basic skills	5.78	0.43	5.65	0.5	5.5	0.52
	Factor 2: Holistic quality preparation						
20	I am rarely encouraged to plan for how I would deal with things that might go wrong	3.93	1.1	3.64	0.61	4	1.31
17	My coach doesn't appear to be that interested in my life outside of sport	4.21	1.33	3.5	0.64	3.56	1.34
21	The guidelines in my sport regarding what I need to do to progress are not very clear	4	1.09	3.93	0.77	3.82	1.3
19	I don't get much help to develop my mental toughness in sport effectively	3.86	0.92	3.71	0.8	3.56	1.28
18	My coach rarely takes the time to talk to other coaches who work with me	4	1.29	3.57	1.27	3.5	1.09
16	My coach rarely talks to me about my well-being	3.86	1.08	4.36	0.93	4.13	1.41
22	I am not taught that much about how to balance training, competing and recovery	4.14	1.51	4.14	0.97	3.5	0.81

	Factor 3: Support network						
24	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	1.03	5.43	0.46	5.14	0.75
28	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	5.29	0.61	5.07	0.72	4.19	0.98
23	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	5.07	0.66	5.07	0.86	5.25	0.77
25	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	5.21	1.06	5.14	1.18	4.81	0.68
26	My training programmes are developed specifically to my needs	5.07	0.73	5.07	0.66	4.44	1.21
27	My coaches ensure that my school/uni/college understand about me and my training/ competitions	3.86	1.51	4.29	0.5	4.56	0.81
	Factor 4: Communication						
13	My coach and I talk about what current and/or past world class performers did to be successful	4.71	1.01	4.86	0.6	4.19	1.17
12	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)	5.43	1.33	5.29	0.6	5.06	1.34
14	My coach and I often try to identify what my next big test will be before it happens	4.86	1.09	4.93	0.77	4.31	1.3
15	My coach explains how my training and competition programme work together to help me develop	4.93	0.92	5.07	0.82	4.69	1.28
	Factor 5: Alignment of expectations						
8	The advice my parents give me fits well with the advice I get from my coaches	4.57	0.93	3.92	1.2	3.81	1.22
11	I regularly set goals with my coach that are specific to my individual development	5.21	0.97	5.07	1.2	4.81	0.75
10	I am involved in most decisions about my sport development	5.29	0.61	5.21	0.69	4.69	1.01
7	My coaches make time to talk to my parents about me and what I am trying to achieve	4.14	1.4	3.5	1.45	3.44	1.42
9	My progress and personal performance is reviewed regularly on an individual basis	5.43	0.75	5.29	1.07	5	0.82

5.4 Discussion

This chapter explored players' perception of the quality of various TDEs within a rugby talent system and investigated differences between the player's experiences at various stages of the programme. Reflecting the objectives of the research outlined in Chapter 1, this quantitative analysis identified strengths and weakness across the Munster talent system, and examined how these varied between development levels. The TDEQ is considered a valuable tool to support informed, evidence-based practice within talent systems (Hall et al., 2019), offering a benchmark against a well-established set of guidelines for effective TD practice. As outlined in Chapter 2, counterintuitive practice are often evident at different ages and stages when there is a lack of coherence and integration (Moran et al., 2024). The results of the research reflect the levels of alignment and integration across the system, while also highlighting barriers to effective TD such as a limited integration and shortcomings in coaching practice (Taylor & Collins, 2021a).

Programmes with an emphasis on LTD over short-term success retain the flexibility to emphasise fundamentals, allow mistakes, encourage exploration, and maintain a focus on performance rather than winning (Johnson et al., 2006). The results indicate that the LTD of players is a positive feature of Munster's talent system demonstrating the emphasis stakeholders placed on LTD. This represents a focus on future development over immediate success, outlined in Chapter 2 as a feature of successful environments (Mills et al., 2014; Mitchell et al., 2021). The long term nature of training (item 2) was perceived as a strength at both NTS levels but comparatively lower at academy level, which may be related to the proximity to senior team performance (Barry et al., 2025). As discussed in Chapter 6, academy players perceived an increase in pressure the closer they come to selection timepoints, specifically the JST and selection into a senior squad (Savage et al., 2017).

Similarly, academy players perceived that they wouldn't be given opportunities if they experienced a dip in performance (item 6) indicating a perceived lack of performance safety (Taylor et al., 2022), discussed in Section 2.3.1. This seems to be amplified when academy players train on a full time basis with the senior squad (see Chapter 6). Both NTS groups indicated that their coach allowed them to learn through making mistakes (item 5) which research has strongly indicated is an essential part of the TD process (Metcalf & Leake, 2017). In contrast, academy players believed there was an increased emphasis on winning over performance (item 3) as they progressed through the talent system, reflecting short-termism, a feature often associated with ineffective TDE's (Henriksen et al., 2014).

Access to a strong support network for players contributes to the success of the talent system (Li et al., 2015; Mitchell et al., 2021). In conjunction with a LTD focus, an appropriate support network can adaptively impact an athletes intrinsic motivation, intrinsic goal setting (Wang et al., 2011), and positively predict basic needs satisfaction (Li et al., 2019). In this talent system, players experienced strong support from coaches and support staff, each group highlighting sufficient availability of a range of professional support and access to them when needed (item 23 and item 25).The academy group perceived an increased level of support compared to both NTS groups, potentially reflecting the level of resources available to players as they progressed through the system (item 23). Linked to this, players perceived that their coach communicated to a high level with them around what was necessary to progress to the top level in rugby (item 12), with each development group indicating that this was an area of strength. However, NTS 2/3 players who were still in school highlighted a lack of alignment and understanding related to training and competition between Munster coaches and their schools coaches (item 27). This reflects the challenge in establishing a close collaboration between a school and academy but it is considered crucial for optimal development (Flatgard et al., 2020). A lack of communication between coaches

in the various TDEs is likely to lead to sub optimal development planning (Martindale et al., 2010) and could lead to issues such a burnout and injury (Gustafsson et al., 2018; Thomas et al., 2020).

As outlined in Chapter 2, a strong integration of efforts can drive coordinated practice across the talent system (Pankhurst et al., 2013) and a harmony between stakeholders knowledge, perceptions, and behaviours (Taylor & Collins, 2021). Coordination may be encouraged through clear and promoted TDE philosophies (Martindale et al., 2005). Alignment of expectations is strongly linked to all the other factors explored in the TDEQ (Li et al., 2015). The results highlighted two areas of concern, particularly the relationship between coaches and parents. The players suggested that there was a lack of communication between parents and coaches related to their development plan (item 7) and misalignment between the advice players received from coaches and parents (item 8). Interactions between coaches and parents are believed to play an important role in shaping a player's development (Strachan et al., 2022). Parents can be a source of added pressure for young players (Lauer et al., 2010), but also play an important positive supporting role through their development (Côté & Vierimaa, 2014), largely determined by their knowledge and attitude (Harwood & Knight, 2015). This stresses the need for excellent communication and alignment between key stakeholders. A coaches or parents unrealistic expectations of an athlete can also have a negative impact on a players performance (Gould et al., 2002). This supports the approach suggested by Martindale et al., (2010) by involving players in decisions regarding their development. This appears to positively impacted their self-motivation, considered essential for the success of the long term programme. Positively, all players across all development stages perceived that they were involved in decisions about their sport development (item 10) and regularly set development goals with their coach (item 11). As discussed in Chapter 2, Moran et al. (2024) suggest the development of a curriculum to cater for horizontal and

vertical coherence, so that the principles and practices that coaches utilise at different levels support optimal TD. Taylor and Collins (2021) suggest building SMMs to support the process of enhancing coherence and integrated practice.

The lowest scoring characteristic across the development stages of the talent system was the HQP of players. All three groups highlighted either four or five items that they perceived as being in need of improvement. The TDEQ results indicate that players from all development stages felt that their coaches didn't take enough time to talk to other coaches that worked with them (item 18), and this trend increased as the players progressed through the NTS and into the academy. All player groups believed there was insufficient support to develop mental toughness (item 19), consistent with the findings of Curran et al. (2021) in a female hockey environment. This finding is of particular concern due to the well-established importance of developing PCDEs (discussed in Section 2.2.2), to facilitate the likelihood of future success at senior level (MacNamara et al., 2010). Interestingly, academy players did feel that their ability to deal with anything that went wrong (item 20) improved as they progressed from NTS to academy. This may reflect a non-deliberate development of psychological skills as a player progresses along their pathway (Simpson et al., 2022), or an increased investment in resources related to psychological skill development in the academy. HQP is associated with caring coaches (Mitchell et al., 2021) and quality coach-athlete relationships (Jowett & Arthur, 2019), but academy players believed their coaches didn't appear to be interested in their life outside rugby (item 17). The academy players also perceived that they were not taught how to balance training, competing and recovery (item 22). This may be reflective of the performance pressures associated with training with the senior squad and, as indicated earlier, the proximity to a senior contract (explored in Chapter 6). A whole person development approach has been reinforced in TD literature to support players in balancing lifestyle, sport, and career demands (Stambulova et al., 2009). The poor

HQP of players was identified as the key factor requiring improvement within the talent system. This could be addressed by the implementation of a holistic, systematic approach, e.g., teach, test, tweak (Collins & MacNamara, 2022), that facilitates the development of psychobehavioural skills that would assist players in successfully navigating their pathway (Hauser et al., 2024). This is especially so when you consider the complexity of an elite talent system that comprises many TDEs, made up of multiple stakeholders, experiences, expectations, and challenges.

Section 7.3 presents the contribution that the thesis makes to practice at Munster. Many of the findings in Chapter 5 inform these practices, supporting alignment across the talent system and integrated working practice between the academy and the senior environment. To mitigate the perceived gaps in communication and HQP highlighted in this study, academy coaches regularly attended senior meetings, with the aim of enhancing the consistency and coherence of feedback to academy players. Given the variations in how TDE effectiveness was perceived at different stages of development, as presented in this chapter, alignment meetings between academy and pathway staff became a regular feature of the programme. These meetings focused on developing SMM's to support optimal TD practice throughout the talent system.

5.5 Conclusion

The aim of the study was to explore the utilisation of process markers at various development stages to investigate the effectiveness of the Munster talent system. The research provides a snapshot of the TD system and insights into the barriers and enablers of effective TD practice. Chapter 4 identified both the strengths and gaps in Munster pathway's coherence and readiness. Chapter 5 measure these areas quantifiably (e.g., TDEQ) from the players

perspective. Where Chapter 4 provides qualitative evidence of readiness (or the lack of it). Chapter 5 provides data about these concepts.

Perceptions of LTD and SN were generally positive across the Munster talent system, and players across all development stages indicated items in both HQP and AOE that require systemic attention. Findings indicate a gap in terms of communication between stakeholders, particularly between coaches and parents, and between coaches in the various TDE's, contributing to a misalignment in expectations related to individual development plans. The methodology used in the chapter has limitations, including a relatively small sample size. However, the entire NTS and Academy group comprised 44 players, all of whom participated, and the TDEQ was intended to capture their perceptions. The TDEQ-5 is a validated general sports measure (Li et al., 2015), but it may not capture the unique cultural climate or the complex interactive relations of other dynamic sporting environments (Mitchell et al., 2021). However, Hall et al. (2019) suggested that similar research findings would help to facilitate the development of effective evidence-based intervention strategies. The findings presented in this chapter have applied implications and underpin contextually specific intervention strategies employed by coaches and support staff at Munster rugby (Curran et al., 2021), discussed further in Chapter 7. Martindale et al. (2013) recommended future research that incorporated a mixed methods approach, where the TDEQ be used as a tool in applied settings combined with qualitative feedback to gain deeper insights into the functioning of the TDE (e.g., Curran et al., 2022). Post-intervention, repeating the TDEQ would enable stakeholders to assess the impact of interventions on athletes' perceptions of the system quality (Martindale et al., 2013), and also influence future practice. The value of further research of this nature is evident, but lies beyond the scope of this thesis. Chapter 5 has focused on the effectiveness of TDEs at various development stages along the talent system. Chapter 6 shifts focus to a later stage in a player's pathway, examining the interface

between the academy (development stage) and senior squad (HPSE). The research explores the relative strengths and weaknesses of Munster's integrated model, where the academy players train full time with the senior squad.

Chapter 6: Developing While Performing and Performing While Developing? A Case Study of an Integrated Talent Development and High Performance Environment at Munster Rugby

6.1 Introduction

Chapter 6 presents a case study of an integrated TD and HP environment at Munster Rugby. As outlined in Section 1.2.1, in 2022 Munster Rugby made a strategic decision to implement an integrated training model. In contrast to the normative separation of the development and performance environment in many team sports, Munster made the decision to combine the academy and senior squads, with the aim of accelerating player development and developing a more competitive squad. This organisational intervention merged the academy (approximately 18 players) with the senior squad (circa 42 players) into a single training group. Academy players trained full-time alongside the senior team, following the same training schedule, including team and unit meetings. Depending on selection, players would play with the Munster senior team, Munster A team, or with their respective clubs each weekend. Prior to the intervention in 2022, the academy and senior team were organisationally separate, located in different floors of Munster's training centre, and operating from an entirely different training schedule. Five senior and three academy coaches deliver the programme with senior coaches leading on the delivery of team sessions (supported by academy coaches) and team meetings. Academy coaches focus solely on academy players to support their development.

In earlier Chapters 4 and 5, the research primarily focused on the TD system. Chapter 6 explores the interface between the development and performance environments. Earlier chapters examined the talent system's effectiveness, focusing on TD principles and practices and on the quality of the TDE. Chapter 6 builds on this research by exploring the impact of

an integrated model on both the TD system and the performance environment. The research examines the strengths and weaknesses of the integrated model, the tension between development and performance agendas, and its impact on player development and team performance. A qualitative approach was used to explore the perspectives of senior players and coaches, and academy players and coaches. Consistent with the thesis aim, coherence, alignment, and integrated strategy remained primary foci.

As outlined in Section 2.3, recent literature introduced the concept of the high-performance sport environment (HPSE; Schlawe et al., 2025). HPSEs are cultivated to optimise performance, whereas talent systems are designed and operationalised to optimise player development. Across a series of individual environment case studies, Henriksen et al. (2010a; 2010b) suggested the need for a permeable layer between the TDE and the HPSE, characterised by alignment and integrated efforts. In contrast, a lack of integration and cultural incoherence were associated with ineffective TDEs (Henriksen et al., 2014). Where academy and senior departments are physically or organisationally separate, athlete development appears to be hindered (Eubank et al., 2017). In this context, the research explores the impact on athlete development when the academy and senior departments are physically and organisationally integrated.

Across sporting settings, the Junior to Senior Transition (JST), the threshold where the environment shifts from a development agenda to a winning agenda, poses a significant challenge for players (Savage et al., 2017). The step change in challenge is multifactorial (see Section 2.3.1) and is also influenced by a lack of integration between talent development and senior performance (Hauser et al., 2024). These increasing demands on young players also correspond with the environmental shift from development to performance (Richardson et al., 2012). Beyond performance demands, players must also navigate psychosocial factors (see Section 2.3.1; Wylleman & Lavallee, 2004). Career-transition literature highlights that

players are more likely to successfully transition when their resources match these demands (Alfermann & Stambulova, 2007). In this sense, a player's ability to prepare for, navigate, and learn from challenge is a key differentiator (Taylor & Collins, 2021).

Research indicates that, as the focus shifts more to winning, young players perceive reduced performance safety due to heightened scrutiny and judgement inherent to HPSEs (Taylor et al., 2022). Performance safety concerns perceived consequences of error (Taylor et al., 2025), distinct from psychological safety, which concerns fear of speaking up (Jowett et al., 2023). As a result, academy players may avoid taking risks and perceive limited opportunity to expand and explore, both key ingredient in player development (Taylor et al., 2022). This is problematic because we know that young players need to make errors to learn (Metcalf & Leake, 2017) and because the conditions that produce the most errors often support the greatest learning (Soderstrom & Bjork, 2015). Conversely, some players perceived a lack of performance safety as an adaptive feature of an environment, believing it can enhance performance (Taylor et al., 2022). Players described a double edged sword, suggesting that the reality of the context in the HPSE, i.e., the demanding conditions and a lack of performance safety, enhanced their level of performance. As such, recent research questions the transferability of performance safety to HPSEs (Vella et al., 2024) as players must perform under conditions where errors have consequences (Taylor et al., 2025). However, to optimising young players' development, coaches should intentionally manipulate performance safety via appropriate methods (see Section 2.3.1 for examples), to achieve desired learning or performance outcomes, when designing and delivering a training session (Lyle & Cushion, 2016).

There is increasing recognition that the role of the TD coach is distinct from that of a performance coach (Williams & MacNamara, 2020). Lyle and Cushion (2016) indicate clear boundary markers that delineate between coaching practice on a performance pathway and at

senior elite levels, each with contrasting needs e.g., greater focus on the individual than the group; greater focus on performance later than performance now. Abraham and Collins (2011), however, suggest that coaching can rarely be simplified to a prescribed perspective. UK Sport issued a position statement in 2021 that distinguished development coaching as defining the future characteristics of young athletes and performance coaching as refining the developed characteristics of an athlete. While this distinction holds merit, it oversimplifies a complex reality and calls for a more nuanced approach that reflects the dynamic and unpredictable nature of development and performance (Barry et al., 2025). Instead, Collins et al. (2016) suggest that coaches should act based on a clear understanding of a player's needs and context, rather than defaulting to a prescribed position (Jones et al., 2002). In applied settings, such as Munster's integrated environment, a developmental approach may suit longer-term needs, while a more performance-oriented stance may support the delivery of shorter-term needs (Barry et al., 2025). To support such decisions, Barry et al. (2025) proposed a framework based on a proximity-to-performance, that guides weighting toward either a development approach or a performance focus (see Section 2.3.2). Acknowledging these complexities, I extend the Chapter 4 discussion by examining where performance begins and development ends.

As highlighted throughout this thesis, effective development coaching provides an appropriately challenging and supportive environment that promotes the acquisition of a broad range of performance and psychobehavioural skills, while maintaining an individual focus and a long-term agenda (Collins et al., 2019). In the reality of HPSEs however, ineffective TD can be as a result of short-termism and pressure to deliver results (Morris et al., 2017). The inherent tension between winning now and developing players for the future can be a critical barrier to optimal developmental experiences (Taylor et al., 2022). Despite these tensions, there remains limited research pertaining to practical actions that talent

systems can take to navigate the dilemmas of practice posed by the tension between short-term performance and long-term development agendas (cf. (Cushion, 2013). As suggested by Baker et al. (2024), we know very little about how the demands and pressures of professional sport could constrain long-term development.

6.2 Method

6.2.1 Philosophical position

Reflecting a commitment to generating practically meaningful knowledge, this case study was underpinned by a pragmatic research philosophy (Kelly & Cordeiro, 2020). Pragmatism centres the research question and uses it to guide methodological choices (Kaushik & Walsh, 2019). Rather than seeking certainty, pragmatists view knowledge as fallible and provisional, valued for its capacity to inform action. Accordingly, knowledge is understood as an ongoing process of inquiry, grounded in evidence and experience (Ormerod 2020).

6.2.2. Reflexivity

It is necessary to acknowledge my role as an insider, conducting research within my own organisation and from a population of which I am a member, as well as my leadership position (Dwyer & Buckle, 2009). At the time of the research, I had been employed as Head of Rugby Operations at Munster Rugby for 18 months. This positionality aligns with a pragmatic intent but also introduced tensions, particularly around power dynamics and potential impression management.

The researcher-participant relationship is imbued with power and is understood complex, fluid and relational (Consterdine et al., 2025). Attempting to avoid power dynamics risks ignoring those realities. Instead recognising the ubiquity of power requires: (1) reflecting on your own position and influence; (2) designing methods so that all participants

to be heard authentically; and (3) acknowledging how power might shape how the data is collected and interpreted. The measures are therefore not designed to eliminate power dynamics rather recognising how the pervasive presence of power may influence the research process (Foucault,1978).

In addition, my supervision team were relative insider–outsiders, one is an experienced rugby union coach and coach developer, and another has extensive experience in TD and rugby academies. Though not embedded within Munster Rugby, their domain experience informed their role as critical friends. This positioning enabled deep contextual understanding, facilitated access to participants, and supported the identification of subtle, embedded practices that might have been overlooked by an external observer (Chavez, 2015).

Benefits of an insider perspective include participant acceptance based on context understanding and trust, contributing to greater openness and depth (Dwyer & Buckle, 2009). However, it also risked me being blinded to contextual norms, or adopting an overly positive view (Chavez, 2015). It is possible that I was unable to separate my own experiences from those of participants, and that participants assumed mutual understanding, not fully explaining their perspective (Dwyer & Buckle, 2009).

To mitigate against these issues, I maintained a reflexive journal and engaged the supervision team extensively as critical friends. The journal supported reflection on positionality at all stages, interrogation of power dynamics, surface assumptions, and track analytic decisions, enhancing transparency and dialogue within the team. Aligned with my epistemological stance and the use of thematic analysis (Braun & Clarke, 2023), analysis was conducted in reflexive recognition of my positioning and the role of researcher subjectivity in shaping deductive engagement with the data.

6.2.3. Participants

I used the notion of information power to guide participant recruitment (Malterud et al., 2021). Rather than an a priori sample size decision, I estimated how many participants would be required to provide a rich, relevant, and multifaceted account relative to the study's objectives (Malterud et al., 2016). This estimation was an initial purposive sampling of 16 participants from four stakeholder groups (academy coaches (n=4), academy players (n=4), senior coaches (n=4), and senior players (n=4). The criteria for richness was applied based on participants' ability to reflect on experiences with Munster Rugby and in other rugby HPSEs. Consequently, participants held a variety of experience at the club: senior players (2-8 years), academy players (1-3 years), academy coaches (2-10 years) and senior coaches (6-14 years). To ensure participant anonymity, specific demographic information has not been presented (see Table 6.1).

Table 6.1. *Participants' role and labels*

Role	Label
Academy player	AP1
Academy player	AP2
Academy player	AP3
Academy player	AP4
Senior player	SP1
Senior player	SP2
Senior player	SP3
Senior player	SP4
Academy coach	AC1
Academy coach	AC2
Academy coach	AC3
Academy coach	AC4
Senior coach	SC1
Senior coach	SC2
Senior coach	SC3
Senior coach	SC4

6.2.4 Data Collection

Following approval by the institutional ethics committee (DCUREC 2024/029), participants were invited to participate in semi-structured interviews via personal contact. Given my insider status, an extensive process of informed consent and contracting was conducted ahead of interview. All interviews took place in person at times and locations convenient for participants. The interview guide consisted of questions asking participants to describe their experiences and their perceived impact of the integrated training model. The questions were developed from established TDE literature to understand elements of the integrated model that might impact TD practices. All questions were reviewed with the research team until agreement was reached on a final interview guide. (Examples of questions included: (1) What do you think are the opportunities for an academy player integrated with the senior program? (2) When you first joined the academy how well prepared did you feel for the transition into training full time with the senior team? (3) What do you feel are the biggest challenges/threats for an academy player integrated with the senior programme?). Each

interview lasted between 38 and 55 minutes and were transcribed verbatim. Supported by the insider perspective, efforts were made throughout the interview to make participants feel comfortable, respected, and free to express their views (Krueger, 2014).

6.2.5 Data Analysis

Guided by my reflexive stance, a qualitative content analysis approach was adopted in order to develop a model to describe a phenomenon in a conceptual form (Elo & Kyngäs, 2008). In this case, a performance intervention to integrate the TDE and the performance environment at Munster rugby. Based on a judgment that the literature met the criteria of sufficient prior knowledge (Kyngäs et al., 2011), I used the existing TDE research of Martindale (2005, 2007) and Henriksen (2010, 2014) to generate a deductive coding frame. Categories were derived from those bodies of literature (Constas, 1992) and included five principles: (1) Individualised and ongoing development, (2) Appropriate development, (3) Long Term aims and methods, (4) Integration of efforts and (5) Wide ranging support. Once the data were coded, I moved from categories derived from the deductive coding to theme development. In this manner, aspects that fitted the deductive frame were used to create their own concepts based on principles of inductive content analysis (Marshall & Rossman, 2014).

Theme development involved four steps (Vaismoradi et al., 2016): initialisation, construction, rectification, and finalisation. The initialisation phase of analysis involved transcriptions being read and reread and I made a series of notes while also becoming familiar with the data. The next step involved generating codes through line-by-line analysis. In the construction phase I reflected on the process of organising code and assigned a place to each cluster of codes in relation to the research question. This phase included classifying, comparing, labelling, defining, and describing. The third phase, rectification, involved relating themes to established knowledge. During this phase, I was careful to both immerse myself in the data but also distance myself to examine the veracity of the coding process.

During this phase, the other members of the supervision team acted as critical friends by challenging me to consider interpretations and alternative perspectives. The finalisation phase involved a narration development to describe and connect various themes related to the research question.

6.3 Results and Discussion

This study explored the perspectives of multiple stakeholders on the impact of an organisational intervention on Munster Rugby's TDE and HPSE. The results are presented aligned to different elements of the generated deductive framework: (1) Individualised and ongoing development, (2) Appropriate development, (3) Long-Term aims and methods, (4) Integration of efforts, and (5) Wide-ranging support. The overarching themes and sub-themes are presented in Table 6.2 and include quotations from multiple perspectives. Sub-themes are further presented below using italics.

6.3.1 It's about getting better

The first theme, 'it's about getting better', related to individual and ongoing development, reflecting the need for flexible systems to accommodate variation in players' development (Martindale et al., 2005). Players and staff perceived *accelerated development* for academy players as a result of the increased demands of training with the senior squad: "Training in that environment, you improve so much because you're expected to adapt quicker to the challenges and you learn quicker" (AP1). Similarly, players described benefits from the increased support during heightened periods of challenge in training: "getting the same level of training as a senior player preparing for Champions Cup or URC every week and getting that level of coaching and support from the [senior] staff is unreal" (AP1). It seemed that the quality of coaching, coupled with these elevated demands, provoked a response in academy

players: “with the level of detail that academy players are getting, they literally take in what you could learn in three years of a traditional model within a year” (AC1).

Reflecting the need for individualisation, there were cautionary suggestions that this wasn’t necessarily the case for all players:

> Some players definitely accelerate, but is it definite for everyone? I don’t know if it is, I have no evidence of this but you could ask the question, if some players suffer and it becomes too much because I’ve seen it with young players before, where they are exposed to a high level too quickly (SC1).

Exposing players to the level of challenge inherent to senior training carried the risk of maladaptive outcomes for individuals. This was especially so for players who lacked the capacity to cope with or learn from senior training (Taylor & Collins, 2020). Thus, it would appear that the potential for accelerated development depended on progressive exposure to challenge and appropriate support (Sarkar et al., 2015): “[player] gets drip-fed in and out, is involved in games and training, which expose him gradually to the players he's going to be working with and the coaches he's going to be working with” (AC3). The adaptive impact of the model depends on the use of individual development plans to balance exposure to the challenge presented by the senior environment with recognition of current capacities.

Reflecting this need for progressive exposure, players and staff recognised the potential difficulties associated with this acceleration and the need for *groundwork to support the Junior to Senior Transition.* The integrated model meant there was less time to develop the necessary skills to support a successful transition (Stambulova, 2017): “It’s probably a time thing, sometimes there’s no substitute for time” (SC2). In many cases, the pre academy experiences of players also left them unprepared (Williams & MacNamara, 2022):

> We were made aware of the demands of what it's like to be a senior player, the psychological aspect, the training aspect, the rugby aspect. It doesn't really hit you

> until you're in it and you realize how important it was. I don't know if that was me not taking it seriously enough or not buying into it all the time (AP4).

The elevated challenge of the senior squad appeared to have a range of impacts on players, dependent at least in part on their psychobehavioural skills and characteristics (Williams & MacNamara, 2023; Savage et al., 2017). For this reason, there were disadvantages with the integrated model for some academy players: “that very high intensity of training, I probably hadn’t done before and I was in a survival mindset rather than a thrive mindset” (AP3). This led to a view that in some cases, that players were unprepared: “they come in and they train so hard and train so fast, are we actually negating some guys from their development windows” (SC2). For this reason, rather than trying to attempt to shape the HPSE to match the needs of each individual, instead, greater effort was applied to understand if players were ready to progress between stages of the Munster environment:

> [Player] will be joining the academy after doing two full years [in the pre-academy] who has undergone a really good development block and allowed himself as a player to mature personally... then we've got guys who have come straight out of school who are incredibly mature but who athletically will need space for development (AC1).

This view included recognising a player’s biography, training and playing history, physical and psycho-social readiness, rather than merely their current level of performance (Baker et al., 2024)

An adaptive consequence of the model and of greater integration between the academy and senior team were *increased playing and contract opportunities* afforded to academy players. This was partly a consequence of senior coaches better understanding younger players: “there is a lot more confidence from senior coaches to select academy players because they see them day in day out” (SP4). There was a belief among young players that they had genuine selection opportunities especially when coaches could: “see

that you were training well, they weren't afraid to give you the opportunity" (AP2). This was similar for coaches, with one senior coach reflecting on their experience of another HPSE where the "academy and senior teams are segregated…academy players rarely come into recognition for selection" (SC2). Where individuals were selected it seemed to create a virtuous cycle, where selected players became proximal role models motivating other academy players, that they: "now had something to chase because he knows what it feels like, he's within reaching distance, give me more of that, hook it up to my veins kind of stuff" (AC3), (Hauser et al., 2024). Together, these factors fostered an expectation among academy players that they would be fairly recognised.

6.3.2 Is this right, right now?

The second theme, is this right, right now?, related to a player's stage-specific experiences and training (Martindale et al., 2005). Consistent with prior research, academy players and staff perceived significantly *increasing demands* of the HPSE (Savage, 2017), particularly in how players were challenged. Players felt doubt, uncertainty and dips in confidence when they first experienced the integrated model. For one academy player he would: "second guess my ability" (AP2), another would: "question if I should even be here" (AP4). Academy players reflected on the early stages of their transition:

> It definitely does test you as a player, your skills, your ability to take on information quickly, and put it on the pitch, which is one of the biggest challenges, learning that detail quickly. And on top of that, in the first few weeks, my body was very sore (AP1).

Though, with time, this faded as players' confidence increased: "I've come to a spot where I don't feel as much pressure in training because I know my skill set has come on so much" (AP3). This suggests responses to these demands have to be considered individually and that

what's right for one, isn't for another. This was reinforced by an academy coach who highlighted that "some players adapt really well to it [senior training] and then others still need that time and support" (AC1). That is, players seemed to respond differently based on what they brought to the challenges they faced and also as a consequence of the support offered.

Beyond increasing demands, players reported differences in *perceived safety,* particularly related to increased perceptions of judgement and comparison with others: "you would be under a lot of pressure to perform well in training, an expectation to perform well or you were letting yourself and others down" (AP1). A prominent feature of academy player's experience were perceptions of consequence from making errors, similar to recent research with international players (Taylor et al., 2022). One player suggested that he was "afraid to make a mistake because obviously you're trying to impress the [senior] coaches" (AP1) and felt that "you just might want to play it safe and not put yourself in a bad light" (AP1). That is, players believed that they would progress based on their ability to minimise individual errors. Recent research has also explored the transferability of the performance based elements of psychological safety to HPSEs (Vella et al., 2024). Players did not always consider it 'safe' to make mistakes in senior training with limited opportunities for expansive or exploratory behaviour. This suggested a lack of 'performance safety', a "temporally dynamic perception emerging from individual-environment interactions, specifically concerning perceptions of consequence from error" (Taylor et al., 2025, p. 2). Given evidence that learning from error is fundamental to development (Metcalf & Leake, 2017), inhibiting exploratory or expansive behaviour would seem to be a maladaptive feature of the Integrated Model, though this must be balanced against the reality that players operate in conditions where errors carry significant consequences (Ferguson et al., 2023). To mitigate against a lack of safety, non-integrated (academy players only) training was a feature of the

weekly schedule: “there are times...where there’s opportunities to explore with a little bit less scrutiny and make mistakes” (AC3). Managing performance safety appeared to be key feature of long term player progression. For this reason, academy coaches believed it was important to differentiate between sessions, some with more pressure to perform without making errors, and others where it was safe to make errors. This required more than verbal reassurance from coaches, it required players to train away from senior players to remove social consequences that might inhibit training quality.

6.3.3 Looking ahead

The third theme, looking ahead, reflects the adaptive characteristic of TDEs and the use of long-term aims and methods (Martindale et al. 2005). The demands of the HPSE and pressure to win matches created *tension between senior performance and player development*, making it difficult to implement what might be considered effective TD practices (Sæther et al., 2025). The primary organisational focus was the senior team winning games, yet there also was an organisational commitment to developing players for long term success. Coaches noted the difficulty of managing resources to meet both short and long-term goals for a large, diverse training squad: “we have a huge amount of players to coach, our main focus is to prepare the first team on any given week for a match and that takes a huge amount of our focus” (SC1). Exemplifying this dilemma, there was agreement that the integrated model benefits the club’s long-term future but not necessarily individual coaches’ short-term aims:”

> As a first team coach, we will be judged on wins. What is to the forefront of my mind is, along with all of this great work with the integrated model, we will essentially be judged on how many games you win (SC1).

Questions were raised regarding potential compromises in the senior team's week to week preparation: “like being a teacher in a classroom, it will be harder to cater for all needs at a particular time and what is the best use of time and does the bottom dilute the top?” (SC1). These perceptions were also held by some of the senior players, there was a perceived lack of quality training opposition: **“**if you're running high class players against each other in opposition it's like steel sharpens steel, the environment creates the product. And if the environment is slightly lacking in quality…does that prepare our best 15 [players]? (SC1). Despite this, senior coaches and players remained committed to the long-term strategic implementation of the integrated model. Participants also acknowledged that: “at the same time, how good is it that academy players are ready and what happens in a big game if young players are drafted in, I’d say a lot of this is balance” (SP4). Integrating the TDE and HPSE involved a strategic trade-off (Taylor et al., 2022): one that required more than changes to organisational structure alone, it demanded the generating role clarity and acceptance, and a willingness to confront inherent tensions (Eys et al., 2020).

Central to the *systematic long term planning* process at the club was the graduated exposure of young players to the senior environment (Morris et al., 2017). As part of their individual development plans, pre academy players were invited to train with the senior team, minimising transitional difficulties in the future: “that early exposure to training with professional players… being coached by senior coaches. They get to understand what it takes… and the level they need to get to” (AC4). Systematic planning also encompassed succession planning, with communication serving as a key tool for integration. Staff were aware of the relative status of players, for example, one academy coaches reflected that: “if a player goes down, we haven’t gone out and signed short term players which we would have in the past and undermined the work of the academy” believing that as a result of the integrated approach, senior coaches were more likely to select academy players rather than

look to sign players externally. It was through regular training that coaches were in a position to continuously update their judgements of academy players and make more informed selection decisions (See Chapter 3): “if the academy was completely separate you might only have a glancing view of [academy player] and a limited opinion so it would be a gamble. With an integrated model there’s less of a gamble” (AC3). For player progression, formal long term succession planning was inherently linked to what coaches were able to see day to day, building trust in individual players and efficacy of the planning. Yet, given competing demands on senior coaches, planning for player development was less clear than selection. Academy coaches stressed that in the context of a HPSE, development conversations can be “very challenging” (AC2). There was a sense that player development was “probably not discussed openly enough” (AC1). With performance pressure, previous planning for player development was compromised.

6.3.4 Pulling in the same direction

‘Pulling in the same direction’ concerns the integrated approach and alignment of principles and practices that support the accelerated development of academy players, implemented within a distinct organisational culture (Cruickshank & Collins, 2012). Integration can be defined as a two way process where different inputs are systematically combined (Taylor et al., 2022). The club’s decision to adopt an integrated model facilitated *integration between academy and senior* and was further supported by a redesign of the physical environment in the training centre. For example, communication and collaboration between staff was increased as a result of academy and senior coach offices being moved closer:

> Where we are located, you're able to walk across the office and there’s very good relationship dynamics with the senior coaches, they're very approachable. You can go

> and have very challenging conversations, they're very open, you're also learning the different theories and beliefs behind some of the some of the coaching practices (AC1)

Integration was further enhanced by the presence of academy coaches in all senior coaching meetings enhancing communication and "promoted the development of a coherent and consistent coaching style" (AC2). This was reflected in player's accounts of feedback: "the feedback is definitely aligned and I feel like with more coaches around you I can be like a sponge, you can take what you want from one coach and you can squeeze out what you don't want from another coach" (AP3). An important feature of this integrated practice were academy coaches' management of expectations, "senior coaches were quick to form opinions and would often see the things the [academy] players can't do and reference and discuss what they can't do" (AC1). A factor that pointed to the potential for individual perceptions to impact on the wider integration of the organisation.

Whilst some practices reflected systemic, bi-directional integration, others were more driven from the top-down. As such, key stakeholders put significant value on creating and sustaining *alignment from senior downwards*. The formal and informal shared understanding across the club underpinned practice, supported by: "our constant common language, so when talking to [player] or [coach] everybody is saying the same things and talking about the same aspects of the game (SC2). It was also perceived to enhance a player's ability "to come in from the cold and just slot seamlessly into a session and actually have the ability to stand out shows how well it [the model] works" (SC2). The same view was held by senior players who contrasted this with their experiences as younger players: "in previous times where there wasn't even alignment across the academy… there were different calls and set ups" (SP2). Alignment was also not only reflected in the language used, but also in how teams played: "from the top down and the ground up, our game has been brought through and it's

powerful" (SC2). Yet, consistent with recent discussions in the literature (Webb et al., 2016), this in itself may be a risk given the potential desirability of players to experience greater variability of experience and movement (Davids et al., 2003).

Organisational culture represents the shared values and norms in an organisation (Cruickshank & Collins, 2012). In a TD context, Henriksen et al. (2010b) incorporated cultural artefacts, espoused values, and basic assumptions into the Environmental Success Features model. Reflecting on changes to the organisational culture, shared values and attitudes were evident from both the academy and senior participants. For example, one senior player suggested that: "we didn't get that type of support [as academy players], it wasn't natural before and I think the culture is so good now that we want the whole place to do well. We are only as good as our weakest link" (SP3). This suggested a changing attitude towards active support of young players having becoming an organisational norm. For other senior players: "it's [culture] the best I've seen it and now we know the [academy] players as individuals, not like before when we were two separate groups" (SP1). They also perceived improved relationships and trust with younger players: "to trust someone you need to know what they are like as a person, not just a rugby player" (SP1). These changes reflecting the functioning of the integrated model being more than just a structural intervention. It required shifts in the social norms of the organisation, active promotion from leadership and ongoing clarification of individual roles related to development and performance.

6.3.5 Rubbing Shoulders

The final theme, 'rubbing shoulders', related to the consistently identified need for wide ranging support across TDE research. Utilising a comprehensive, wide-ranging support network is considered an important element in supporting a player's development (Henriksen et al., 2010a). The adaptive influence of *proximal role models* has been widely recognised as

a feature of effective TDE practice (Hauser et al., 2024). Training with senior players afforded young players the opportunity for "learning by osmosis and taken for granted learnings they [academy players] get just from being around the senior players all the time" (AC1). The integrated environment, coupled with a supportive organisation culture, facilitated social learning between players, something enhanced by intentional support strategies to encourage the sharing of knowledge and experience:

> You draw on the knowledge of senior players... By having that knowledge in the room, you try to maximise learning opportunities for the young boys. It's one of the great things looking from a young player's point of view, you just cannot underestimate the fountain of knowledge that is in the room (SC1)

Coaches stressed promoting players to utilise their support network, something requiring a blend of "deliberate and intentional strategies" (AC1) in a manner akin to orchestration (Bjørndal & Ronglan, 2018).

Given the highly specialised nature of positions in rugby union, players referenced the influence of role models on their understanding: "I've been asked to join the lineout callers group, the last two months… just trying to be like a sponge and I was trying to see what way they think". (AP1). Young players believed that proximity of senior international players had a significant influence on their development through modelling: "you see their behaviour and their habits and how they approach the game, see their routine, even their game day routine" (AP4). Senior players also accepted their impact as role models, referencing specific examples of sharing technical and tactical knowledge: "I take responsibility and coach [academy player] afterwards for some skills and … send him clips after training sessions, seeing what he can do better" (SP4). This was reflected by senior coaches, with one reflecting: "The really cool thing going on at the moment is we have peer to peer coaching" (SC4). Coaches believed that there was an emerging pattern of seeing

senior players coaching young players: “if you want to see a very good deliberate example look at [senior player] who’s taking chop tackle drills consistently and coaching young players to a high level” (SC1). This type of social learning also has the potential to be maladaptive, especially if senior players’ behaviour is less than befitting of an HPSE (Taylor et al., 2022). It would seem that in relation to adaptive role modelling, the social impacts of the integrated model depended on senior players appreciating and accepting their role model status.

Knowing where to and how to seek feedback is considered an essential skill to support learning (Carless, 2019). Encouraging players to actively *utilise their support network* seemed a common feature of the environment. In contrast to performance safety, which relates to a fear of the consequences of making a mistake, psychological safety relates to the “climate of voice” (Jowett et al., 2023). Players’ fear of judgement related to mistakes seemed distinct from their willingness to ask for help or offer their view (Taylor et al., 2025). In the early stages of the transition, players were wary of asking senior coaches for help, something that diminished over time: “one thing I probably regretted not doing earlier is reaching out to them [senior coaches] because they’re all very open” (AP3), but over time some being “very comfortable in asking senior coaches for feedback” (AC3). Utilising a range of feedback allowed players “to be kind of flexible and adaptable as to what you want to learn on and off the pitch… if I’m just with one coach, he wants me to play one way but I want to be able to play the game different types of way” (AP1) and believed that feedback from multiple sources broadened his perspective.

In contrast to one-to-one support-seeking behaviour, academy players often felt they lacked the status to offer views in whole-team meetings: “in terms of speaking out in a meeting…I haven’t played for the senior team yet so I feel it’s hard to give my opinion on something” (AP1). That is, players’ perceptions of the ability to speak up depended on

context (Hoult et al., 2024). Despite some players' perception of a lack of psychological safety, senior players suggested that they encouraged academy players to speak up: “when an academy player stands up and talks in a meeting, I'm like, fair play to him, once he backs up his point…it shows their character” (SP4). In this sense, there seemed to be a credibility associated with academy player contributions. Considering the ability to seek out and utilise feedback is important for player development, a perceived lack of psychological safety may limit academy players’ ability to effectively utilise the support network within the organisation. In this case, perceptions of psychological safety seemed to vary amongst academy players.

Table 6.2. *Thematically Generated Tensions: Themes, Sub-themes and Raw Data Exemplars*

Theme	Sub-theme	Raw Data Exemplar	
It's About Getting Better	Accelerated Development	Coach	It's just that early exposure, isn't it, their early exposure to training with professional players, but it's also the early exposure to being coached by all coaches. They get to understand what it takes, or they get to feel, I suppose, would be the word feel, what a pro session looks like, how fast it is, and the level that they need to get to
		Player	You probably don't get that competitiveness if you're separated, because you just don't have the numbers in the academy (15v15) or the NTS and you're training against players a level below you. Whereas if you want to go to the level of lads above you, you don't want to be competing with NTS players to get like into a red jersey, you want to compete with players above you.
	Increased Playing and Contract Opportunities	Player	And I suppose with the coaching staff we have the last few years, they seem like they're a coaching group that picked people training the best. And you have seen that last two years that it's not about your rank if you train and play well you're going to start games
	Groundwork to Support JST	Coach	So they're coming straight out of school, they're, they're the big fish in their pond. And then they come in, and they are literally the bottom of the food chain in here. And I think some players can struggle with that, like, not from an ego point of view, but just it's a big transition
		Players	Collective sessions, higher standard and higher intensity, I found them sessions were beneficial to prepare for international camps and more of them would have helped transitioning into Academy.
Is This Right, Right Now?	Increased Demands	Coach	Threat of a demanding senior programme when it comes to maintaining college education and how much more challenging that's becoming to maintain rugby and college. That's not just the physical but the psychological and the emotional drain as well
	Perceived Safety	Coach	You've got senior coaches, with experience with reputations, eyes on them on a daily basis and I suppose what they learn pretty quickly the required level of detail, that they're scrutinized, that they're being observed and assessed, and once they walk through that door that the clock is ticking.
		Player	I think the only thing really, from a rugby perspective is I kind of had this my first two or three months, in my first year in the academy, where you're kind of second guessing your ability, do you deserve to be here and kind of general I was definitely like, I'm way off the standard here
		Coach	Their framing of mind every week is around getting a result on a Saturday and then being focused on that, that sometimes in the season can become very pronounced and because of that, the emphasis around development goes back a bit. And that's not a criticism.

Looking Ahead	Tension Between Senior Performance and Player Development	Player	It’s really a balancing act, isn't it? We need guys to be ready, we need the standard of training to be as high as possible, so their knowledge needs to be good when they come in and train. But there may be protected pockets of the season where we want to get a little more selfish and increase quality,
	Systematic Long-term Planning	Coach	The system that's in place now is very much a positive system for the club, the opportunity to train and be a part the senior squad compared to what some lads were exposed to when I was in the academy, it's just chalk and cheese
Pulling in the Same Direction	Integration Between Academy & Senior	Coach	A lot of openness between everyone, and that's a two way flow. It's not just kind of senior down, there's a lot of shared ideas, and over the open office plan that we have up here now, we're having a lot more conversations than we did two and a half years ago,
		Player	I think that's the biggest change for me. I think from when I was younger, I'd rarely have spoken to the senior coaches when I was in the academy, we were deemed as a completely separate entity.
	Alignment from Senior Downwards	Player	I would say that this I'm getting the same messages from senior coaches and academy coaches so for example, one for me during the year would have been maybe keeping my feet under me and my carry, and I get that from MP And then I get the same message from TOD. So it's definitely aligned, you can tell the coaches are working together closely.
	Organisational Culture	Coach	It gives you an opportunity to spend time with these players, you get to know them on a personal level. You're doing one on ones with them, you see them as your players, definitely. And you know it does help the relationship. You become familiar with them, you understand their strengths and their weaknesses.
		Players	And it's like if you merge two separate teams together, they wouldn't know enough about each other to have trust. You know, in order to trust someone, you need to actually know what they're like as a character, not just as a rugby player. And we see that every day, because we're training with them every day,
Rubbing Shoulders	Proximal Role Models	Coach	I think the amount of learning that they can gain from just being around senior pros, guys who have been professional players for 7,8,9, years, guys who have played at the highest level for Ireland, some British and Irish lions.
		Player	Again very positive like, especially just like listening to the leaders within the group. And the position I'm in as an outhalf it’s massive, seeing how they direct a team, how they handle, the quality of messaging and just how well organized and on the same page they are
	Utilising Support Network	Coach	And if you were to say, look at [senior player] is very, very good at throwing a sweep pass, go and ask him what are some of the cues he does when he's throwing those sweep passes.
		Player	Something that probably needs to be driven even more is, is how confident those guys are at asking senior players questions. It's a real skill, because some guys have done it, and they're the guys I see learning really quickly, and you actually have more respect for them as a player as well.

6.4 General Discussion

This chapter presents a case study at the intersection of TDEs and the recently conceptualised HPSE (Schlawe et al., 2025). Supporting the ongoing need to critically evaluate the quality of the environment (Mitchell et al., 2024), the research explores the strengths and weaknesses of the integrated environment at Munster Rugby from the perspectives of coaches and players. Whilst a range of previous case study investigations have informed our understanding of TDEs (Henriksen et al., 2010a, 2010b), this chapter deepens our understanding of the tensions presented by the interaction between TDEs and HPSEs. In doing so, the study highlights some of the inherent tensions between long-term development and enhancing peak performance. Understanding how different demands affect player development, contrasting coaching roles, and the tension between development and performance goals is crucial to inform practice (Barry et al., 2025).

While the case offers insight into a professional rugby environment, its context-specific nature must be acknowledged. The structures, resources, and cultural norms at Munster Rugby may differ significantly from those in other contexts. As such, the current practices should be transferred with caution, considering contextual factors such as sport type, competition level, and resourcing. Nonetheless, the mechanisms described are likely relevant to other TDEs and HPSEs. The generated tensions need to be considered in light of my positionality, with my role at the organisation risking impression management and the influence of power dynamics (Hall et al., 2024). This needs to be balanced against the unique scientist-practitioner perspective offered (Schinke et al., 2024). With this in mind, I encourage readers to consider the inherent tensions of development and performance that will likely be appropriate to any setting where winning is a strategic aim. Similarly, the case offers insight into how an integrated development and performance environment can be designed for adaptive outcomes.

Theoretically, the study poses a number of unique questions, most particularly related to the tensions and dilemmas of practice involved at the transition between TDE and HPSE. In particular, participants perceived that the heightened demands of the integrated model elicited adaptive responses and accelerated player development. Yet, the potential for accelerated development was contingent on individually appropriate challenge. The risk of maladaptive outcomes were increased if players weren't prepared to cope with and learn from challenge (Williams & MacNamara, 2023). As part of the transition to these higher demands, young players perceived a lack of performance safety due to the selection and social consequences of making errors in training (Taylor et al., 2025). Yet, participants seemed to consider this as many players reflected on the analogy of a double-edged sword (Taylor et al., 2022), one where the demanding conditions of the HPSE reflected the reality of the context and encouraged elite players to refine and bring their best performance. Maximising the adaptive and minimising the maladaptive consequences of this tension should be a primary focus for practitioners.

In addition, proximal role models were influential in player development. The social learning conferred by supportive training groups seemed to have a significantly adaptive impact on younger players. In contrast to research indicating maladaptive role-model role effects (Taylor et al., 2021), when senior players accepted their influence, peer-to-peer coaching emerged as a highly adaptive player development strategy. In practice, this may prompt TDEs to reconsider the limited impact that workshop-based education has compared to first-hand experience of challenges or observing proximal role models navigating demands (Henriksen & Stambulova, 2017). In the absence of integration, counter-intuitive practice is likely to manifest, undermining the effectiveness of the TDE (Moran et al., 2024). Considering the complexity of the overlapping TDE and HPSE, the potential threat associated with a lack of alignment and coherence is likely to be amplified.

Academy and Senior coaches experienced challenges and trade-offs operating within an integrated model. Tensions often centred on the focus of winning now versus winning later, conflicting coaching agendas, maintaining an appropriate balance between challenge and support, and the impact of performance safety. Understanding how different demands affect player development, and the trade-offs between development and performance goals is crucial to inform practice (Barry et al., 2025). Academy coaches sought appropriate opportunities within the senior programme for academy players to expand and explore, and worked to create a safe space that minimised the fear of consequences of making errors (Fergusen et al., 2023). Senior coaches believed that they would be judged on winning games each week and felt that large training numbers and a reduced player quality could compromise team preparation and performance. However, senior coaches also acknowledged the long-term benefits of the academy players training with the senior team, while the academy coaches recognised the value of academy players being exposed to senior training on a daily basis. Despite the organisation's primary focus being senior team success, there remained a clear commitment to long-term player development. In this case, success required more than integrated working practice, it required an organisational culture that promoted both short-term elite-level performance and long-term player development (Henriksen et al., 2017).

Finally, given that effective TDEs seem well characterised in the literature (Hauser et al., 2024), I would suggest there is an opportunity for future literature to investigate further case studies of novel practice based on specific intervention such as the integrated model to inform applied practice. In addition, despite the challenges of access, further case studies of HPSEs could prove equally as valuable to practice as studies characterising effective TDE practice.

6.6 Conclusion

By examining the integration of the TDE and HPSE at Munster Rugby, this case study explored how a single professional rugby organisation sought to reconcile the tensions between long-term development and short-term performance demands. The findings highlight the nuanced and often paradoxical challenges of navigating this balance, with factors such as performance pressure, selection consequences, and cultural inertia acting as double-edged swords; when under or over-emphasised, each can become maladaptive and disrupt developmental or performance goals. These insights present practical implications for organisations aiming to create more coherent and developmentally supportive HP systems, while also contributing to the growing body of evidence on how developmental and performance imperatives can meaningfully cohere.

Chapter 7: Discussion, Practical Implications, Future Directions

7.1 Introduction

The overarching aim of this thesis was to examine a multi-stakeholder perspective of coherence, alignment and integrated strategy at various stages of an elite rugby talent system. To achieve this aim, a series of prospective, multi-method, and contextually situated studies were conducted. The breadth of research included both development and performance-level athletes and coaches to facilitate a variety of perspectives and experiences. My personal, practical aim was to develop a deeper understanding of TD literature and use the research findings to enhance existing practices or introduce new approaches that would elevate the quality of Munster's talent system and inform practices across TD systems. To achieve this, the research was conducted in a range of environments: at various stages and phases within a talent system, within an integrated development and performance environment, and through one study involving experienced talent selectors from twelve different elite environments across three different professional sports.

This chapter critically discusses the results of Chapters 3, 4, 5, and 6 and does so based on the pragmatic research philosophy and methodology utilised in this thesis: to make a significant and original contribution to professional practice. As an experienced practitioner working in both development and performance environments, I recognise the importance of using research to guide practice and inform decisions. Accordingly, this chapter outlines the contribution of the thesis to literature, the implications for practice at Munster rugby, and the practical recommendations for stakeholders to consider to optimise the design and operation of other talent systems. To support this aim, and recognising the need to deepen our understanding of coherence, alignment, and integrated strategy in talent systems, the main aims of the thesis (as identified in Chapter 1) were:

(1) To explore how talent selection decision making occurs and the contextual factors that influence the process.
(2) To examine the readiness of a talent system from a system and player development perspective when presented with an atypical challenge.
(3) To explore the utilisation of process markers at various development stages to determine the effectiveness of a talent system.
(4) To evaluate an intervention involving the integration of the talent development and high-performance environment at Munster Rugby.

7.2 Contributions of this Thesis to Literature

7.2.1 Talent Selection Decision Making

This research provides a deeper understanding of the complexity and dynamics of talent selection decision making. The findings presented in this thesis have the potential to influence how talent systems are structured to support decision making at every level. The research builds on previous literature which has tended to approach selection decisions as individual, one-off decisions. For example, TID and talent selection research has often focused on the utilisation of standardised tests and assessments, based on isolated performance qualities (Bjørndal et al., 2022). The literature often suggests that selection decision making is based primarily on individual judgements (Johnston et al., 2018). One example of this is the practice of assigning bibs based on birth quartile in trial games, intended to support an individual selector's ability to make more informed judgements (Leyhr et al., 2021). Mann and van Ginneken (2017) found that the selection bias as a result of RAE can be overcome when information about a player's age is conveyed by players wearing age ordered shirts. Knowledge of the birthdates, however, did not change the magnitude of the selection bias, with no significant differences between a group who knew

the birthdates and a group who had no knowledge of birthdates. Even when steps are taken to reduce selection bias (Cobley et al., 2009), the influence of individual judgements remains pervasive. However, the findings presented in Chapter 3 suggests that, in practice, selection decision making on the talent pathway is not a single event, supporting Johnston and Baker's (2022) suggestion that selection decisions may be based on contextual demands and broader objectives beyond perceived future potential. Several examples of this at the micro, meso and macro level are illustrated in Chapter 3 and Chapter 4. As such, rather than considering selection decisions as a single isolated event, the findings in these chapters point to the importance of understanding the influence of systemic pressure and wider factors (Røsten et al., 2023), such as organisational culture, succession planning or the impact of resourcing (see Table 3.3).

The study reported in Chapter 3 considered ways in which selection decisions on the pathway can be oriented toward a 'hedge-trimming' approach, involving continuously updating judgements through observation and interaction with an athlete over an extended period. This would put selectors in a position to adapt their predictions based on feedback through the development process (Till & Baker, 2020), providing athletes with an opportunity to realise their potential. In this manner, the participants emphasised the need to continuously update their view of an athlete over time, using more information and data to inform the selection process. Hedge-trimming takes account of the limitations of long-term prediction and promotes the ideal of "as many as possible, for as long as possible" (Erikstad et al., 2021). This contrasts with a 'tree-felling' approach, with static selection time points where an athlete is simply "in or out". Alternative approaches highlighted recently, such as probabilistic reasoning (Morganti et al., 2023), are consistent with a hedge-trimming approach, based on an interdependence of selection and development and being responsive to what an athlete could become. This approach of talent selection as an ongoing process

reflects the view that talent is emergent, dynamic, and multidimensional (Baker et al., 2019). Whilst acknowledging the practical necessity of the use of tree felling in certain situations, the findings in this study suggest that systems should be structured in a manner that allows for 'hedge-trimming' as far as possible to expand opportunities for players to realise potential (Røsten et al., 2023).

Research has weighted towards evaluating the accuracy of selection decisions rather than efficacy of the decision making process (Johnston & Baker, 2020). The findings of the research, presented in Chapter 3, when considered alongside literature pointing to the complex interactions between an athlete's environment, tasks, and experiences (Renshaw et al., 2022), suggest that retrospectively considering the validity of selection decisions to be unproductive. TID literature has tended to evaluate selection decisions as discrete moments, focusing on whether an athlete has been correctly selected or not selected (Pinder et al., 2013), creating a sense that decisions are final and binary. Instead, this research contributes to an underexplored area of literature by focusing on the sources of information that selectors utilise to support their decision making, to provide insight into the selection decision making process, rather than the outcome (Larkin et al., 2022). The findings show that experienced selectors utilise a blend of objective and subjective data to build a case for selection. Participants in Chapter 3 attached a greater weighting to a range of subjective data, utilising objective data to inform individual development plans (IDPs), rather than selection decisions. Utilising data as a development tool in this way is supportive of using data to 'hedge-trim' rather than 'tree-fell' (Klein, 2022).

It is worth noting that Güllich and Barth (2023) questioned the relevance of deploying limited resources to the collection and analysis of data, believing that it may not aid selection decisions within talent systems. They suggested that regardless of data or information available, junior performance has limited predictive value for senior performance. Further

research is required to explore the return on (limited) investment into the collection and utilisation of data to inform selection. This is particularly so, when you consider Taylor et al.'s (2022) suggestion that selection should be considered from a resource-allocation perspective and that decisions about when and how to select should be viewed as a matter of strategic priority.

Finally, participants noted multiple methods used to support the selection decision making process. A variety of methods are discussed in detail in Section 7.3.1, a number of which have been adopted into practice at Munster Rugby. These include decision hygiene techniques (Kahneman et al., 2021), actuarial approaches (Den Hartigh et al., 2018), aggregation of judgements (Kahneman et al., 2021), and decomposing talent indicators (Lüdin et al., 2023) to assess performance and potential (Till & Baker, 2020). Many of these methods warrant further research to determine how they might impact the effectiveness of the selection process.

7.2.2 An Integrated Development (TDE) and Performance Environment (HPSE).

In contrast to the normative separation of the development and performance environments, Munster implemented a strategic intervention in 2022 (see Chapter 1) to integrate the TDE and the HPSE in a training model aimed at enhancing player development. The notion of a HPSE (Schlawe et al., 2025) was recently contextualised (see Section 2.3), but to date there is a limited amount of research characterising effective performance environments when compared to the comprehensive body of literature related to effective TDEs (Mitchell et al., 2024). Research has been limited by challenges to access into suitable HPSEs, so case studies such as those presented in Chapters 4 and 6 were designed to offer insights into the principles and practices in HPSEs. Chapter 4 and Chapter 6 deepen our understanding of the tensions presented at the TDE and HPSE interface. There has been little research pertaining to the

practical actions that might be taken by a talent system to navigate the dilemmas of practice (cf. Cushion, 2013) posed by the tension between short-term performance and long-term development agendas. The demands of the HPSE and pressure to win matches created tension between senior performance and player development, making it difficult to implement what might be considered effective TD practices (Sæther et al., 2025). The findings raise several questions, particularly related to the tensions and dilemmas of practice involved at the transition between TDE and HPSE. Several practical measures to protect both individual player development and team performance are outlined in Section 7.3.

These findings contribute to a novel area of study, exploring how developmental and performance imperatives can integrate successfully. The findings also present practical implications for sport organisations aiming to create more coherent and developmentally supportive HP systems. In this case, this went beyond integrated working practice and required an organisational culture that promoted both short-term elite level success and long-term player development (Henriksen et al., 2017). The findings in Chapters 4 and 6 indicate the importance of a permeable layer between a TDE and HPSE, characterised by a coherent organisational culture (Cole & Martin, 2018) and an integration of efforts (Hauser et al., 2024). Previous research suggested that a physically and organisationally separate academy and senior environment is a barrier to effective athlete development (Eubank et al., 2017). An integrated environment eliminates many potential barriers provided there is a high degree of alignment, integrated practice, and coherence for the athlete (Webb et al., 2016).

As with many organisational interventions, integrating the TDE and HPSE involved a strategic trade-off at Munster Rugby (Taylor et al., 2022). As such, the research presented in this thesis presented solutions to manage potential negative impacts of the trade-off. To support the integrated approach, changes to organisational structure and a commitment to alignment and integrated practice were key as was a willingness to accept that there were

strengths and weaknesses associated with the integrated model. Furthermore, the findings suggests that individuals were open to confronting these inherent tensions (Eys et al., 2020). As an example, participants perceived that the heightened demands of the integrated model provoked positive adaptations and accelerated player development. However, it became apparent that exposing academy players to the level of challenge inherent to senior training on a regular basis carried the risk of maladaptive outcomes for individuals e.g., a lack of performance safety (Taylor et al., 2022), due to perceived consequences of making mistakes. The findings suggested that the potential for accelerated development was contingent on progressive exposure to challenge and appropriate support (Sarkar et al., 2015). These findings suggest that maximising the adaptive and minimising the maladaptive consequences of this tension became a primary focus at Munster Rugby. Strategies employed to support this are presented in Section 7.3.

7.2.3 Performance versus Development Coaching

Development coaching has not been clearly conceptualised in the literature (Barry et al., 2025), and there is a lack of research into the nuances of development coaching versus performance coaching (Williams & MacNamara, 2020)**.** Previous research has emphasised the contrasting needs of development and performance contexts and there is increasing recognition that the role of the TD coach is distinct from that of a HP coach (Collins et al., 2019; Collins & Taylor, 2020). These research findings point to an obvious overlap on the pathway between development and performance phases, with differing coaching priorities along the athlete's pathway (Lyle & Cushion, 2016), e.g., an individual versus a team focus. The TD literature recognises that effective development coaching requires both an appropriately challenging and supportive environment with a long term focus, that emphasises the development of a broad range of physical, technical, tactical, and psychobehavioural skills (Collins et al., 2019). This research suggests methods and strategies

to ensure a balance between the levels of challenge and support, and a balance between a short term (win now) and a long term (win later) agenda. Challenges associated with (and potential solutions to) the delivery of optimal development coaching practices in a high pressure context, are presented in Section 7.3. The results presented in this thesis highlighted practical examples of this; as an example, academy coaches introduced additional training sessions with only academy players, allowing them room to expand and explore, and reducing the consequences associated with making errors. This was perceived as a stark contrast to the performance focused nature of senior sessions.

These findings support Abraham et al.'s (2009) suggestion that working in a specific domain should not be oversimplified to a prescribed coaching stance. Coaching practice may require a different emphasis on development or performance in certain situations (Barry et al., 2025), where a development approach might be required to meet the long term needs of an individual or group, and a more performance-oriented approach to meet the short term. The findings do not infer that a coaches working with athletes on a TD pathway require a consistently developmental approach or that a coach in an HPSE requires a consistently performance-orientated approach (e.g., Balyi et al., 2013). Instead, coaches require a more nuanced approach that reflects the complex and dynamic nature of athlete development and performance, and should act based on a clear view of athlete needs and their context. The findings in Chapter 6 stress that utilising coaching methods to promote shorter-term adaptation and performance should not undermine longer-term needs (Martindale & Mortimer, 2011). An Individual Development Plan (IDP), involving input from all members of the academy performance support team, is an example of a tool utilised in Munster Rugby to identify those individual needs and support them in practice.

The studies presented in Chapters 4 and 6 emphasise the importance of coherence, alignment, and integrated practice, particularly when the increased challenges and demands

associated with an integrated TDE and HPSE are considered. A coherent curriculum that promotes integrated practice (Moran et al., 2024), supporting the alignment of development processes with performance objectives (Webb et al., 2016), were found to be critical elements of an effective integrated environment. The rugby programme at Munster Rugby, including content, coaching principles and practices, is closely aligned from the senior team down through the entire talent system. This facilitates the movement of players between levels and stages at the club (see Section 7.3). This research builds on a limited bank of literature, supporting the use of SMMs in coaching to facilitate the development integrated practice and strategy across an organisation.

7.2.4 Performance Safety

A common theme throughout the thesis is that academy players experienced reduced psychological and performance safety as a result of perceived pressures associated with the integrated environment. This thesis expands on recent literature that conceptualised performance safety as a distinct construct from psychological safety (Taylor et al., 2025; see Section 2.3.1). The case study of an integrated environment also provided a unique context to develop understanding of the impact of performance safety, with a particular focus on player development. The research provides the opportunity to critically discuss strategies employed that influence the perceived levels of performance safety, and provide practical solutions for practitioners to manage accordingly through their planning and delivery.

Research has consistently shown that young players perceive an increase in pressures and demands when transitioning from a TDE into a HPSE (Savage et al., 2017). A lack of safety is often driven by the judgement, scrutiny, and selection inherent in HPSEs (Taylor et al., 2022). Traditionally, after a selection process, players transition into a senior squad at or near end the end of an academy (or similar) programme. In the context of the integrated

model in this research, academy players train with the senior team as soon as they enter the academy, and therefore experience increased pressures and demands at a relatively younger age. As noted above, the findings point to a perceived lack of performance safety experienced by players, typified by accounts of the perceived consequences of making mistakes. As a result, players described how they intentionally avoided taking risks or playing in a manner that was previously considered positive in an academy setting (Swainston et al., 2020). This has the potential to constrain their long-term development (Baker et al., 2024), especially when we know that the opportunity to expand and explore is an essential ingredient in player development (Taylor et al., 2020). In Section 2.3.1, a range of strategies are outlined that coaches can utilise to manage the levels of performance safety. Also in Section 7.3, a number of practical methods implemented at Munster Rugby are highlighted, that can be considered to influence performance safety. In addition to the stand-alone academy skills sessions that support expanding and exploring their skill set, there was a focus within the integrated system on developing the necessary psychosocial skills to enable players to cope with the increased demands of the integrated environment (Alfermann & Stambulova, 2007; Taylor et al., 2022a). This is particularly pertinent when you consider that young players are making their senior debuts at an increasingly young age (e.g., Max Dowman selected in the Premier League for Arsenal in September 2025, aged 15 years and 235 days).

7.3 Contributions of this Thesis to Practice in Munster Rugby (and similar contexts)

As acknowledged in Section 1.7, the findings are context-specific. However, by understanding the pragmatic approach to the research undertaken, and carefully considering its application to similar contexts, practitioners can benefit from the research findings.

7.3.1 Talent selection decision making

Section 7.2 highlighted how the thesis contributed to talent selection literature. Based on the results of the research presented in Chapter 3, I have included a succinct summary of practical implications and recommendations for consideration to improve the talent selection decision making process across TDEs and HPSEs. These recommendations are presented as guiding principles that may support the development of an aligned and collective approach to talent selection practice within an organisation. Following this, practical examples of how Munster Rugby adopted a number of these principles and translated them into applied practice, are presented. The findings advocate shifting from a reliance on objective data as a primary source of information, towards one that recognises the nuanced nature of selection decision making and the influence of wider systemic and contextual factors. Instead, an approach that incorporates a triangulation of objective and subjective data from multiple sources over time, is recommended. The aim of which is not to improve decision making 'accuracy' but instead to provide a 'best-fit' decision for the identified needs of a specific team or organisation. The findings should encourage stakeholders to focus energy and limited resources on the effectiveness of the decision making process (and the talent system) rather than retrospective evaluation of perceived decision accuracy. Consistent with a 'hedge trimming' approach, talent systems should support as many players as possible, for as long as possible, to promote a continuous updating of judgements and allowing for multiple entry and exit points. With the intention of selecting an appropriately high standard of quality players into the talent system, it may be necessary to consider the addition of "as good as possible" to Erikstad and colleagues' "as many as possible, as long as possible" approach. Shelley et al.'s (2025) research illustrates the real-life difficulties associated with implementing this approach, including the level of resourcing required to optimally support larger numbers of players and the threat of diluting the quality of the talent pool. Finally, the

findings promote the importance of working towards an integrated approach between coaches at multiple levels of the talent system, to enhance organisational coherence in talent selection. Developing SMMs across staffing groups was highlighted as an effective method to enhance collective clarity related to desired characteristics when selecting players. SMMs were also considered a necessary element to facilitate talent selection decision making and understanding how broader systemic and contextual factors influence the process.

There are specific processes and systems that have been adopted into practice at Munster, based on the principles outlined above, the findings in Chapter 3, and the literature review presented in Chapter 2. Below are a number of applied examples to illustrate how the thesis has contributed to practice at Munster rugby and for readers to consider for application in similar TDEs or HPSEs.

To enhance the selection process, a player grading process was introduced in which, every two months NTS and academy players were assessed against a framework of predetermined criteria (Lüdin et al., 2023), over an extended period of time, consistent with a hedge-trimming approach. The framework was developed based on the interviews with the twelve experienced talent selectors in Chapter 3, highlighting the key qualities that the participants believed differentiated the very best players. Munster academy and senior coaches were invited to contribute to the framework to ensure it reflected the specific cultural qualities associated with Munster. Effectively, this framework served as an SMM (Barraclough et al., 2023), for academy coaches to benchmark or grade players. The grading was based on a 12-grid performance-potential matrix (see Appendix L), assigning scores to both performance and potential (Baker et al., 2018). Research indicated that assigning a score promoted more deliberate thinking and reflection, enhancing the selection process (Marcoci et al., 2023). Predictions or assessment based on predefined decision rules suggest something akin to an actuarial approach, which often leads to improved performance predictions (Den

Hartigh et al., 2018). All academy coaches (n=7) participated in the grading process as recommended by an aggregation-of-judgements approach (Kahneman et al., 2021), associated with improved decision making accuracy.

A retrospective review process was introduced at the end of each season to evaluate the selection process quality rather than the individual decision validity. In practice, this meant that the review conversations shifted from a retrospective assessment of whether the correct player was selected or not, instead focusing on a review of the steps involved in the decision making process. For example, how many times had a player been flagged and by how many different scouts, before being selected into a player-of-interest group? Had a player been tracking positively throughout the player grading process (see Section 7.2.1)? Were there any risk factors identified related to a player's potential limiters and what were the actions from that (Baker et al., 2018)? A black box thinking approach (Syed, 2015) was adopted with the aim of promoting a no judgement culture, framing any perceived mistakes as learning opportunities for continuous improvement. This approach extended beyond selection processes and was applied across TD practices.

The system at Munster Rugby is designed to support "as many as possible for as long as possible" (Erikstad et al., 2021), a priority we believed was optimal for the needs of Munster's talent system. We believed that this approach allowed us achieve an objective of widening the talent pool and minimise the probability of making type II errors, (see Section 2.4.1). We adopted Erikstad's mantra and added "as good as possible", to maintain an elevated standard for selection decisions, a distinction many staff members were passionate about (i.e., "as many as possible for as long as possible, as good as possible"). The decision was made to shift from a traditional pyramid model to a lighthouse model, to create a shared mental model for staff and a visual representation that could be presented to stakeholders (see Appendix M).

Yet, it is important to note that this approach has many challenges, including the level of resources required to retain additional players in the system. Taylor et al. (2022) suggested that how systems chose to allocate resources should be linked to strategic intent. Therefore, this approach was weighed up against the threat of diluting resources across too many players and reducing the quality of support that each player would receive, potentially compromising individual development. Recent research by Shelley et al. (2025), also in a rugby context, presented findings that offer an alternative strategic approach, where making early decisions related to a player's status increased the odds of converting successfully to senior level. The findings indicated that rugby union players in England that were conferred with early high potential status, prior to securing senior contracts, were 2.5 times more likely to play in the Premiership. These contrasting findings highlight the importance of understanding the nuances of each individual talent system before applying research findings to another context (e.g., resource constraints; governing-body policy such as RFU directives; implications for decision making).

Finally, the findings in Chapter 3 suggested that selection decisions were often made by the least experienced coaches early in the pathway. Accordingly, to mitigate against potential gaps in knowledge and experience, Munster Rugby introduced a series of alignment workshops with pathway and academy coaches, to develop more clarity around the selection decision making process. A secondary aim of these alignment meetings was to develop a shared understanding (SMM) of what Munster was looking for when identifying high-potential players. The Munster TID document (produced as a result of the research presented in Chapter 3) provided a framework for discussion, to enhance selectors' understanding of the specific rugby actions with desired player characteristics. This process was supported with the use of video footage, utilising training and match clips to bring characteristics to life. In addition, more experienced academy coaches became part of the selection process

earlier in the system, with the aim ensuring an element of quality control, but also promoting an organic sharing of knowledge and experience.

7.3.2 Development Coaching Practices and Performance Safety

As outlined in Chapter 3 and in Sections 7.2.3 and 7.2.4, the integrated model implemented in Munster Rugby presents both strengths and weakness. The research findings highlighted many opportunities for, and threats to, effective long-term player development. To amplify the opportunities and mitigate threats, a number of principles and strategies informed by this research were embedded into practice at Munster. The list below includes details that are relevant to a Munster context and should be critically appraised by readers before adaptation to other contexts.

- The weekly schedule was changed to incorporate stand-alone academy sessions every Monday and every second Friday. These sessions were designed specifically to encourage players to take risks, to expand and explore, with the intention of reducing perceived levels of performance safety.
- Academy session designs included various methods to increase the perceived levels of performance safety. E.g., Framing sessions appropriately (Rudolph et al., 2014); deliberately encouraging athletes to experiment (Hodges & Lohse, 2022); creating freedom in an element of training for players to express themselves (Carson & Collins, 2016)
- All academy staff members were included in IDP meetings with a player to ensure a systematic, holistic, individualised approach, to a player's long-term development plan. This approach was adopted to mitigate against a sense that academy players individual and long-term focus (Martindale et al., 2010), was potentially being compromised in the integrated environment.

- The plan for first-year academy players was adapted to manage their exposure to the increased pressures and demands of the HPSE. Younger academy players continued to train with the NTS and were gradually exposed to senior training, on an individual case-by-case basis.
- Additional classroom-based sessions were added to the schedule to upskill academy players around technical and tactical demands, with the aim of increasing their game understanding and reducing their levels of performance anxiety.
- In conjunction with the senior head coach, the schedule was periodised to include development and decompression weeks, where the academy were organisationally separate from the senior squad. Development weeks allowed players to develop physical characteristics required for long term success, and decompression weeks acted similar to a download week, a break from the elevated intensity and demands of the HPSE.
- From a senior team perspective, the team performance was prioritised on certain weeks where key games had been identified. Based on the senior players' feedback during the interviews in Chapter 6, this involved reducing training numbers to less than 40 players, with the aim of increasing the intensity and standard of senior training. At times, this involved portions of training sessions where academy players trained on an adjacent pitch, often preplanned to coincided with the development/decompression weeks.

As acknowledged in Section 7.3, the findings in this research are context-specific and the examples presented above are unique to the Munster environment. However, the mechanisms and principles outlined in Chapter 4 and Chapter 6 identify elements of effective development and performance coaching that may be transferable across comparable contexts.

In particular, Chapter 6 outlines practical measures to manage performance safety, which can be applied in coaching contexts across TDE's to promote adaptive development outcomes. Collectively the findings provide actionable approaches to protect optimal development practices, while supporting performance objectives that are consistent across many sporting organisations. The findings highlight strategies, that could be considered in similar environments to create conditions where development and performance environments can meaningfully cohere, and when effectively managed, operate as mutually reinforcing systems.

7.3.3 Role Models

The adaptive influence of proximal role models has been widely recognised as a feature of effective TDE practice (Hauser et al., 2024). Proximity and access to role models have been cited in TD literature as one of the key ESFs (Henriksen et al., 2010a), consistently referenced by academy players as one of the key positive features of Munster's integrated environment. Training with senior players afforded young players the opportunity to learn by osmosis, observing the habits and standards of senior players every day. At times, these benefits were organic, but coaches also utilised intentional support strategies to encourage sharing and learning. In Chapter 4, when navigating a difficult challenge, the coaches utilised a deliberate strategy of a buddy system, by pairing off a young player with an experienced player, to enhance the preparation for the game. Academy players indicated that, in many cases, the relationships continued long beyond the event in question. Senior players became an integral part of their support network, a feature of effective player development (Li et al., 2015). Taking these research findings into account, Munster Rugby implemented a formal mentoring system, where academy players were paired off with a senior player in a similar position. This includes activities such as additional one-to-one

video sessions, positional skill sessions, and all academy players are included in unit and positional groups for meetings. The research findings in Chapter 6 highlighted that academy players believed the mentoring programme and access to role models was one of the biggest strengths of the integrated model. Several of the academy players referenced the benefits of regular peer-to-peer coaching from senior players.

The results suggest that proximal role models played a significant role in player development and that the social learning acquired from supportive training groups had an adaptive impact on young players. The level of access and proximity to senior role models is clearly an enhanced feature of an integrated environment. However, many of the strategies have the potential to unlock the benefits of role models and support effective player development in a variety of sporting environments.

7.3.4 Coherence, Alignment, and Integrated Practice

With the aim of the thesis in mind, there are several examples of how this research has contributed to practice, to facilitate the development of coherence, alignment, and integrated strategy in Munster Rugby's talent system. A number of measures have been outlined in Sections 7.3.1, 7.3.2, and 7.3.3 and several additional applied examples are presented below.

SMMs are utilised as a key strategy to develop coherence, alignment and integrated practice. SMMs were described by Mohammed et al. (2000) as "an organised understanding or mental representation of knowledge that is shared by team members" p. 123. Successful team performance depends on a shared model among team members on team, task, and situation (Johnson et al., 2007). Recent examples of SMM research include an intervention process with coaches and young players in a soccer academy, to determine perceptions of game understanding (Price & Collins, 2023), and a study involving the development of SMMs in professional rugby (Ashford et al., 2023). Relevant to the scope of this thesis,

Layton et al. (2023), highlighted that academies should be building towards coherent SMMs of player development to support the needs of the athlete and the organisation. As in Section 7.3.1, alignment meetings were used to co-construct SMMs among academy and pathway staff to support selection practices. Taylor et al. (2022) proposed that developing shared models at all levels of the talent system may have a positive effect on practice. Creating a shared understanding may guide practitioners in how they evaluate and record judgements related to players (Moran et al., 2024). A similar example of utilising SMMs is the potential-performance matrix (Section 7.3.1), used by academy staff to create an aligned process in evaluating player progress. Recent research (Barraclough et al., 2023) presented findings to support this practice, with professional academy soccer coaches reflecting how a lack of shared understanding resulted in incoherent selection practices. Many other practices were implemented in Munster with the purpose of creating and maintaining alignment and integrated practice throughout the talent system. As an example, Chapter 4 highlighted how intentional changes to the physical environment supported more frequent conversations between academy and senior coaches and how the presence of academy coaches in senior meetings enhanced coherence and aligned practices.

7.4 Limitations of the Thesis

As with all research, transparent acknowledgement of limitations, as well as strengths, is important. Given the focus of the research was to produce practically meaningful knowledge to enhance TD practice at Munster, Chapters 4, 5, and 6 focussed solely on the Munster talent system. Although these research outputs produced knowledge that can be applied to TD systems, they may be limited to the Munster Rugby context. The reader should critically consider the transferability of these findings to their specific sporting and cultural context. The research presented in Chapter 3 examines twelve different talent systems across three

different sports and may have wider implications for talent selection processes. The research was limited to professional men's sport in Ireland and the UK, however, so caution is urged when considering the transferability of the findings to other contexts.

As outlined in Chapters 4, 5, and 6, my positionality as an insider creates a pragmatic intent for the research. However, my leadership role within Munster Rugby may have introduced tensions, particularly around power dynamics and the potential for impression management (Dwyer & Buckle, 2009). This also presented some potential challenges to the rigour of the research and it is important to recognise that I was not a neutral instrument but an active participant in the data analysis. These challenges include the possibility of being blinded to contextual norms (Chavez, 2015), and a danger that I was unable to separate my own experiences from participants' experiences. An insider perspective may also bring deeper knowledge and interactions to the research (Green et al., 2007), and an enhanced ability to capture subtle and embedded practices that might be overlooked by an external observer (Chavez, 2015). Positionality may also foster trust, contributing to greater openness and depth (Dwyer & Buckle, 2009). To mitigate potential limitations, reflexivity was employed to enhance rigour (Berger, 2015) and I maintained a reflective journal and used the supervision team extensively as critical friends, both of whom are experienced researchers and practitioners in the TD domain. The journal was utilised to critically reflect on my positionality at all stages of the research. Analysis was conducted in reflexive recognition of my positioning, and the role of researcher's subjectivity in shaping deductive engagement with the data (Braun & Clarke, 2023).

Another limitation of this thesis was the short-term data collection. Reflecting the importance of prolonged engagement in ethnographic research, the research in Chapter 4 was completed over a thirty-two week period. However, the focus group interviews were carried out over a period of four weeks. Chapter 5 utilised quantitative analysis, where the TDEQ-5

was administered once to player groups, at various stages of the system. Chapter 6 explored the impact of a strategic intervention implemented by Munster Rugby, incorporating a single round of interviews with participants over an eight-week period. Collecting data over a longer period of time may have provided more longitudinal insights into the experience of players at various stages of the talent system. As outlined in Section 7.3, the research findings presented in Chapter 5 and Chapter 6 informed practice at Munster Rugby, though this is presented descriptively rather than empirically. A follow-up study incorporating the impact of any specific interventions, or any changes to practices over a longer period, would likely contribute richer insights into TD and HP practice. Considering that the findings throughout the thesis provide insight into the experiences of players within a single season, (with the exception of Chapter 3), transferability to other populations should be assessed cautiously.

7.5 Future Research

This thesis provides a significant and original contribution to TD literature as outlined in Section 7.2, and Section 7.3 presents the contributions of the research findings to practice in Munster Rugby and wider sporting contexts. Specifically, Chapter 3 aimed to build on existing TID literature by investigating how decision making occurred and how contextual and systemic factors influenced the selection decision making process. The findings indicate that a range of factors; individual factors such as the sources that selectors use to make decisions, and wider systemic factors such as the impact of resourcing, influenced the process (see Table 3.1). Future longitudinal research could build on these findings, by generating long-term data to further understand decision making and how judgements are updated over longer periods of time. Johnson and Baker (2020) identified a lack of continuous feedback to be able to update information as a primary limitation of talent

selection decision making research in elite sport. A lack of feedback, often delayed for years, compromises the ability to forecast or make predictions based on an athlete's future success. The findings in Chapter 3 advance our understanding of the qualities that discriminate the most successful athletes (Larkin et al., 2022), and the methods and processes used to identify and select athletes. However, longitudinal studies are required to develop a deeper understanding of decision making, to enhance the selection process and support the ability of selectors to forecast an athlete's future success.

Further research into applied selection practices will improve our resource-allocation decisions and optimise selection and development processes. Research is required to explore how the strategic use of resources, can impact the ability to develop an effective TDE (Taylor et al., 2022). Further investigation is also required to understand how the level of resource allocation influences the 'production' rate of players (Shelley et al., 2025), and the optimal number of players that a talent system can resource and develop. Future research should develop methods to provide a valid assessment of return on investment within talent systems (Shelley et al., 2025).

This research builds on a limited bank of literature, supporting the use of SMMs in TD and talent selection, to facilitate the development of alignment and integrated practice in sporting systems (Collins et al., 2022). Moran et al. (2024), suggested that creating SMMs would develop a shared understanding that may guide selectors in how they evaluate and record judgements related to athletes. Based on the finding in the thesis (see Section 7.3), it was recommended that future research should explore the development of SMMs across staffing groups to enhance clarity related to desired characteristics, how selection will occur, and broader contextual factors to support decision making. Considering the aim of the thesis, future research could build on the research findings and consider a wider application of SMMs to further support coherence, alignment, and integrated strategy in talent systems.

Layton et al. (2023) suggested that building coherent SMMs of player development could help support the needs of the athlete and the organisation, including an ability to evaluate the perceived effectiveness of specific practices within a talent system. Similarly, a coherent curriculum may promote integrated practice between a development and a performance environment (Moran et al., 2024), and the alignment of development processes with performance objectives (Webb et al., 2016). Keeping in mind that a curriculum is described as the totality of an athlete's experience (Kelly et al., 2009), future research could explore the development of a TD curriculum and how that is embedded into practice to impact development outcomes.

Future research could build on recent research conceptualising HPSEs and the case study in Chapter 6, that explored an integrated TDE and HPSE. Further case study investigation into the practice of HPSEs could prove equally as valuable as the extensive work characterising effective TDE practice. There is also scope for case studies of novel practice, involving specific interventions such as the integrated model presented in Chapters 4 and 6. Such case studies would provide real time opportunities to investigate intervention impacts on TD outcomes.

Finally, building on the findings of this thesis, future research could explore how we might protect athletes' long-term development when they are exposed to the pressures and demands of a HPSE at increasingly young ages. The case study of an integrated environment provided a unique context to develop our understanding of the impact of performance safety, an increasingly important TD focus. The findings highlighted that some players experienced a maladaptive response to a perceived lack of safety, while others experienced an adaptive response, often viewing it as performance enhancing. Further research should clarify how performance safety affects individual player development, including a more sophisticated understanding of the psychological skills necessary to perform under HPSE conditions.

Research could also inform group and individual strategies to appropriately influence the perceived performance safety in HPSEs to elicit optimal performance.

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Appendices

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Appendix A. Plain Language Statement - Chapter 3

Plain language statement

You are invited to take part in a research study titled Stand up and Fight; a case study of a professional rugby club negotiating Covid'. This research is being undertaken by Dublin City University. The principal investigators for this research study are:

Mr Ian Costello, Professional Doctorate Student at the School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
And

Dr Áine MacNamara, Associate Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Aine.macnamara@dcu.ie

Please take your time to read the information provided on this plain language statement before making any decisions about participation in this research.

What is this research about?
The Wasps-Munster Champion Cup match in December 2021 presented a significant challenge due to the impact of Covid 19 and the isolation of 48 coaches and players. The aim of this research study is to consider, through the lens of multiple stakeholders, how Munster Rugby prepared for and then negotiated this significant challenge.

Why is this research being conducted?
It is important to understand how well talent development environments such as Munster Rugby proactively prepare for and negotiate key challenges. This information will support the refinement of the coaching and development environment, ensuring it is optimal in developing high potential players in the future.

What will I be required to do if I participate?
You will be required to attend one focus group for a duration of approximately 60-minutes, to discuss your perceptions of the preparation for and experience of the Wasps-Munster

Champions Cup game in December 2021. This focus group will be between you, 3 other players or coaches and the principal investigator. All focus groups will be recorded and transcribed.

What are the benefits of taking part in this research study?

You will contribute to research that may have future implications for the evaluation and refinement of the talent development environment in Munster Rugby.

Data protection and privacy notice

- Ian Costello and Dr. Áine MacNamara are the data controllers and data processors for this research study. A data processor may hold or process personal data but does not exercise responsibility for or control over the personal data.
- You have the right to access your own personal data. For enquires contact the Data Protection Officer at Dublin City University, Mr. Martin Ward (**Email**: data.protection@dcu.ie **Phone:** 7005118 / 7008257)
- It is important that you understand how the data collection from the interview that you participate in will be collected and used for this research study. We are required by law to provide you with this information before you decide whether to participate in this research. This study will use your personal information under two legal bases as defined by the General Data Protection Regulations 2016: Because we feel this study is important for scientific research (Article 9(2)(i)) and because we feel the information you provide could be important for public interest (Article 6(1)(f)).
- This study is completely confidential. You will be assigned a code number and will not be identified by name. Consent forms will be secured in an encrypted electronic DCU file. Results from this study will be used by the principle investigators to write a report that may be published and presented publicly. All data will be presented anonymously, individuals will not be identified.
- There will be no automated decision-making or profiling of your personal data in this study. This means that we will not use your personal data to make any predictions about you. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation.
- Upon publication of the study and a period of 6 months, all personal data will be deleted.
- It is important that you know that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.
- Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated

data set. You can contact the researcher at aine.macnamara@dcu.ie if you have questions about this.
Please visit *https://www.dcu.ie/ocoo/dp/guides.shtml* for more information.

What are my rights?

- You have the right to lodge a complaint with the Irish Data Protection Commission if you are dissatisfied.
- You have the right to restrict or object to processing of your information.
- You have the right to have any inaccurate information about you corrected or deleted. For example, you have the right to look over and edit the transcript of any interview with you.
- You have the right to ask for any of your information in a readable format.

How will I find out what happens with the project?

You may contact the principal investigator to receive feedback from this research if you wish. All information from this study will be in non-specific order to preserve anonymity and will be available within 6 months after completion of this study.

If you need any further information now or at any time in the future, please contact:
Name: Ian Costello
Academic supervisor: Áine MacNamara
Address: School of Health and Human Performance, Dublin City University, Glasnevin, Dublin 9, Ireland.
Email: ianjcostello77@gmail.com
If you have concerns about this study and wish to contact an independent person, please contact:
The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, e-mail rec@dcu.ie

Appendix B. Participant Consent - Chapter 3

Participant informed consent form

You are invited to take part in a research study titled Stand up and Fight; a case study of a professional rugby club negotiating Covid'. This research is being undertaken by Dublin City University. The principal investigators for this research study are:
The principal investigators and the data controllers for this research study are:

Mr Ian Costello, Professional Doctorate Student at the School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Ian.costello3@mail.dcu.ie

And

Dr Áine MacNamara, Associate Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland
Email: Aine.macnamara@dcu.ie

What is the purpose of this research?

The Wasps-Munster Champion Cup match in December 2021 presented a significant challenge due to the impact of Covid 19 and the isolation of 48 coaches and players. The aim of this research study is to consider, through the lens of multiple stakeholders, how Munster Rugby prepared for and then negotiated this significant challenge.

What will I be required to do?

You will be required to attend one focus group for a duration of approximately 60-minutes, to discuss your perceptions of the preparation for and experience of the Wasps-Munster Champions Cup game in December 2021. This focus group will be between you, 3 other

players or coaches and the principal investigator. All focus groups will be recorded and transcribed.

Participant – please complete the following (Circle Yes or No for each question)

I have read the Plain Language Statement (or had it read to me)	Yes/No
I understand the information provided	Yes/No
I understand the information provided in relation to data protection	Yes/No
I have had an opportunity to ask questions and discuss this study	Yes/No
I have received satisfactory answers to all my questions	Yes/No
I am aware that my interview will be audiotaped	Yes/No

This study is completely confidential. You will be assigned a code number and will not be identified by name. Consent forms will be secured in an encrypted electronic DCU file. Results from this study will be used by the principal investigators to write a report that may be published and presented publicly. All data will be presented anonymously, individuals will not be identified. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation. Your personal data will be retained until publication for a period of 6 months. Upon completion of the study and publication, all personal data will be permanently deleted.

It is important that you understand that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated data set. You can contact the researcher at aine.macnamara@dcu.ie if you have questions about this.

Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

Appendix C. Semi Structured Interview Guide - Chapter 3

- Can you tell me about your current role in Munster Rugby?
- What were your aspirations and goals for this playing season?
    - Can you talk about what it was like when you realised that the senior squad was not going to be available for selection?
        - How did you feel?
        - What was the mood around the HPC?
    - Did you feel you would be ready for a game like this if selected? Why/Why not?
        - What groundwork had been done/not done to make you feel that way?
- In the ten days before the match, can you tell me about your perceptions of the preparation for the Wasps-Munster Champions Cup game?
    - How well prepared do you think you were for this?
    - What and who helped you during this period?
    - What particular strategies were used?
    - What were the strengths and weaknesses of this preparation?
- Can you tell me about how you thought the pre-match preparation went once the squad was selected?
        - How did you feel when you were selected?
        - How well prepared were you?
        - What/Who helped during this the build-up to the game?
    - What was the focus / approach / style of the coaching?
      (not just tech / tact but bigger picture)
        - What was your role in coaching / preparing the team?
        - What on pitch and off pitch coaching strategies did you notice?
        - What input had players in training/match preparation?
- Can you talk about your experience of match day?
        - How well prepared did you feel going into the game?

    - How did you feel in the build-up and during the game?
    - Were there particular strategies used in the build up that you felt helped you?

- What do you think helped bring everyone together for the game?
    - Who helped with this?
    - What strategies helped?

- Now that time has passed – Any thought on repercussions (good or bad) since the game?
    - Have you noticed any difference in academy or senior players?
    - Have you noticed any difference in the mood around the HPC?

Appendix D. Plain Language Statement - Chapter 4

Ollscoil Chathair
Bhaile Átha Cliath
Dublin City University

DUBLIN CITY UNIVERSITY

Plain Language Statement

You are invited to participate in a research study titled 'What factors influence recruit and retention decisions in sport?'

The principal investigators for this research study are:
Mr Ian Costello, Professional Doctorate Candidate at the School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland Email: Ian.costello3@mail.dcu.ie

And

Dr Áine MacNamara, Associate Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland Email: Aine.macnamara@dcu.ie

And

Dr Jamie Taylor, Assistant Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland Email: jamie.taylor@dcu.ie

Please take your time to read the information provided on this plain language statement before making any decisions about your participation in this research.

What is this research about?

The aim of this research is to examine the factors that influence recruitment and retention of athletes in elite systems at the individual and organisational level.

Why is this research being conducted?

This research is being conducted to help us understand the factors that influence decisions about selection in talent and performance pathways in sport. The results of this study will help us understand the individual and organisational factors that influence these decisions.

What will I be required to do if I participate?

You will be required to attend one online video interview via Zoom for a duration of approximately 60-minutes with one of the principal investigators to discuss your experiences of retain and release decisions in your sport. This interview will be between you and the principal investigator only. All interviews will be recorded and transcribed. Please note that as interviews will be conducted on zoom, with only audio being recorded as part of the interview process. You will be sent a private and password-protected zoom link via email at least one week prior to interview. On the date and time of the interview, you may log into your personal zoom meeting. You will remain in the waiting room of your zoom meeting until the investigator (s) grants you access to the meeting room. Your interview will take place within the online meeting room.

What additional security considerations will be put in place for my interview?

- The meeting will be locked prior to the start of the interview to ensure that no one else may join

- The zoom meeting will be encrypted to ensure your privacy and anonymity is respected
- Unique meeting IDs are required for each scheduled meeting
- All meetings will take place using the DCU licenced version of zoom to comply with data protection requirements
- Only The audio will be recorded but deleted immediately upon completion of the interview and only the audio will be retained. This e audio will be deleted immediately after transcription.

What are the risks of taking part in this research study?

A potential risk of this research is that you will be required to provide your names and email address. To minimise this risk, all information provided will be coded and pseudo-anonymised. Only the principal researcher will have access to your name. Your names, relevant personal information, codes, and recorded interviews and transcripts will be stored on a password protected file on the DCU google drive. All data obtained will be pseudo-anonymised and your child will be unidentifiable. The data will be held/retained until after the Prof Doc candidate Ian Costello has been examined and the degree awarded, to which it will then be permanently deleted. The upper retention limit for the storage of this data is September 2024. No names or personal information will be used during study analysis, discussion, or publication.

Data protection and privacy notice

- DCU is data controller for this research study. A data processor may hold or process personal data but does not exercise responsibility for or control over the personal data.
- A data processor may hold or process personal data but does not exercise responsibility for or control over the personal data.
- You/your child have the right to access their own personal data. For enquires contact the Data Protection Officer at Dublin City University, Mr. Martin Ward (Email: data.protection@dcu.ie Phone: 7005118 / 7008257)
- It is important that you understand how the data collection from the interview will be collected and used for this research study. We are required by law to provide you with this information before you decide whether you decide to participate in this research.
- You will be assigned a code number and will not be identified by name.
- You will be asked to return a signed consent form via a google form.
- Consent forms will be secured in an encrypted electronic DCU file.
- Results from this study will be used by the principal investigators to write a report that may be published and presented publicly.
- All data will be presented anonymously, individuals will not be identified.
- There will be no automated decision-making or profiling of your personal data in this study. This means that we will not use your personal data to make any predictions about them. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation.
- In accordance with DCU's data retention policy and GDPR, the data will be held/retained until after the Prof Doc candidate Ian Costello has been examined and the degree awarded, to which it will then be permanently deleted. The upper retention limit for the storage of this data is September 2026.
- It is important that you know that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.
- Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If they withdraw, any data identifiable to you will be deleted and information about their involvement will be discarded.
- You can contact the researcher Ian Costello if you have questions about this.
- Please visit https://www.dcu.ie/ocoo/dp/guides.shtml for more information

What are my rights?

• You have the right to lodge a complaint with the Irish Data Protection Commission if you are dissatisfied.
• You have the right to restrict or object to processing of your information.

• You have the right to have any inaccurate information about you corrected or deleted. For example, you have the right to look over and edit the transcript of any interview with you.
• You have the right to ask for any of your information in a readable format.

How will I find out what happens with the project?

All information from this study will be in non-specific order to preserve anonymity and will be available to you during the process of member reflections and when/if published the paper will be sent to you. If you need any further information now or at any time in the future, please contact:
Mr Ian Costello
Address: School of Health and Human Performance, Dublin City University, Glasnevin, Dublin 9, Ireland Email:Ian.costello3@mail.dcu.ie

If you have concerns about this study and wish to contact an independent person, please contact: The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, email rec@dcu.ie

Appendix E. Participant Consent Form - Chapter 4

Informed Consent Form
What factors influence recruit and retention decisions in sport?

You are invited and actively encouraged to take part in a research study titled '**What factors influence recruit and retention decisions in sport?**"
The principal investigators for this research study are:
Mr Ian Costello, Professional Doctorate Candidate at the School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland Email: Ian.costello3@mail.dcu.ie
And
Dr Áine MacNamara, Associate Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland Email: Aine.macnamara@dcu.ie
And
Dr Jamie Taylor, Assistant Professor in Elite Performance, The School of Health and Human Performance, Faculty of Science and Health, Glasnevin Campus, Dublin City University, Dublin 9, Ireland Email: jamie.taylor@dcu.ie

What is this research about?

The aim of this research is to examine the factors that influence recruitment and retention in elite systems at the individual and organisational level

Why is this research being conducted?

This research is being conducted to help us understand the factors that influence decisions about selection in talent and performance pathways in sport. The results of this study will help us understand the individual and environmental factors that influence recruitment and selection in talent pathways.

What will I be required to do if I participate?

You will be required to attend one online video interview via Zoom for a duration of approximately 60-minutes with one of the principal investigators to discuss your experiences of retain and release decisions in your sport. This interview will be between you and the principal investigator only. All interviews will be recorded and transcribed. Please note that as interviews will be conducted on zoom, with only audio being recorded as part of the interview process. You will be sent a private and password-protected zoom link via email at least one week prior to interview. On the date and time of the interview, you may log into your personal zoom meeting. You will remain in the waiting room of your zoom meeting until the investigator (s) grants you access to the meeting room. In the interview, you will be asked to reflect on your experiences of selection and retention decisions.

How will I find out what happens with the project?

All information from this study will be in non-specific order to preserve anonymity and will be available within 12 months after completion of this study.
If you need any further information now or at any time in the future, please contact:
Mr Ian Costello
Address: School of Health and Human Performance, Dublin City University, Glasnevin, Dublin 9, Ireland Email: Ian.costello3@mail.dcu.ie

If you have concerns about this study and wish to contact an independent person, please contact: The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, email rec@dcu.ie

Participant – please complete the following (Circle Yes or No for each question)	
I have read the Plain Language Statement (or had it read to me)	*Yes/No*
I understand the information provided	*Yes/No*
I understand the information provided in relation to data protection	*Yes/No*
I have had an opportunity to ask questions and discuss this study	*Yes/No*
I have received satisfactory answers to all my questions	*Yes/No*
I am aware that my interview will be audiotaped	*Yes/No*

.
This study is completely confidential and your participation in this research is voluntary. You will be assigned a code number and will not be identified by name. Consent forms will be secured in an encrypted electronic DCU file. Results from this study will be used by the principal investigators to write a report that may be published and presented publicly. All data will be presented anonymously, individuals will not be identified. Your information will not be processed for any other reason than for this study and it will not be transferred to any other country or organisation. Your personal data will be retained until publication for a period of 6 months. Upon completion of the study and publication, all personal data will be permanently deleted.

It is important that you understand that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated data set.
You can contact the researcher at ian.costello3@mail.dcu.ie if you have questions about this.
Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

Appendix F. Interview Guide - Chapter 4

QUESTION	PROBE	STIMULI	PURPOSE
1. Could you introduce yourself and provide an overview of the work you have done in talent pathways	Brief run through of your career with an emphasis on TID & selection roles	Age Qualifications Experience – no. of years Age/stage & level of player you have worked with	Demographic & background information
2. What characteristics & behaviours do you look for when you identify & select players into your environment?	What are most important traits/qualities? Are these all weighted to same at every level (Academy/pro)? Is there traits a player MUST have to be successful?	Pysical, Technical, tactical, Psycho-social – Weighting of information/data	Traits & characteristic associated with TID & selection
3. What factors do you consider when making a decision? How do you find out this information?	Sources of information? Most important/relevant sources? How much do you rely on your own experience/intuition?	Observation? Objective data? Performance Stats? Scouts/Coaches opinions? References? Interviews?	Factors related to selection at an Individual level
4. Can you describe the decision making process in your organisation to identify & select players?	Is the process different at different stages of pathway? No. of people involved? Format? Time points?	Resources Limits to no. of athletes recruited	Factors related to selection at an organisational level
5. Does your organisation influence selection decisions? If yes, how?	Do you think there is a shared approach to TID & selection in your organisation? Are there any barriers/challenges? Influence of senior coaching staff?	Succession planning/Depth Charts Technical direction	
6. Looking back over your career, what are the biggest mistakes you feel you have made when identifying and selecting players?	Why do you consider these mistakes? How could you have mitigated from happening? Tell me about the process underpinning that decision	How do you evaluate if talent sections were successful? (is this even possible?) Is there a credible route back into the system?	Lessons learned – experience & education
7. (a) Could you tell me about a player that didn't realise the potential you thought he had? Why do you think that happened? (b) Could you tell me about a player that you feel overachieved in terms of potential you thought he had? Why do you think that happened?	Why was there a gap between expectation and outcome? Any clues? Were there organisational factors that led to the player being selected/deselected?	How could you have mitigated from these discrepancies? What have you learned from these experiences?	

Appendix G. Plain Language Statement - Chapter 5

Ollscoil Chathair
Bhaile Átha Cliath
Dublin City University

DCU Research Ethics Committee
Participant Information Sheet

Explore the utilisation of process markers on a rugby talent system.

Introductory Statement

Project Title: Exploring the utilisation of process markers in a rugby Talent System.
Investigators: Ian Costello, Dr Jamie Taylor, Dr Aine MacNamara
University Department: School of Health and Human Performance

What is this research about?

This research is about exploring the use of process markers to investigate how effective practice in an elite pathway is measured and monitored.

Why is this research being conducted?

This research is being conducted to evaluate the degree of alignment and shared understanding related to key principles and practices on a talent pathway. The study will also examine what markers or measures are used to determine the effectiveness of the talent system.

Why have you been invited to take part?

All players and parents of players in the Munster academy and National Talent Squad have been invited to take part. All coaches and support staff in the academy department have also been invited to take part.

What will happen if you decide to take part in this research study?

You will be required to complete an online survey that will take approximately 15 minutes. All participant's responses will be anonymous.

What are the benefits of taking part in this research study?

The research explores how existing principles and practices impact on a player's experience in a talent system. It is envisaged that research findings will contribute to knowledge and enhanced practices in talent development pathways.

What are the risks of taking part in this study?

There are no risks taking part in this study.

Can you change your mind at any stage and withdraw from this study?

You will not be able to withdraw from the study after submitting your data, as at that point, all data will be anonymised.

How will you find out what happens with this project?

It is intended that the findings from this study will be published in a research journal and presented at conferences. You will not be identified in any report or publication.

How will your data be used?

All survey responses will be anonymised and aggregated. Your individual responses will not be identifiable in any reports or publications resulting from this research. You will not be asked to share any personal data. If you complete the research project but have any concerns regarding how your data is being used please contact Jamie.taylor@dcu.ie. Furthermore our DCU data protection officer is Mr. Martin Ward (data.protection@dcu.ie Ph.: 7005118 / 7008257) who will handle any data protection concerns arising from the research. The data will be stored for a maximum of five years.

How will your privacy be protected (including any legal limits to confidentiality)?

All data collected will be anonymous and confidential. Please note that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions".

Contact details for further information:

Please contact either Ian Costello (ian.costello3@mail.dcu.ie) or Jamie Taylor (jamie.taylor@mail.dcu.ie) if you require any further information.

If participants have concerns about this study and wish to contact an independent person, please contact: The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, e-mail rec@dcu.ie

Appendix H. Participant Consent Form - Chapter 5

DUBLIN CITY UNIVERSITY
Informed Consent Form

Project Title: Exploring the utilisation of process markers at various stages in a rugby talent system.

Investigators: Ian Costello, Dr Jamie Taylor, Dr Aine MacNamara
University Department: School of Health and Human Performance

Clarification of the purpose of the research

This research is being conducted to evaluate the degree of alignment and shared understanding related to key principles and practices on a talent pathway. The study will also examine what markers or measures are used to determine the effectiveness of the talent system.

Confirmation of particular requirements as highlighted in the Plain Language Statement

You will be required to complete an online survey that will take approximately 15 minutes. Your participation in this research is voluntary. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated data set. You can contact the researcher ian.costello3@dcu.mail.ie if you have questions about this. Please visit https://www.dcu.ie/ocoo/dp/guides.shtml for more information

Participant – please complete the following (Circle Yes or No for each question)

I have read the Plain Language Statement (or had it read to me)	*Yes/No*
I understand the information provided	*Yes/No*
I have had an opportunity to ask questions and discuss this study	*Yes/No*
I have received satisfactory answers to all my questions	*Yes/No*
I am aware that my interview will be audiotaped	*Yes/No*

Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

Appendix I. Plain Language Statement - Chapter 6

Participant Information Sheet

Introductory Statement
Project Title: The impact of an integrated training model on the philosophy, principles and practices in a rugby talent system.
Investigators: Ian Costello, Dr Jamie Taylor, Dr Aine MacNamara
University Department: School of Health and Human Performance

What is this research about?

This research is being conducted to explore how an integrated training model impacts the long term development of academy players.

Why is this research being conducted?

The findings have the potential to support decision making related to pathway design and operation and enhance future talent development practices.

Why have you been invited to take part?

Academy coaches and players and Senior coaches and players at Munster have been invited to take part (N=16)

What will happen if you decide to take part in this research study?

You will be required to participate in a one-to-one interview with a member of the research team. The interview will be conducted in person and will last for approximately 45-60 minutes. The interview will be in private and there will be an audio recording of the interview. You can choose to not take part or stop taking part in the research study at any time up to the point that the data has been collated and anonymised.

What are the benefits of taking part in this research study?

The research findings have the potential to support the decision making of the key stakeholders and improve practices on talent pathways which will enhance the development experience for aspiring players.

What are the risks of taking part in this study?

To minimise this risk to you, all information provided will be coded and pseudo-anonymised. Your name, relevant personal information and recorded interviews and transcripts will be stored on a password protected file on the DCU google drive. Only the principal investigators will have access to this password. All data obtained will be pseudo-anonymised and you will be unidentifiable. The data will be held/retained until after the DProf candidate Ian Costello has been examined and the degree awarded, to which it will then be permanently deleted. The data will be stored for a maximum of five years. No names or personal information will be used during study analysis, discussion, or publication.

Can you change your mind at any stage and withdraw from this study?

Your participation in this research is voluntary. You can withdraw from this study at any time until the data is collated and anonymised, without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated data set.

How will you find out what happens with this project?

It is intended that the findings from this study will be published in a research journal and presented at conferences. You will not be identified in any report or publication.

How will your data be used?

All survey responses will be anonymised and aggregated. Your individual responses will not be identifiable in any reports or publications resulting from this research. You will not be asked to share any personal data. If you complete the research project but have any concerns regarding how your data is being used please contact Jamie.taylor@dcu.ie. Furthermore our DCU data protection officer is Mr. Martin Ward (data.protection@dcu.ie Ph.: 7005118 / 7008257) who will handle any data protection concerns arising from the research. The data will be kept for a year after the projects conclusion, ending on the 01- 09 - 2027.

How will your privacy be protected (including any legal limits to confidentiality)?

Data collected on mobile devices will be protected with a strong password/passphrase at a minimum, and/or encrypted if the device supports it. All information provided will be coded and pseudo-anonymised. Your name, relevant personal information and recorded interviews and transcripts will be stored on a password protected file on the DCU google drive. Only the principal investigators will have access to this password. All data obtained will be pseudo-anonymised and you will be unidentifiable. The data will be held/retained for a maximum of five years, to which it will then be permanently deleted. No names or personal information will be used during study analysis, discussion, or publication.

Contact details for further information:

Please contact either Ian Costello (ian.costello3@mail.dcu.ie) or Jamie Taylor (jamie.taylor@dcu.ie) if you require any further information.

If participants have concerns about this study and wish to contact an independent person, please contact: The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, e-mail rec@dcu.ie

Appendix J. Participant Consent Form - Chapter 6

DUBLIN CITY UNIVERSITY/MUNSTER RUGBY

Informed Consent Form

Project Title: The impact of an integrated training model on the philosophy, principles and practices in a talent system.
Investigators: Ian Costello, Dr Jamie Taylor, Dr Aine MacNamara
University Department: School of Health and Human Performance

Clarification of the purpose of the research

This research is being conducted to explore how an integrated training model impacts the long term development of academy players. The findings have the potential to support decision making related to pathway design and operation and enhance future talent development practices.

Confirmation of particular requirements as highlighted in the Plain Language Statement

You will be required to participate in a one-to-one interview with a member of the research team. The interview will ideally be conducted in person and will last for approximately 45-60 minutes. The interview will be in private and there will be an audio recording of the interview. You can withdraw from this study at any time without giving a reason. If you withdraw, any data identifiable to you will be deleted and information about your involvement will be discarded. If the data has already been anonymised and aggregated with other data, it will not be possible to identify and remove it, but it will not be possible to identify you from this aggregated data set. You can contact the researcher ian.costello3@dcu.mail.ie if you have questions about this. Please visit https://www.dcu.ie/ocoo/dp/guides.shtml for more information

Participant – please complete the following (Circle Yes or No for each question)

I have read the Plain Language Statement (or had it read to me)	*Yes/No*
I understand the information provided	*Yes/No*
I have had an opportunity to ask questions and discuss this study	*Yes/No*
I have received satisfactory answers to all my questions	*Yes/No*
I am aware that my interview will be audiotaped	*Yes/No*

Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____

Name in Block Capitals: _____

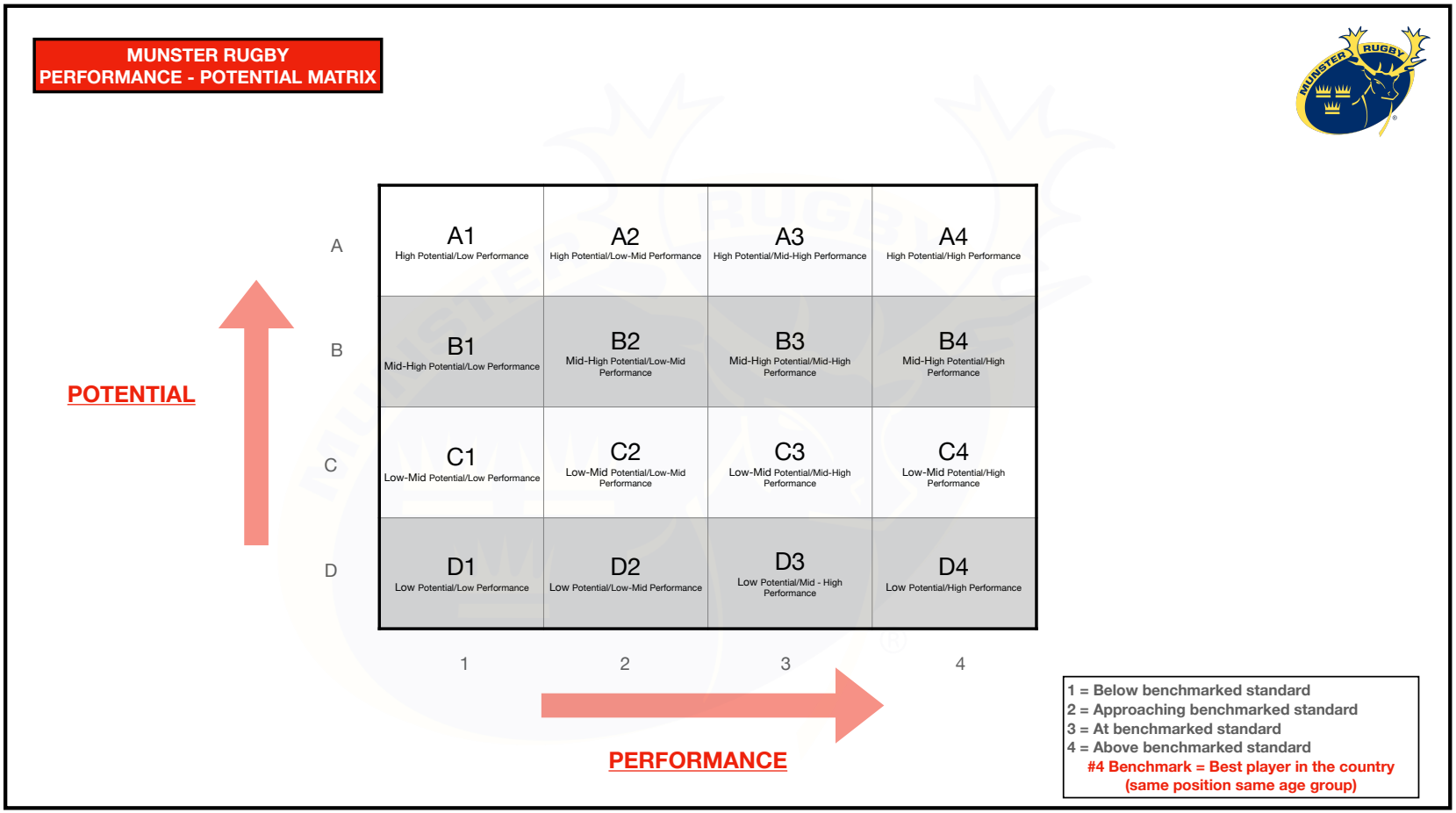
Witness: _____

Date: _____

Appendix K. Interview Guide - Chapter 6

QUESTION	PROBE	PURPOSE
1 Could you introduce yourself and tell us about how long you have been working in the Munster Academy and a bit about your journey to this point.	Route to an academy contract? Club/school background?	Demographic & background information
2 When players first joined the academy how well prepared did you feel they were for the transition into training full time with the senior team?	What were the players expecting? Do you think there were differences between what the players expected and what they experienced?	Players experience of transitioning between junior and senior programmes
3 How do you think the level of challenge experienced by the players changes over time?	What has changed? (Refer to the questions above) Eg ability to cope with training demands; ability to cope with pressure; ability to seek feedback etc	
4 How would you describe the relationship between academy and senior players? (a) on and (b) off the pitch? Can you give me examples.	Do you feel academy player's playing ability is accepted, respected, trusted by senior squad? Why? Do senior players regularly help academy players with advice, support etc?	Explore the relationship between Academy and Senior players
5 What do you think are the biggest strengths/opportunities for an academy player within a model where you are completely integrated with the senior program?	How does the quality of coaching and being in front of senior coaches impact a player's development? How does the standard and competitiveness of training impact a player's development?	Explore the strengths and opportunities associated with the IM from an academy players perspective?
6 What do you think are the biggest challenges/threats for an academy player within a model where you are completely integrated with the senior program?	Do you feel players have the time and space to support their long term development as a player? (short term pressure, fear of mistaking mistakes, room to explore/expand)	Explore the challenges and threats associated with the IM from an academy players perspective.
7 (a) With the Integrated model in mind, what do you think are the biggest threats to a players long term development and the ability to fulfil their potential? (b) What would you change/do differently?	Do players miss out on anything with the IM? Position specific training/individual needs/playing opportunity? Feel players have time to develop/learn/grow? Are you happy with the individual plan you have for the players long term development?	

Appendix L. Performance – Potential Matrix



See Till & Baker 2020.

Appendix M. Munster Rugby Pathway