

**Exploring Stakeholder Coherence in an Effective Talent
Identification and Development
Environment.**

by

Anne Pankhurst

A thesis submitted in partial fulfilment for the requirements for the degree of Doctor
of Philosophy at the University of Central Lancashire

June, 2014

STUDENT DECLARATION FORM

Concurrent registration for two or more academic awards

I declare that while registered as a candidate for the research degree, I have not been a registered candidate or enrolled student for another award of the University or other academic or professional institution

Material submitted for another award

I declare that no material contained in the thesis has been used in any other submission for an academic award and is solely my own work

Signature of Candidate



Type of Award

Doctor of Philosophy at the University of Central Lancashire

School

School of Sport, Tourism and the Outdoors

ABSTRACT

The research in Talent Identification and Development (TID) in sport comprises a wide literature that is categorised into five key constructs in the second study of this thesis. The fifth construct concerns the role that the stakeholders (the sport organisation, coaches and parents) have in athlete development. However, this construct has attracted less research attention, despite its obvious and important contribution to athlete success. The second study indicated low degrees of stakeholder understanding of all five constructs of TID and poor levels of coherence between them, (as described by their perception of each other's views of the research constructs). Further investigation endorsed this lack of coherence, and suggested specific areas of knowledge that would be helpful for coaches and parents in particular. There were very apparent perceptual differences between what parents wanted to know and what coaches thought they should know. Subsequently, testing the impact of parent workshops gave a clear indication that such an intervention could increase understanding of the key issues of athlete development and lead to improvement in coach-parent relationships. The different studies were based primarily in the UK and in one sport, but cultural differences suggest that the findings of this thesis may not pertain to other sports and nations. To this end, the final study compared TID systems and coach-parent coherence in three different cultures. Very few significant differences existed either in each nation's TID process or in coach-parent coherence, suggesting a substantial influence of sporting over national culture. The conclusion is that the many and consistent outcomes of TID research are largely ignored by sport systems. Where TID processes are put in place for junior athletes by sport systems, they appear to contribute to low levels of coherence between the stakeholders and to the lack of success, as adults, of selected junior athletes.

TABLE OF CONTENTS

	Page
Title Page	
Student Declaration	i
Abstract	ii
Table of Contents	iii
Tables and Figures	viii
Appendices	x
Acknowledgements	xi
Abbreviations	xii
Chapter 1 Introduction	1
Chapter 2 Talent Identification and Development: the Need for Coherence between Research, System and Process	5
2.1. Construct 1 Sport Specialisation and Selection	6
2.1.1. Sport Specialisation	6
2.1.2. Selection	8
2.2. Construct 2 Practice	11
2.3. Construct 3 Athlete Development	14
2.4. Construct 4 Junior and Adult Success	17
2.5. Construct 5 The Role of the Stakeholders	20
2.6. Moving Forward	24
Chapter 3 Talent Identification and Development: linking the Stakeholders to the Process	27
3.1. Method	29
3.1.1. Participants	29
3.1.2. Instrumentation	30
3.1.3. Procedure	31

3.1.4. Data Analysis	34
3.2. Results	34
3.2.1. The Extent to Which Stakeholder Perceptions Relate to Research	34
3.2.2. The Coherence of Stakeholders' Perceptions	35
3.2.3. The Extent to Which Stakeholders accurately Understand What Others Think	36
3.2.4. Coach Perceptions of the TID Supported View	37
3.2.5. Parent Perceptions of the TID Supported View	38
3.2.6. NGB Perceptions of the TID Supported View	39
3.3. Discussion	41
3.4. Moving Forward	45
Chapter 4 "Why they think what they think": Tracking the Origin and Impact of Stakeholder Perceptions in Junior Performance Tennis	47
4.1. Method	49
4.1.1. Participants	49
4.1.2. Interview Guide	49
4.1.3. Procedure	50
4.1.4. Data Analysis	50
4.1.5. Establishing Trustworthiness	51
4.2. Results	52
4.2.1. Category (Objective) 1: The sources that inform and affect stakeholder practice and understanding of TID	52
4.2.2. Category (Objective) 2: The consequences that different perceptions of TID have on the behaviour of the stakeholders	58
4.2.3. Category (Objective 3): The specific information needed	

to improve the coherence of stakeholder perception and understanding of TID	63
4.3. Discussion	67
4.4. Moving Forward	72
Chapter 5 Talent Identification and Development in Junior Performance	
Tennis: a Strategy to Support the Parent Role	75
5.1. Method	78
5.1.1. Participants	78
5.1.2. Instrumentation	79
5.1.2.1. Objective 1: <i>Assessing coach perceptions in non-workshop HPC'S of issues raised by parents in relation to their child's tennis</i>	79
5.1.3. Procedure	79
5.1.3.1. Objective 2: <i>Assessing post workshop outcomes for parents</i>	80
5.1.3.2. Objective 3: <i>Assessing coach perceptions post workshop</i>	80
5.2. Results	81
5.2.1. Objective 1: <i>Assessing coach perceptions in non-workshop HPC'S of issues raised by parents in relation to their child's tennis</i>	81
5.2.2. Objective 2: <i>Assessing post workshop outcomes for parents</i>	82
5.2.3. Objective 3: <i>Assessing coach perceptions post workshop</i>	84
5.3. Discussion	87
5.3.1. Objective 1: <i>Assessing coach perceptions in non-workshop HPC'S of issues raised by parents in relation to their child's</i>	

<i>tennis</i>	87
5.3.2. Objective 2: <i>Assessing post workshop outcomes for parents</i>	88
5.3.3. Objective 3: <i>Assessing coach perceptions post workshop</i>	90
5.4. Moving Forward	92
Chapter 6 A Comparison of Talent Systems and Coach Perceptions in the UK, USA and China	94
6.1. National Systems	95
6.2. Method	99
6.2.1. Participants	99
6.2.2. Procedure	100
6.2.3. Data Analysis	101
6.3. Results	101
6.4. Discussion	104
6.5. Moving Forward	107
Chapter 7 Delivering Best Practice in Talent Identification and Development	109
7.1. The Key Issues from the Thesis	109
7.2. Best Practice in TID	112
7.2.1. Best Practice for TID Researchers	114
7.2.2. Best Practice for the Stakeholders	116
7.2.2.1. Construct 1: <i>Sport Specialisation and Selection</i>	117
7.2.2.2. Construct 2: <i>Practice</i>	117
7.2.2.3. Construct 3: <i>Athlete Development</i>	120
7.2.2.4. Construct 4: <i>Junior and Adult Success</i>	120
7.2.2.5. Construct 5: <i>The Role of the Stakeholders</i>	123
7.3. The Impact of Change	123
7.4. Conclusions	127

References	130
Appendix A Figure 3.2. <i>Talent Identification and Development in Tennis</i> <i>Questionnaire</i>	146
Appendix B Form 4.1. <i>Interview Guide</i>	156
Appendix C Form 5.1. <i>Issues raised by Parents of Performance Players</i> <i>in Relation to Their Child's Tennis</i>	159
Appendix D Form 5.2. <i>Post Parent Workshop Questionnaire</i>	164
Appendix E Peer Reviewed Publications	165
Appendix F Outputs Emanating from the Thesis	166

TABLES AND FIGURES

	Page
Figure 3.1. <i>Constructs and Questionnaire Examples</i>	33
Table 3.1. <i>Descriptive Data and Results of Analysis for Differences in Perceptions Within Groups</i>	35
Table 3.2. <i>Descriptive Data and Results of Analysis for Differences in Perceptions Between Groups</i>	37
Table 3.3. <i>Interpretation of Results</i>	40
Table 4.1. <i>Results of Content Analysis</i>	52
Table 4.2. <i>Statements from the Five TID Constructs Questionnaire</i>	59
Table 4.3. <i>Three Statements from the TID Constructs Questionnaire</i>	64
Table 5.1. <i>Mean and (Standard Deviations) of Coach Ratings of Issues raised by Parents within Different Constructs under the Three Benchmarks</i>	81
Table 5.2. <i>How much of the Information in the Workshop was New to You?</i>	82
Table 5.3. <i>How much of the Information will be Useful to You?</i>	82
Table 5.4. <i>What were the Most Useful Topics to You and Why?</i>	83
Table 5.5. <i>What are the Sources of Information You Currently use to Help You Understand and Support your Child's Tennis?</i>	83
Table 5.6. <i>Is There any Topic You Think Should Have Been Included, but was Missing?</i>	84
Table 5.7. <i>When would You Find this Workshop to be Most Useful?</i>	84
Table 5.8. <i>How much of the Information in the Workshop do You Think was New to the Parents?</i>	84
Table 5.9. <i>How much of the Information do You Think was Useful to the Parents?</i>	85

Table 5.10. <i>What do You Think were the Most Useful Topics for the Parents and Why?</i>	85
Table 5.11. <i>What do You Think are the Current Sources of Information that Parents use to help them Understand and Support their Child's Tennis?</i>	85
Table 5.12. <i>When in Their Child's Tennis Career do You Think Parents Thought this Workshop would be Useful?</i>	85
Table 6.1. <i>Means (and Standard Deviations) for Benchmark Ratings for each Nation</i>	101
Table 6.2. <i>Means and Standard Deviations for Benchmark Ratings Collapsed Across Nations</i>	102
Table 7.1. Best Practice in TID: Construct 1 The Role of the Stakeholders	118
Table 7.2. Best Practice in TID: Construct 2 Practice	119
Table 7.3. Best Practice in TID: Construct 3 Athlete Development	121
Table 7.4. Best Practice in TID: Construct 4 Junior and Adult Success	122
Table 7.5. Best Practice in TID: Construct 5 The Role of the Stakeholders	124

APPENDICES

	Page
Appendix A	
Figure 3.2. <i>Talent Identification and Development in Tennis Questionnaire</i>	145
Appendix B	
Form 4.1. <i>Interview Guide</i>	154
Appendix C	
Form 5.1. <i>Issues raised by Parents of Performance Players in Relation to Their Child's Tennis</i>	158
Appendix D	
Form 5.2. <i>Post Parent Workshop Questionnaire</i>	163
Appendix E	
Peer Reviewed Publications	164
Appendix F	
Outputs: Conferences and other Presentations	165

ACKNOWLEDGEMENTS

I would like to thank Professor Dave Collins for the endless support, advice, encouragement and apparent belief he has given me in the preparation of this thesis. It has been a very stimulating, educational and enjoyable process and experience thanks to him.

Dr. Áine MacNamara has been unfailing in her role as my supervisor and I am very grateful to her for all her help and support.

Dr. Andrew Cruickshank was kind enough to give advice on the (almost) final manuscript and for that I thank him.

My thanks are also due to the many coaches in different parts of the world and parents in the UK who voluntarily and willingly gave up so much of their time to answer questionnaires, attend interviews and workshops and give me their opinions: they contributed so much to the thesis and taught me a great deal at the same time. I am very grateful to every one of them.

The whole project would have been impossible to manage and see through without the three most important men in my life: my husband Roy and our two sons, James (with Louise and Evie) and Jonathan. Their love, support, patience and encouragement was endless, unquestioning and undoubting. I thank them wholeheartedly.

ABBREVIATIONS

ANOVA	Analysis of variance
CTA	China Tennis Association
DP	Deliberate practice
GB	Great Britain
HPC	High Performance Centre
ITF	International Tennis Federation
LTA	Lawn Tennis Association
MANOVA	Multivariate analysis of variance
NASPE	National Association for Sport and Physical Education
NGB	National Governing Body
PPDM	Progressive Player Development Model
PTR	Professional Tennis Registry
RAE	Relative Age Effect
RFL	Rugby Football League
RFU	Rugby Football Union
TI	Talent Identification
TD	Talent Development
TID	Talent Identification and Development
TOYA	Training of Young Athletes
UK	United Kingdom
USA	United States of America
USOC	United States Olympic Committee
USTA PD	United States Tennis Association Player Development
UWI	University of the West Indies

Chapter 1

INTRODUCTION

Talent Identification and Development (TID) in sport is a subject of considerable interest for researchers, practitioners, popular authors and the public. In the United Kingdom (UK), media attention for the 2012 London Olympics and Paralympics raised public perception of talent and its outcomes. Popular texts have entered the “best seller” lists (for example, Coyle, 2009; Syed, 2010), while large financial sums (for example, approximately 10% of each sport’s World Class budget), together with 15% of UK Sport’s central funding, is allocated to athlete development (UK Sport, 2012). Highly publicised programmes, such as the "Pitch to Podium" and "Sporting Giants" initiatives (De Bosscher & van Battenburg, 2013; UK Sport, 2008), have focussed on talent transfer and/or recruitment. Although all of these responses are specific to the UK, they also, significantly, reflect a worldwide trend (cf. Vaeyens, Lenoir, Williams, & Philippaerts, 2008).

Many different sport organisations, including National Governing Bodies of Sport (NGB’s) whose role is primarily to manage and grow a sport, are concerned with aspects of TID. Further, there are clear indications that some of them (for example, soccer academies in the UK, Spain, and South America; British Swimming; British Cycling; Major League Baseball clubs recruiting in Central America and tennis federations in the UK, United States, China and Canada) begin their search for talent by selecting children as young as six for sport-specific development programmes. Twelve year old tennis players in different countries have contracts with sports management companies, while the international signing of a seven year old by Real Madrid Football Club set a new benchmark in early identification and selection of talent (Plaschke, 2011).

This thesis will develop a number of issues, all of which emanate from the

application of TID systems to young athletes, with the objective of recommending best practice for the future. Accordingly, it will examine the extent to which the actions of different sport organisations in the TID context represent a reaction to previous experience or opportunity, or are a constructed and logically grounded process that benefits both the sport and the athlete. It will consider how evidence-based and consistent current systems and processes are in TID, by investigating the extent to which there is consistency and coherence between research, current systems, and practice.

The thesis begins with a review of the research, before considering how current systems "fit" into the evidence base presented by this literature. It then examines how the actions, perceptions, relationships, and knowledge bases of those involved in practice in an exemplar sport (tennis) equate to the research evidence, before making recommendations for future practice.

Chapter 2 is therefore both a review of the TID research literature and a consideration of its scope. The review suggests a recurrence of five main constructs, each of which has a number of sub themes. The fifth construct (The Role of the Stakeholders) defines the role of key personnel involved in TID practice with young athletes. These are the system itself (defined as the NGB or sport organisation), the coaches, and the parents. This construct appears to have attracted a lower level of research, despite the necessity for knowledge by the stakeholders in the TID process. Further, this knowledge would seem to be an important requirement for best practice.

As a consequence, Chapter 3 is a quantitative study that investigates the degree to which parents, coaches, and NGB staff understand and have knowledge of the five constructs. To help determine this, the chapter includes an investigation of the perceptions that each stakeholder has about the other stakeholders' understanding of the constructs. Personal experience led me to conduct the study in the sport of tennis

and, in particular, in junior performance tennis. The chapter notes different levels of understanding of the key issues in the five constructs by each of the stakeholders in tennis. Perhaps more significantly, in terms of the stakeholders' role in future athlete success, the data also indicate a lack of coherence between the stakeholders' perceptions of each other's understanding and knowledge.

These different perceptions of the constructs of TID, and especially the differences between coaches and parents, required more information to understand the reasons underpinning them before procedures that could bring parents and coaches closer together could be developed. Chapter 4 is therefore a qualitative study, intended to generate the specific coach and parent concerns; first about their understanding of the five constructs underpinning TID, and secondly about their own role in the TID process. The outcomes of this chapter demonstrate that neither party considers that they have the knowledge and information they need about TID or about working with each other.

As a consequence, the process of enabling parents to acquire more knowledge about TID, while simultaneously conducting a procedure (a parent workshop that only included what parents had indicated they wanted to know) to develop the quality of the parent-coach relationship, is described in Chapter 5. The benefit of the process was tested by working with coaches, some of whom worked in the same venues as the workshops.

The context of the studies undertaken to this point had only considered the TID process in one nation and in one sport. My interest was then to learn whether my conclusions about the stakeholder roles (as defined by the parent-coach relationships in the TID context), could be attributed to the national perspective of the UK or were part of a wider phenomenon. Accordingly, I accepted an opportunity to investigate the international perspective of TID and its impact on coach-parent understanding of

the process. Chapter 6 therefore describes the TID processes in three different nations, each of which has a different cultural and sport system base in an attempt to understand the impact this has on coach-parent coherence. It takes as its base point the issues identified by the UK parents as being those that every parent would need to know. The justification for this was that young athletes' development in any nation (irrespective of culture or sport system) is an independent variable: every child progresses through the same growth and maturation processes, but not necessarily at the same age (Baxter-Jones & Sherar, 2007; Beunen & Malina, 2008; Malina, Bouchard & Bar-Or, 2004).

In concluding this thesis, the outcomes for each part of the study are reviewed first, followed by recommendations for future best practice in TID by all the stakeholders, with the objective of developing greater coherence between them and so increasing the potential for adult success by young athletes. The necessity for any changes in existing practice all link to the fact that current TID systems for young athletes are ineffective, are known to be so and impact on the quality of the relationships and coherence between the stakeholders. The possible outcomes of the recommending changes to current practice are discussed and suggestions made for future study.

Chapter 2

TALENT IDENTIFICATION AND DEVELOPMENT: THE NEED FOR COHERENCE BETWEEN RESEARCH, SYSTEM, AND PROCESS

In the Introduction it was noted that both public interest and the research literature in TID appears to be increasing. Therefore, to preface the work in this thesis, it seemed pertinent to first review the commonalities in the literature base in an attempt to identify and categorise recurring themes. Further, such a review enabled the extent of consistencies between research, current systems, and practice to be investigated. Accordingly, this chapter presents a synthesis of the research evidence from a broad spectrum, and highlights where current sport systems and practices suggest a mismatch with that evidence.

In attempting such a synthesis, I noted that talent (e.g., Durand-Bush & Salmela, 2001; Simonton, 1999) and the processes of TID (e.g., Abbott & Collins, 2004; Abbott, Collins & Martindale, 2002; Baker, Cobley & Schorer, 2012; Cote & Lidor, 2013) had been extensively researched in sport in western nations. However, commonalities in the research recurred regularly, leading me to suggest that five broad constructs (each with a number of sub themes) continued to engage researchers. These constructs were: Sport Specialisation and Selection, Practice, Athlete Development, Junior and Adult Success, and The Role of the Stakeholders (defined as the sport organisations themselves, coaches, and parents). Given their clear theoretical and applied relevance, I would contend that analysis of these constructs can provide a clearer picture of the degree to which consistency exists between TID research and practice, while offering both potential explanations and consequent actions for athlete success or failure. Further, areas for action can be highlighted to the sports and practitioners involved, while at the same time potentially reinforcing, or questioning, the stances taken in the literature.

2.1. CONSTRUCT 1: SPORT SPECIALISATION AND SELECTION

2.1.1. Sport Specialisation

Sport specialisation has received the attention of a number of researchers in TID. It links the age at which an athlete specialises in a single sport (for whatever reason) to the reality of early specialisation. The American Academy of Pediatrics (2000) defined early specialisation as young children training and competing at an advanced level in one sport throughout the year. The National Association for Sport and Physical Education (NASPE, 2010) agreed, describing (early) sport specialisation as the outcome of young athletes' concentrating all practice and competitive time on a single sport, all year round.

The critical issue, however, is that while individual sports commonly pursue such practice, research overwhelmingly indicates it to be detrimental to the long term health and wellbeing of young athletes, citing drop out, injury, and burn out as key consequences (Fraser-Thomas, Côté, & Deakin, 2008; Gould, Tuffey, Udrey, & Loehr, 1996; Moore, 2013; Wall & Côté, 2007; Wiersma, 2000). Taking the competitive perspective, Bompa and Haff (2009) suggested that early specialisation results in early success which is not replicated at adult level. In short, early success is somewhat illusionary as an indicator, or even facilitator, of adult performance. As practical evidence, contrasting names in lists of junior and adult athletes in many sports evidences the lack of transition from junior to adult success (Moesch, Elbe, Hauge, & Wikman, 2011).

Clearly, early specialisation is an outcome of TID systems that require young athletes to concentrate on one sport from a very early age. The concept of early and late performance sports can also be linked to early or late specialisation. For example, while gymnastics is considered an early performance sport because best performances, especially for girls, often occur in the mid-teens (Warriner & Lavalley, 2010), distance

running is considered a late performance sport because quality performances occur in the mid to late twenties (cf. Côté, Baker, & Abernethy, 2007). Unfortunately, specialisation before puberty "blurs the edges" of the concept of early and late performance sports because young athletes often specialise early in the very sports that are considered to be late performance (Baker & Côté, 2006; Gulbin, Oldenziel, Weissensteiner, & Gagne, 2010).

The contradiction between policy/rhetoric and actual systems is particularly clear in this construct and can be illustrated with the example of progressive athlete development programmes in many sports (Bompa, 2000; Football Canada, 2009, USA Football, 2011; United States Tennis Association (USTA), 2006). These expound the value of young athletes taking part in a number of sports, at least until puberty. Yet even sports using such programmes often require young athletes to specialise.

For example, tennis organisations and football academies in the USA and the UK expound the value of fun, the playing of other sports, and general development until the age of 12, but then select players for sport-specific training on the basis of their ability to play and compete successfully by the ages of eight or nine. In contrast, Moesch et al. (2011) supported Bompa and Haff (2009) by indicating that, in many sports, it is later rather than earlier specialisation that leads to adult success. For example, in a major survey of almost 3,000 elite senior athletes in Germany, across a variety of sports, Gullich (2011) demonstrated that early specialisation was positively correlated with early success, but negatively with achievement at the adult level.

As a consequence, the use of early success (e.g., representation and medals at youth level) as a marker of the efficacy of TID programmes would seem flawed, especially when such programmes are specifically focused on senior elite achievement (UK Sport, 2012). Thus, in many respects it appears that the sport specialisation research outcomes and actual practice are diametrically opposed, in no small part

because the sports and associated organisations themselves display such dissonance by saying one thing and requiring another.

In this regard, Collins, et al. (2011) and Côté, Lidor, and Hackfort (2009) suggest that alternatives such as high quality participation programmes and sport sampling respectively have been ignored. Current TID processes and early sport specialisation appear to be the default factors!

2.1.2. Selection

As suggested above, sport specialisation is also concerned with the selection process that usually takes place in TI. Since selection presumes "talent" to exist, it would seem pertinent that an understanding of talent itself is required. In turn, this understanding links to research on the capacities (or abilities) needed in different sports. The concept that sports have both specific (Hodges, Starkes, & MacMahon, 2006; Simonton, 1999) and general capacities (Dweck, 2008; Gould & Dieffenbach, 2002) is well supported and is obvious in practice. It appears, however, that when an individual exhibits a number of the required capacities (abilities) of a sport, he/she is considered talented. However, further research suggests that, unless the *nature* of talent itself is understood (Durand-Bush & Salmela, 2001), then actually identifying it is problematic. This is because talent itself may not be what is identified: maturity or even a higher level of skill from previous practice in similar tests may be.

Worryingly, evidence points to sports organisations identifying and selecting talent through "one-off" testing procedures for different capacities (for example, the Lawn Tennis Association (LTA), 2011). Furthermore, although many deployed tests are based on the capacities of successful adult performance (e.g., speed, endurance and agility), they are undertaken by pre-pubertal children. It would make more sense to determine how the capacities that actually exist in young athletes could themselves contribute to long term development. In support of this point, Bloom (1985) indicated

that the vast majority of adult competitive skills and abilities are not evident in young children: in fact, of the adult capacities, only mental characteristics appear to hold the potential for early (and eventual performance-positive) identification. Even here though, caution is needed; Jonker, Efferink-Gemser, and Visscher (2010) showed that while successful junior athletes can have the self-regulation and reflection skills of adults, these abilities are not easily identifiable.

A further point to note is that the requirements of a sport change over time, due to changes, for example, in rules (e.g., volleyball and hockey), equipment (e.g., tennis), athlete training methods, and improved physical abilities of sportsmen and women. However, it appears that TI can only select on the existing requirements of a sport. Moving forward, the concept of talent profiling that links an individual's skills to the sport's requirements suggests a development that could impact on the processes of TID at least for older athletes (UK Sport World Class Performance Programme, 2012).

Building on this complexity of issues, the literature cites further concerns about TI itself. For example, Poppleton and Salmoni (1991) suggested that TI testing was essentially a screening device used to find the successful athletes of the future. Additionally, recent popular books on talent (Coyle, 2009; Gladwell, 2008; Syed, 2010), indicate (I suggest simplistically) that talent "comes" when the athlete practices hard and long enough, and/or is in the right place at the right time. Worryingly, such books are recommended to sports coaches as primary references on TID (Football Canada, 2009; LTA, 2011). As referenced earlier, the use of TI procedures by many sports organisations to recruit "talented" athletes aged ten or younger indicates that testing and selection thrives in the face of research to the contrary (Lidor & Ziv, 2013). Of further concern, Bloom (1985) recognised that, even with 11 and 12 year olds, experts (let alone tests) were less than 10% successful in predicting adult success. To compound the issue further, even in the selection of young adults,

reliance on "expert" opinion has been found wanting (Lewis, 2011). This leads to a different debate, outside the scope of this chapter, concerning the relative value of selection processes, expert opinion, or random chance as the best means of finding talent! On first sight at least, it would seem that the vast majority of sports and organisations tend towards selection rather than chance, as shown by the large budgets they invest in TI. The process of TI itself is complicated by exactly which tests/criteria are applied and how these are derived. This complication is made worse by the fact that selection is typically based on tests and/or early competitive success. Much research criticises the use of one-off anthropometric (e.g., Abbott et al., 2002), technical and competitive testing (e.g., Martindale, Collins, & Daubney, 2005) to select those with talent. Such research also indicates that the key psycho-social capacities of adult successful performance are largely ignored in TI (Durand-Bush & Salmela, 2001; Van Yperen, 2009). Even worse, the role which these capacities play in the excellence pathway is also largely unacknowledged and certainly neither tested nor exploited (cf. MacNamara, Button, & Collins, 2010a; 2010b).

The consistency of test results is also crucial given the intention to select young athletes. In this context, Vaeyens et al. (2008) re-iterated an earlier discussion regarding the assessment of junior athletes against adult capacities and then assuming current ability will indicate future ability. In an additional twist, Abbott and Collins (2004) noted that, when tests are repeated, the same rank order of results is not replicated, indicating that such tests appear to lack the levels of validity and reliability which should surely be expected given their purpose.

Significantly, the outcomes of selection have other ramifications. The selection of one young athlete is, by definition, deselection of another suggesting that TI is also counter-productive to policies of increasing, or even continuing participation (Collins et al., 2011; Baker, Cobley & Schorer, 2012). These

authors' concern is that children will often leave a sport that de-selects them and maybe even quit sport altogether.

Research has also examined other sub-themes of this construct: notably, the role in athlete selection of previous experience, chronological age, and factors best described as luck and opportunity. In this regard, Malina et al. (2004, p. 626), observed that, “(previous) skill and physical characteristics may give a child an initial advantage in some sports”. They also pointed out that the performance of pre-pubertal and pubertal athletes of the same chronological age varies over even short periods of time, further explaining the lack of validity in comparing test results of different young athletes. These factors highlight major flaws in any selection process that ostensibly tests for talent in young, immature athletes.

TD frequently depends on athletes selected through TI, and the research concerns here are both as evident and just as complex as they are for TI. In classic studies within the TID domain, Bloom (1985) and Rowley (1992) both cited availability and accessibility of facilities, equipment, and financial resources as real issues for TD. Horton (2012) and Reid (2009) indicated that place of birth/residence impacts on the development of young athletes by presenting data that indicated advantages for young athletes who reside in smaller towns/cities and more rural communities. Further, Bloom (1985), Côté (1999), and Van Yperen (2009) all commented on the importance of the family environment, including parental support and sibling relationships. Unfortunately, there is little evidence that *any* of these factors are taken into account during TI, although research indicates they will impact heavily on TD and future success.

2.2. CONSTRUCT 2: PRACTICE

Of course, neither specialisation in a sport (early or late) nor talent can guarantee success. In an oft cited (but perhaps also oft misquoted and misapplied) study,

Ericsson, Krampe and Tesch-Romer (1993) indicated *volume and intensity* of practice to be essential to future success. The concept of deliberate practice (hereafter DP) as a highly structured, effortful, cognitively challenging, repetitive, and non-rewarding activity has pervaded both the popular science books and coaching itself. Only latterly has the thesis begun to come under criticism (Hambrick et al., 2013). However, in the context of developing young athletes, DP is, I suggest, at best aspirational and at worst, illogical. In addition, Ericsson et al.'s much re-iterated theory that 10 years or 10,000 hours of DP is essential for someone to reach high levels of expertise seems increasingly flawed. Consider, for example, the 18 month pathway from novice to world podium reported by Australian Bob Skeleton's athletes (Bullock et al., 2009) or the development pathway of Thomas, the 2007 World high jump champion (Epstein, 2013). Bullock et al. also cited athletes who have achieved success without 10,000 hours or 10 years of practice and some who have achieved expert performance with as little as 3 years of training.

Another consideration is that, while many athletes actually complete or even exceed the requisite hours and years of DP, they do not achieve success! Furthermore, the uncritical, blanket application of the DP approach would seem particularly flawed with young children (Bompa, 2000); most specifically in terms of the age and stage at which DP becomes the main practice mode. Certainly, Moesch et al. (2011) indicated that, while DP is important close to adulthood, it has negative results in terms of longevity in a sport and eventual adult success when applied to younger athletes.

In this manner, DP is neither the whole answer to becoming a successful adult athlete, nor is it the form of practice suitable for young athletes. Common sense and research both suggest there should be other characteristics of practice with young athletes and with different sports. Balyi and Williams (2010), Bloom (1985), and Bompa and Haff (2009) all suggested that, at different ages, stages of maturation, and

ability to cope with practice schedules, young athletes need different types, volumes, and intensity of practice. Other researchers (e.g., Ford, Yates & Williams, 2010; Vickers, 2011) all cite the importance of different types of practice in different sports: for example, open skill sports and those that require decision making. Further to this point, Webb and Pearson (2008) noted the value of game based practice in sports where tactical understanding and decision making is important.

In similar fashion, but in a different context, Baker and Côté (2006) and Côté and Lidor (2013) indicated that deliberate play, unstructured play, and game-based practice in short time frames are likely to harmonise with young athletes' psycho-social needs. The advantages of adding variety to the practice experience is also well documented and again questions the universality of the DP construct. Reflecting these concerns, Bompa and Haff (2009) designed practice schedules (volume and intensity) to fit the needs of specific (but chronological) ages. They also suggested changes in the ratio of practice to competition as athletes mature. In summary, research shows a plethora of factors should influence practice, not just an uncritical and total subscription to DP.

The *purpose* of practice at different ages is also important. Young athletes increasing in maturity require time to develop different skills. Bompa (2000) and Ward, Hodges, Starkes, and Williams (2007) considered it important to design practice to specifically improve performance and skills for young athletes, rather than simply add volume. Indeed, the breadth and depth of the skill-base to be acquired by young athletes is extensive: another reason why DP should be used sparingly.

Making practice *effective* at different stages of skill learning with young athletes is also important (Martindale and Mortimer, 2011). Classic research by Fitts and Posner (1967) and Schmidt (1975) into the stages and methods in which skills are learned is still pertinent in this context and is supported by Gentile (2000); all of which adds to the

complexity of the picture and mitigates against sole application of DP.

In summary, the research on practice in sport is clear: age and stage of athlete development are important considerations in determining the type, length, methods, and purpose of practice for young athletes. In reality while practical experience indicates that DP is the reality for all athletes at some stage, other forms of practice are more appropriate and necessary for young, maturing athletes.

2.3. CONSTRUCT 3: ATHLETE DEVELOPMENT

Athlete development (and its sub-themes) is primarily concerned with the impact on performance of the processes and outcomes of physical-mechanical and psycho-social growth, maturation, and development in young athletes. It links to research on age-appropriate coaching (Côté, Bruner, Erickson, Strachan, & Fraser-Thomas, 2010; Côté & Lidor, 2013) and appropriate coaching environments for young athletes (Martindale & Mortimer, 2011).

The impact of physical growth, maturation, and development in TID can be illustrated by further reference to TI testing. Abbott and Collins (2004) suggested that TI tests do not take differing rates of development in children into account; rather, they build on the "uneven playing field" between children and base long term decisions on short term "snapshot" tests. In yet another oversimplified application of basic research, while better scores often simply indicate a particular child to be more advanced and/or mature in that capacity at that time, such scores are, in reality, taken to mean that the child is more talented. To this point, Malina et al. (2004) showed that early maturing athletes should be *expected* to have better scores in tests of speed and strength. Further, the research on relative age effect (hereafter RAE) (e.g., Musch & Hay, 1999; also see later in Construct 4), indicates that children born at the beginning of a year are inevitably more mature than those born at the end. It also follows that the younger the children of the same chronological age, the greater the propensity for

differences between them and those who are relatively older.

Baxter-Jones and Sherar (2007), Beunen and Malina (2008), and Malina et al. (2004) have researched the outcomes of growth and maturation on young athletes: their information is neither new nor limited to athlete development. To further compound this issue, recent research on the age of maturation indicates a lowering of the age at which boys mature in different ethnic groups, African Americans mature earlier than white Caucasians, who correspondingly mature earlier than the Hispanic populations. This recent research adds to the previous and similar research on girls by the same medical research team, (Herman-Giddens et al., 2012). However, current practice indicates that such research is (again) at best misunderstood by sport organisations, parents, and coaches and, at worst, ignored.

The athlete development research therefore indicates that biological age is more important than the chronological age of a young athlete. Bloom (1985) and Bompa (2000) suggested coaches should always take account of biological age in order to develop an athlete's physical and technical skills appropriately and successfully. Further, Balyi and Williams (2010) indicated that knowing the athlete's biological age would enable coaches to deliver developmentally-appropriate training and competition. However, reality again shows that only the birth certificate (i.e., chronological) age is considered for tests and/or competition (LTA, 2011). The impact that coach education could have in addressing this issue is discussed later in this chapter.

Physical growth and maturation has its greatest impact on the physio-mechanical capacities of young athletes. Technical development is inevitably limited by physical development. As an example, pre-pubertal tennis players cannot fully employ the kinetic chain or rotational forces of stroke production (Lubbers & Pankhurst, 2006), yet coaches persist in trying to develop adult levels of such bio-mechanical abilities in young players.

Psycho-social development follows a similar pattern to physical development (Wylleman & Lavallee, 2004). Research (e.g., MacNamara et al., 2010b) indicates that several psychological skills can be developed at different ages in immature young athletes. Perceived competence, commitment, self-confidence, self-reliance, and coping under pressure are essential for adult performance (MacNamara et al., 2010b; Weiss, Bhalla, & Price, 2008), and the development of these skills can begin in young athletes. Pertinently, however, Weiss et al. (2008) showed that sources and understanding of perceived competence change with, and are related to, age. Dweck's (2008) "growth mindset" emphasised the necessity of developing determination and commitment if potential is to be realised. Similarly, Gould and Dieffenbach (2002) cited confidence, the ability to handle pressure, and courage as examples of capacities that contribute to performance; noting the need to develop these skills in line with age. Thus, catering for and augmenting the developmental process should be a central pillar of athlete development, indeed arguably of any educational system.

The role of the coach in this regard has attracted researchers' attention. Côté et al. (2010) noted that coaches need different skills to meet the needs of young athletes at different stages of the performance pathway. Specifically, Weiss et al. (2008) showed coaches to be instrumental in enabling athletes to develop self-esteem and self-efficacy; in particular, by giving positive and specific feedback that does not focus on correcting errors. In yet another contrast with research outcomes, my experience indicates many coaches are primarily, and some even totally concerned with error detection and correction, but it is the coach education system that trains them to be so. Research by Martindale and Mortimer (2011) supported the notion that the environment created by coaches for young athletes is key, while Weiss et al. (2008) suggested that coaches must create optimal, attainable challenges for self-improvement if young athletes are to develop the perceived competence and motivation associated with success. This

research also highlights the importance of appropriate goal setting (defined as the age-appropriate number and type of goals and time frames) that meets the developmental needs of each athlete.

Unsurprisingly, these considerations also apply to the coach. For instance, Cassidy, Jones, and Potrac (2004) suggested that coaches who are able to continually question their own competence are more likely to deliver positive messages to young athletes and so create the positive environment that contributes to success.

The environment also includes other athletes and parents. On this point, research indicates the role and influence of the peer group on young athletes to be more or less important at different stages of development (Bruner, Eys & Turnnidge, 2013; Fraser-Thomas et al., 2008). Finally parents are the facilitators and creators of the wider environment that surrounds the developing athlete. Bloom (1985), Côté (1999), and Gould and Dieffenbach (2002) all indicated the significant role parents play in the development of successful athletes and, as such, they are a key stakeholder in the TID process. Research on their role is discussed at greater length in Construct 5 in this chapter.

2.4. CONSTRUCT 4: JUNIOR AND ADULT SUCCESS

Since the purpose of TID, at least as far as sports organisations are concerned, is to deliver world class and successful adult competitors, research on competitive success is also important in considering the TID process. It is important to note that, typically, adult and junior competitive systems and success have different characteristics. Most junior athletes compete within national junior competitive systems that are chronologically-based, normally with a two year age banding: a feature uncommon in adult competition. Junior competitive outcomes are, therefore, inevitably greatly influenced by the maturational and developmental stage of each athlete. Further, the literature on RAE highlights differences in success associated with the month of birth. The junior

competitive framework therefore takes no account of the skeletal or biological age of young athletes (Bompa, 2000)! However, despite this clear and systematic bias, competitive results are often part of the selection process (and thus early specialisation) for TID. Only a few sports (e.g., the Football Foundation: Lansley, 2011) seem able and willing to counteract the effects of relative age in their junior competitive systems.

The growth and maturation research illustrates how competitive success or failure is impacted by differences in maturation. Baxter-Jones (1995) concluded that juniors' competitive success is a poor indicator of both talent and future performance. Indeed, the realities of junior competition are twofold: the majority of young athletes often perform inconsistently in competition as they progress through puberty, while early maturers have physical advantages over their peers that translate into (often temporary) success. So, basing selection on junior success is neither logical nor in any way consistent with research. Further, when the playing field levels out post-puberty, late maturers (if they are still in the sport) often catch up and overtake their peers, many times leading those with junior-level success to drop out! Little of this is new to researchers: Boaz (1912), citing Crampton and Rotch, recognised the problems of using chronological age to assess young people, yet it is still the basis of competition for young athletes in most sports.

The RAE research, while extensive and important in the junior competitive context (Cobley, Wattie, Baker, & McKenna, 2009; Edgar & O'Donoghue, 2005; Morris & Nevill, 2006; Musch & Grondin, 2001), also appears to be ignored. This is despite the fact that education systems have understood the outcomes for many years. Actual results are clear: athletes born in the first half of the sport year are far more likely to achieve competitive success than those born later. RAE thus adds further concern to the use of age group competitive results in TI and as a measure of success in evaluating TD. As noted, however, few organisations/systems (even the most innovative) seem

willing to address the downsides of this consistent and well-recognised factor. As such, while age group competition remains in junior sport, the impact of relative age will be an "elephant in the room".

National sports organisations are those best placed and able to ensure that competitive systems support the physical and psychological needs of different ages, stages, and abilities of athletes, but practical experience suggests they rarely do so. The default system for many is chronological age, although some recent change can be noted. In tennis, for example, 10 and under coaching takes account of the physio-mechanical abilities of the players with the use of smaller playing areas, modified equipment, and scoring systems. However, the psycho-social needs of 10 and under players during competition are not similarly considered (such a situation, but with a clearly orthogonal answer, also exists for pre-puberty and puberty athletes). This is a particular concern as, irrespective of age, young athletes have the same competitive stresses as senior athletes, but fewer coping skills against a much more powerful and censorious audience (i.e., adults!). Eklund and Gould (2008) highlighted that stress levels in young athletes in competition are raised by the expectations of NGBs, coaches, and parents. Further, NGBs with an over-concern for early competitive success also exhibit a gross misunderstanding of the psycho-social and coping skills of initially successful athletes who lose or whose performance appears to fall as they move through puberty, by dropping them from the system.

Of course, competition need not in itself create stress for young athletes, but the expectations and reward structures put in place by TID systems can do so. Financial rewards, either through sponsorship or scholarship, become important to young athletes and their parents. As an example, tennis in the UK has rewarded successful athletes from a young age by funding them and placing them in select groups, thereby also elevating them above their peers. These are yet more negative outcomes of the "Law of

Unintended Consequences" that bedevils TID. The contracts given by sports management companies referenced earlier also give financial rewards to young athletes of 12 or 13 years of age on the off-chance that one will be *the* future world class athlete. The outcome of failure for the young athlete is not considered; neither is the life changing implications of first being promoted to, and then being dropped from such an artificially inflated status. In this vein, Dweck (2008) has warned of the counterproductive outcomes when young athletes are termed "successful", suggesting they can believe the hype, cease to work as hard, and start to compete selectively. Her solution is for the stakeholders to change their focus and value towards continued effort more than results.

Reference has already been made to research concerning the volume and purpose of practice and competition in TID, with the suggestion that the ratio of hours allocated to practice and competition at different ages should change. The purpose of competition (like practice) should be well defined and related to young athletes being given time and opportunity to develop sustainable competitive skills. Statistics on successful junior athletes who do not become successful adult competitors are well documented (Moesch et al., 2011). Specifically, in tennis, Babolat the racket manufacturer, reported that approximately only 7% of the world's best juniors reached the world's top 100 and only 1% progressed to enter the world top 10 of men's and women's players (Crouse, 2010). The literature reflects that an overabundance of junior competition can lead to overconfidence and under-preparation for the future.

2.5. CONSTRUCT 5: THE ROLE OF THE STAKEHOLDERS

Well developed (and even unsuccessful) TID spawns processes and structures within a sport that are often dominated by the sport organisation itself. TI is primarily concerned with identification and selection of (often pre-pubertal) athletes and TD is concerned with their development as they progress through puberty to adulthood.

During this period, the sport organisation links with coaches and (because of the athlete's age) parents. These three are therefore the stakeholders in any TID system for young athletes. It would seem logical to assume that success for the athlete is more likely when each of these stakeholders deploys their specific skills and has a commonality of knowledge of athlete development and an understanding of the TID process itself. In addition, the quality of relationships between the stakeholders and with the athletes themselves should be high (Martindale et al., 2005).

The "system controller" in the TID process is the sport organisation, because it holds responsibility for all policies and thus systems in the sport. A major policy of most NGBs is to achieve success in world class competition with the result that systems then need to be developed to meet that policy. In discussion of the sport specialisation construct it was noted that sports are often characterised as early or late performance sports and this will impact on the need for early or late specialisation. As an example, tennis is a late performance sport because the physio-mechanical and psycho-social skills necessary for world class performance are unattainable by players until their late teens or early twenties (Bompa, 2000; Sanchez, 2010). However, the apparent need for success by several tennis federations has developed a TID system that requires early specialisation; seemingly underpinned by a belief that learning (inappropriate) skills is a useful preparation *rather* than a significant barrier to future success. In contrast, research suggests early specialisation to be unnecessary and indeed, an active impediment to future success (e.g., Côté, 2011; Moesch et al., 2011). My conclusion is that a NGB's policy for success makes early specialisation necessary and the creation of a DP-focused TID system an inevitable and perhaps unintended necessity, despite research evidence to the contrary!

The extent to which the key stakeholders (i.e., sport organisation, coach, and parent) are consistent *and* informed about successful athlete development is another

important issue. As an example, NGBs normally assume responsibility for the policies and systems of coach education within the sport. My experience, supported by Bloom (1985) and Côté et al. (2010), indicates that to develop successful athletes, appropriate age-based coach education is essential. Therefore, coaches who have been given the knowledge and appropriate training needed to coach young athletes on the TID pathway are a significant stakeholder in the TID process. However, although many NGBs have developed and mandated coach education and even coach licensing systems, there is little evidence that specific training and information for coaches on developmentally appropriate physio-mechanical and psycho-social skills for young athletes is being integrated into those systems. Conversely, sports organisations appear to quantify the measure of good coaching to be (immediate) athlete success, with the result that coaches understandably perceive their role in TID to be delivering outcomes rather than having concern for the process (NASPE, 2008). In contrast, both Martindale and Mortimer (2011) and Weiss et al. (2008) have noted the importance of a (positive) coaching environment that enables athletes to acquire the necessary and age-appropriate physio-mechanical and psycho-social skills for successful performance over a period of time. In addition, research on *how* coaches actually acquire the skills to create appropriate environments with young athletes appears lacking in both specificity and substance. As an example, it appears that despite the changes to coach education systems in the UK, the accent is still on the *what* of coaching (e.g., techniques and tactics) when, in terms of TID in particular, the *when* and *how* is more important (cf. Abraham & Collins, 2012; Abraham, Collins, & Martindale, 2006). The question thus remains: how do coaches acquire the *when and how* skills?

Adding to these concerns is the general disenchantment with formal coach education processes apparent in much of the literature and with the coaches who took part in the studies for this thesis. My research (cf. Chapter 4, and supported by Cushion,

2006; Reade, Rodgers, & Spriggs, 2009; Stewart & Sweet, 1992; Stoszowski & Collins, 2012) suggests that, rather than learn through what they consider to be poorly structured courses and materials, coaches prefer self-directed learning, making decisions based on their own experience, and seeking interactions and mentoring with other coaches and experts. Given the current orthodoxy of a coach's status being gained through winning, rather than developing athletes for the long term, it seems that substantial change is also needed in the social milieu of coaching if changes in TID processes are to be made.

Importantly, Bloom (1985) and Horton (2012) both noted the role of parents in choosing coaches for at least the first two stages of the developing athlete's career. Several questions then arise against the backdrop discussed earlier: for example, are parents educated and aware of the skills needed by coaches at different stages of the athlete development pathway? Is the detail of the constructs an appropriately important (and informed) feature of their decision making? Are they willing to make choices on a more subtle (but relevant) basis than just the coach's win-loss record? The responsibility for addressing these issues for parents surely lies mainly with the NGB as the system controller.

Research also highlights the positive role of parents as a key requirement in the TID environment (Gould, Lauer, Rolo, Jannes, & Sie-Pennisi, 2004). Bloom (1985) noted that successful adult athletes come from child-oriented homes where parents positively and consciously teach and transfer the key traits of successful performance to their children (for example, a strong work ethic, commitment, and time spent constructively). This transfer mechanism illustrates and supports the notion that parents, as stakeholders, have specific skills that are essential to a successful TID system. Bloom further suggested that parents can be positive monitors of (appropriate) practice as young athletes improve. Further, while both Rowley (1992) and Bloom noted that parents actually start children in sport, Weiss et al. (2008) noted the importance of

realistic parent expectations to help young athletes feel positive and so remain in sport. Feedback that is contingent on actual performance is another parent contribution. Extending this notion of parent skill sets, Côté (1999) recognised that the role of parents and the quality of their relationship with their children as they develop is important. In similar fashion, Bloom researched the different, but important and specific roles that parents take at different stages of the child's career.

The bulk of research on parents points to their importance as a stakeholder in TID and suggests that the management and optimum use of parents should be a key priority for TID systems (Gould et al., 2004). To exclude them or to compromise their role negates and misunderstands the role parents have, both in TID and with other stakeholders. Current practice in many sports however, together with anecdotal evidence, indicates a predominantly negative attitude by the other stakeholders (NGB's and coaches) to parent involvement in the development of their own children, other than as the providers of transport and finance! In this regard, the commonly adopted policy of offering web-based, "we know best" parent education is limited, unhelpful, and unreal. A perspective from sports organisations and coaches that recognises the positive outcomes of integrating parent skills in the development of their own children would seem far more productive, relevant, and beneficial. Indeed, this is another factor significantly supported by research but neglected by practice.

2.6. MOVING FORWARD

The purpose of TID is to develop successful adult athletes systematically. It is the antithesis of waiting for talent to arrive by chance! Whether one method is more effective than the other awaits explicit examination. However research, together with junior and adult ranking lists in many sports, indicates that high success rates of junior athletes often correspond with low success rates when these same athletes become adults. On this simple outcome basis at least, the evidence is that current methods of

TI and TD do not develop world class performers.

In contrast, the five constructs referred to in this chapter point to an extensive, developing, and wide ranging research base in TID. However, there is little evidence that it is read or taken into account by the system/NGB, while populist authors have gained credence on the basis of their sensationalist and oversimplified versions of the complex issues. Of further concern is that these same authors are also now seen as authorities in the TID field and presented as such to high profile conferences and the media, further cementing their status.

This chapter has also indicated where research (or a lack of it) could explain why TID processes take place in many sports and suggested why it fails to deliver successful athletes in many sports (e.g., Abbott, Collins, & Martindale, 2002; Abbott, Button, Pepping, & Collins, 2005; Gullich, 2013; van Yperen, 2009). The analysis of the research suggests that reasons do exist for the apparent inability of systems to support athletes in realising their potential and that these lie within current practice rather than research. In fact, as this chapter demonstrates, it appears that there is mismatch and/or a mis/non-application of theory to practice that underpins much of the systems' inabilities. The fact that divisions have been identified between research and practice leads me to suggest that these could be responsible for the lack of success in TID programmes. Of course, the reasons for the divisions may be comparatively simple and straightforward. There could be a time lag between the generation of cutting-edge research evidence and its application in TID. Alternatively, systems/NGBs' consistent neglect of research could be the fault of the researchers who may obfuscate or even fail to consider the practical implications of their investigations (cf. Collins, 2008a, 2008b). However, NGBs cannot ignore their own low success rates for athletes whom they have selected, without at least trying to identify whether the reasons lie within their own policies and systems. The call for evidence-based practice in this area is therefore surely

justified (cf. Collins & Bailey, 2012).

The analysis of the research in all five constructs also highlights areas where research in aspects of TID is lacking. The final construct especially, concerning the stakeholders, would suggest that their relationships, knowledge, and specific skills and abilities, both as groups and as individuals, are areas for further research. Certainly, there is an apparent lack of research on the importance (or otherwise) of these stakeholders' (i.e., NGB, parents, coaches) perceptions of their own skills and knowledge bases and also of the value of the relationships between them. Further, there is no research on the impact which a greater coherence between these stakeholders could have on athlete success, irrespective of the development process. Accordingly, the following chapter begins the process of researching the knowledge base of the stakeholders and how it might pertain to the perceptions and coherence between them.

Finally, there must be recognition that, as with so many other human constructs, TID is a bio-psychosocial issue. Accordingly, the potential for the uncritical acceptance and copying of apparently effective procedures from one culture to another is limited (Collins et al., 2011; Collins & Bailey, 2012). As such, and recognising that the examples in this chapter have been focused on western cultures, The penultimate chapter of this thesis will consider other national and sporting cultures to which the same constructs and TID processes are applied.

Chapter 3

TALENT IDENTIFICATION AND DEVELOPMENT: LINKING THE STAKEHOLDERS TO THE PROCESS

The previous chapter, in noting TID to be a complex issue (Martindale & Mortimer, 2011), also recognised that this complexity has spurred an increasing volume of research. Unfortunately the research outcomes do not appear to be mirrored in practice (Collins et al, 2012). I also identified five constructs (each with several sub themes), in order to categorise and manage the implications of the volume of research.

This chapter, which relates specifically to the fifth construct, considers the degree of dissonance in the knowledge base of the stakeholders (system/NGB, coaches and parents) of the constructs. The previous chapter, while highlighting the lack of coherence between research and practice in all five constructs, also identified the need for more research in the fifth construct, in particular. The research should relate to the knowledge base and roles of the different stakeholders in TID and the coherence of the relationships between them. I suggested that the knowledge, skills and abilities of each stakeholder, while unique and specific to each role, are all important to the developing athlete. Accordingly, there is a need for consistency and clarity in messages and support from each stakeholder (cf. Martindale et al., 2005) if the potential of each athlete is to be realised. I also suggested relationships *between* the stakeholders to be critical to the process. Based on research in other fields (cf. MacPherson & Howard, 2011), it appears that a lack of coherence between stakeholders can impact on success because of mixed messages, confused agendas and a lack of clear direction and directives. In most systems, stakeholder understanding of the fundamentals of the key constructs of any process is presumed to exist in practice, but research does not appear to support this presumption in terms of TID in sport. A

lack of research is also apparent on the related topic of the degree of understanding each stakeholder has of each other's skills and knowledge base.

The study in this chapter centred on the specific sport context of junior performance tennis. The stakeholders were parents, performance coaches and TID staff of the NGB. Parents, in particular, are seen as important influences on young athletes (e.g., Bloom, 1985; Côté, 1999; Gould et al., 2004; Weiss et al., 2008; Wuerth, Lee, & Alfermann, 2009) and, in sport terms, they continue to receive a good deal of research attention in different western societies (e.g., Bois, Lalanne, & Delforge, 2009; Young & Pearce, 2011). (Further to this point, Chapter 6 is concerned with my own research in other nations with coaches and parents).

The second group of stakeholders in the TD process is the coaches. Bloom (1985) noted the importance of young athletes having the right coach for their specific stage of development. Extending Bloom's point, several authors (Abraham et al., 2006; Abraham & Collins, 2012; Vickers, 2011) cite the importance of the coach being able to make quality decisions and systemic choices that best meet the needs of the developing athletes. Notwithstanding the research mentioned above, there is insufficient literature to describe what the "right" sort of coaching is and, critically for the current discussion, *how* such coaching is best integrated into a holistic TID system.

The third stakeholder in the TID process is the sport organisation, because it acts as the system controller in establishing processes and procedures to identify and develop talent. In some nations the system controller is a centrally managed and funded sports organisation, but in others it is an individual NGB (Hong, 2013; Houlihan, 1997; Morris, Dunman, Alvey, Wynn, & Nevill, 2004; Oakley & Green, 2001). Research on the role of the sport organisation/NGB as the system controller for

TID is extensive, but only in respect to the TID role. Research appears limited in terms of the links to other stakeholders.

Reflecting these concerns and issues, my research for this chapter examined, in the TID context, a) the extent to which stakeholder perceptions related to research findings, b) the coherence of the stakeholders' perceptions and (c) the extent to which stakeholders accurately understood what each other thought.

3.1. METHOD

The research was conducted in nine different junior high performance tennis centres (HPCs) in the UK. These centres, identified, recognised and, in part, financed by the LTA, act as hubs for selected juniors in an area/region. The LTA, as the NGB for tennis, has a comprehensive UK wide TID programme that identifies, selects and develops young players (from age 6) whom it determines to have talent. Many of the children in this TID process train at the high performance centres. The centres selected for the study were chosen to ensure a UK-wide, spread of participants.

3.1.1. Participants

A mixed sample ($n = 75$) of coaches, parents, and NGB personnel was recruited, based on their involvement with junior performance tennis and therefore with TID in the UK, to participate in a research questionnaire.

Of the 75, 49 were coaches. All the coaches, at the time of data collection, were coaching junior performance players aged between 6 and 15 in the selected HPC's in different regions of the UK. Every coach had been involved in performance tennis coaching for between three years and 17 years, prior to the research (10.5 mean years of performance coaching). All were qualified LTA performance coaches (i.e., Level 3 / 4 coaching qualification in the UK). All the coaches had experience of coaching players at all stages of the TID programme. In each of the nine centres, every coach

involved in the Performance programme answered the questionnaire and on a voluntary basis.

A sample of 23 parents participated in the study from five of the nine centres. Only five centres were used because the parents needed to be present in the centre to complete the questionnaire. Parents were only present when they brought their child for a squad training session so this limited the number who could complete the questionnaire. All parents were recruited initially by the Director of Tennis or Head Coach in each of the five centres. Each parent therefore, at the time of data collection, had child already selected for the LTA's TID programme.

Three LTA staff (of a possible eight), all working in the LTA's TID programme, felt able to volunteer to participate in the research, again on a voluntary basis. I recognised that this was a small sample (and would have been so even with every member of the TID staff taking part), but I took the decision to proceed.

All participants were contacted by email and, where necessary, by telephone by myself, and informed of the purpose of the investigation and assured of confidentiality and anonymity. Ethical approval was granted from the University's research ethics committee. All participants agreed to take part and completed an informed consent form.

3.1.2. Instrumentation

The research was based on a specially designed questionnaire, developed from the review of the TID literature in Chapter 2 (cf. Pankhurst & Collins, 2013a). The questionnaire consisted of 50 randomised statements, representative of the five constructs and their sub themes identified in Chapter 2. Each construct was represented by a similar number of statements in the questionnaire, using an "either-or" style where one "side" represented the position supported by the consensus of the TID research and the other being presented as the opposite (but often practically

employed) position. Participants were asked to rate the degree of their agreement/disagreement with each of the statements.

The questionnaire items were generated through a series of steps, reflecting recommendations for the development of new measurement scales (e.g., Zervas, Stavrou, & Psychountaki, 2007). Firstly, items (cf. Gould, Medbury, Damarjian, & Lauer, 1999) based on the five constructs and their sub themes, were generated. Secondly, three independent experts who had extensive research and/or applied experience in TID (cf. Fraenkel & Wallen, 2000; Wiersma, 2001) reviewed the statements and the constructs. These experts represented proficiency in psychological research and support, applied TID, teaching, and coaching: all were familiar with the constructs, aims, and rationale underpinning the questionnaire. Following the recommendations of Dillman (2000), the experts were asked to review and scrutinise all statements and comment on the clarity, face and content validity, and comprehensibility of each one. Changes were made to those where a consensus was not apparent between the three experts. This resulted in changes in the wording of 15 of the 50 statements. Once the statements were deemed acceptable, their order was randomised on the questionnaire. The randomisation process of the statements had two aspects: statements from different constructs were intermixed throughout the questionnaire and 30% of the statements were then reversed. The questionnaire was then tested for understanding by two performance coaches and two parents of young performance players, drawn from the same pool as the target participants. Exemplar items from each of the five constructs, and the response scale employed, are presented in Figure 3.1, p. 33. The full questionnaire, Figure 3.2, is in Appendix A p.146 of this thesis.

3.1.3. Procedure

A copy of the questionnaire (Figure 3.2) was provided to each participant. It

included a front page of explanation and detail about the procedure for completing the questionnaire. Both the coaches and the parents in every centre completed the whole questionnaire in person under my supervision. No contact took place between participants until the questionnaire was completed and each group completed their answers at the same time. To promote honesty, confidentiality and anonymity were assured and no names or contact details were used on the questionnaire. Instead, a code (of the HPC and the type of participant), together with a number (within the series of the particular participant) was entered on each form, prior to completion, for data collection purposes. The three NGB staff completed the questionnaire in my presence and their forms were similarly coded.

When answering the questionnaire, participants were first asked to choose one of the two opposing views of each statement (one view was based on research and the other opposed/contradicted this perspective), and then to quantify the degree to which he/she agreed with that chosen view (strongly agree, agree somewhat, agree). Participants were asked to respond to all 50 statements three times. The first set of responses reflected their own perception of the statements. The second and third set of responses gave the participants view of the other two stakeholders' perceptions of each of the statements. For example, each coach was first asked his/her own perception of all the statements, then his/her perceived view of the parent's and finally the likely perception of the NGB of all the statements. Likewise, each parent was asked for his/her own perception and then for his/her view of how the coach's and NGB's perceive each statement. Similarly, the NGB staff gave their own view and then their perception of the view held by the parents and then the coaches. Consequently, each participant was asked to respond to 150 statements in total. The questionnaire was set in order for the type of participant (coach, parent, or NGB staff) with the order of the two (other) participants balanced across the study.

Figure 3.1. *Constructs and Questionnaire Examples*

Construct 1: Sport Specialisation and Selection							
Talent can be identified at a young age through a number of standardised physical, technical and tactical tests.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Talent cannot be identified at a young age using standardised physical, technical and tactical tests.
Early talent identification is not necessary to develop successful adults.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Early talent identification is essential to develop successful adults.
Construct 2: Practice							
Players should undertake the volume of practice for their developmental age.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Players should practice volume is irrespective of their developmental age.
The potential of each player can be best developed through different types of practice at different ages.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The potential of each player can only be developed through deliberate practice, irrespective of age.
Construct 3: Athlete Development							
Players should attend normal school until at least 16 years of age.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Players should be home schooled to increase opportunities to develop tennis.
The developmental age of the player should be the principal criterion for technical development.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The chronological age of the player should be the principal criterion for technical development.
Construct 4: Junior and Adult success							
Age group competitive success does not determine future success.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Age group competitive success determines who will succeed in future.
Junior rankings in junior tennis predict adult success.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Rankings in junior tennis do not predict adult success.
Construct 5: The Role of the Stakeholders							
Young players with potential need coaches with experience of working with young players.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Young players of potential need coaches with experience of coaching successful adults.
Parent support is essential for players of all ages.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Parent support should be limited once players have reached puberty.

3.1.4. Data Analysis

For ease of analysis, participant responses were converted to numerical values. In all cases, the score of 1 was allocated to the “strongly agree” response to the research supported statement and the score of 6 was allocated to “strongly agree” on the opposite response, with integer values allocated equally across the intervening responses. Reverse items were converted appropriately to reflect this same system.

A one-way, between-groups multivariate analysis of variance (MANOVA), with follow-up univariate analyses (ANOVA) and post-hoc comparisons were undertaken to explore the differences between stakeholder’s own perceptions about statements in the five constructs in TID and their view of other stakeholders’ perceptions about the same statements and constructs. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity. The assumption of equality of variances was violated for Construct 4 (.037) for the coach data and therefore a more conservative alpha level for determining significance for that variable was set ($p < .025$) (Tabachnick & Fidell, 2001).

3.2. RESULTS

3.2.1. The Extent to Which Stakeholder Perceptions Relate to Research

First, I was interested in the extent to which stakeholder perceptions of TID relate to research. The results suggest (see Table 3.1, p. 35) that although each stakeholder group broadly agrees with the research (i.e., a score of three on the Likert scale), no group strongly agrees (i.e., a score of one on the Likert scale) with the research supported position on any of the five constructs of TID. Worryingly, the NGB personnel did not strongly support any construct and in fact disagreed with the research for Construct 1 Sport Specialisation and Selection.

Table 3.1. *Descriptive Data and Results of Analysis for Differences in Perceptions Within Groups*

	Construct	Coaches	F(2, 144)	Sig. diffs. between Groups
COACHES	Sport Specialisation and Selection Practice	2.82 (.69)	65.26 **	All groups
	Athlete Development	2.80 (.57)	16.12 **	Coach/Parent Coach/NGB
	Junior and Adult Success	2.69 (.40)	24.90 **	All groups
	The Role of the Stakeholders	2.60 (.57)	35.09 **	All groups
		2.88 (.45)	43.73 **	Coach/Parent. Coach/NGB
	Construct	Parents	F(2, 66)	Sig. diffs. between Groups
PARENTS	Sport Specialisation and Selection Practice	3.26 (.65)	16.58 **	All groups
	Athlete Development	2.76 (.63)	13.06 **	All groups
	Junior and Adult Success	2.79 (.42)	10.36 **	Coach/ NGB Parent/NGB
	The Role of the Stakeholders	2.78 (.70)	4.98 *	Parent/NGB
		3.25 (.66)	4.22 *	Parent/NGB
	Construct	NGB	F(2, 6)	Sig. diffs Between Groups
NGB	Sport Specialisation and Selection Practice	3.6 (.82)	.511	No significant differences
	Athlete Development	2.96 (.95)	.131	No significant differences
	Junior and Adult Success	2.84 (.47)	.979	No significant differences
	The Role of the Stakeholders	2.89 (.79)	1.86	No significant differences
		3.12 (.84)	.172	No significant differences

Note. ** $p < .001$, * $p < .05$

3.2.2. The Coherence of Stakeholders' Perceptions

The second objective of this study was to assess the coherence of stakeholder perceptions. The five, one-way between groups analysis of variance (ANOVA) conducted to explore differences between coaches, parents, and the NGB responses to each of the five constructs (see Table 3.2, p. 37), found statistically significant differences for different constructs. These were at the $p < .05$ level for both Construct 1 ($F(2, 72) = 3.8, p = .027$) and Construct 5: ($F(2, 72) = 4.6, p = .013$). Post-hoc

comparisons indicated that the mean score for coaches ($M = 2.8$, $SD = .69$) was significantly different to that of parents ($M = 3.2$, $SD = .65$) for Construct 1. However, the NGB staff ($M = 3.6$, $SD = .82$) did not differ significantly from either of the other two groups. Similar results were evident for Construct 5, with the coaches' ($M = 2.88$, $SD = .45$) significantly different from parents' mean score ($M = 3.2$, $SD = .66$), but the NGB responses ($M = 3.12$, $SD = .84$) did not differ significantly from either parents or coaches.

3.2.3. The Extent to Which Stakeholders accurately Understand What

Others Think

My third objective was to examine the extent to which stakeholders accurately understand what each other thought. A one-way multivariate analysis of variance (MANOVA) was conducted, with "perspective" (i.e., whether answering from a coach, parent, or NGB perspective) as the independent variable and the mean response scores on the five constructs as the dependent variables (low scores indicating agreement with the research supported position). MANOVA results indicated significant differences in responses between the five constructs when participants answered from another group's perspective, suggesting that each groups' own view on the key constructs was significantly different from their perception of others' views. The results show significant findings for both the coaches ($F(5, 140) = 22.32$, $p = .000$; Wilks' Lambda = .31; partial eta squared = .44) and the parents ($F(10, 126) = 3.73$, $p = .000$; Wilks' Lambda = .59; partial eta squared = .23). Follow-up univariate analyses of variance (ANOVAs), followed by post-hoc comparisons, using the Tukey HSD test, were conducted to identify where the significant differences lay (for descriptive data, see Table 3.2).

Table 3.2. *Descriptive Data and Results of Analysis for Differences in Perceptions Between Groups*

Group	Construct	Coaches	Parents	NGB	F(2, 144)	Sig. diffs. between Groups
COACHES	Sport Specialisation and Selection Practice	2.82 (.69)	3.64 (.67)	4.39 (.68)	65.26 **	All groups
	Athlete Development	2.80 (.57)	3.65 (.78)	3.39 (.87)	16.12 **	Coach/Parent Coach/NGB
	Junior and Adult Success	2.69 (.40)	3.10 (.55)	3.40 (.56)	24.90 **	All groups
	The Role of the Stakeholders	2.60 (.57)	3.87 (.83)	3.31 (.83)	35.09 **	All groups
		2.88 (.45)	3.69 (.47)	3.68 (.55)	43.73 **	Coach/Parent. Coach/NGB
Group	Construct	Coaches	Parents	NGB	F(2, 66)	Sig. diffs. between Groups
PARENTS	Sport Specialisation and Selection Practice	3.76 (.65)	3.26 (.65)	4.36 (.65)	16.58 **	All groups
	Athlete Development	3.33 (.88)	2.76 (.63)	3.96 (.85)	13.06 **	All groups
	Junior and Adult Success	3.09 (.65)	2.79 (.42)	3.54 (.60)	10.36 **	Coach/ NGB Parent/NGB
	The Role of the Stakeholders	3.10 (.69)	2.78 (.70)	3.48 (.86)	4.98 *	Parent/NGB
		3.39 (.73)	3.25 (.66)	3.82 (.70)	4.22 *	Parent/NGB
Group	Construct	Coaches	Parents	NGB	F(2, 6)	Sig. diffs between Groups
NGB	Sport Specialisation and Selection Practice	3.13 (.72)	3.83 (1.02)	3.6 (.82)	.511	No significant differences
	Athlete Development	3.08 (.81)	3.38 (1.25)	2.96 (.95)	.131	No significant differences
	Junior and Adult Success	2.96 (.70)	3.58 (.85)	2.84 (.47)	.979	No significant differences
	The Role of the Stakeholders	2.60 (.69)	2.78 (1.36)	2.89 (.79)	1.86	No significant differences
		2.88 (.55)	3.25 (1.30)	3.12 (.84)	.172	No significant differences

Note. **p < .001, *p < .05

3.2.4. Coach perceptions of the TID research supported view

The coaches (n = 49) were asked to respond to each statement from their own perspective, from the perspective of parents, and from the perspective of the NGB. The ANOVAs conducted compared the effect of ‘perspective’ on responses to each of the five constructs for this group of participants. Coach responses differed significantly for all five constructs. Post-hoc comparisons, using the Tukey HSD test, indicated that coaches gave significantly different responses to Constructs 1, 3, and 4

when responding from all three perspectives. For Construct 2, significant differences were found when coaches responded from their own perspective ($M = 2.80$, $SD = .57$) compared to thinking as a parent ($M = 3.65$, $SD = .78$) or as the NGB ($M = 3.39$, $SD = .87$). Similarly, for Construct 5 significant differences were found when coaches from their own perspective ($M = 2.88$, $SD = .45$) compared to thinking as a parent ($M = 3.69$, $SD = .47$) or as the NGB ($M = 3.68$, $SD = .55$). However, no significant differences were found between the coaches' perception of what parents and the NGB thought about Constructs 2 and 5.

It is worth considering these results beyond the statistical data, towards a consideration of how differences and a lack of coherent understanding would manifest themselves at a behavioural and attitudinal level; in short, the “real world” relevance of the results (see Table 3.3, p. 40). To operationalise this, a questionnaire response of between 1 and 3 is reflective of support for the TID research outcomes, while a response of 4 to 6 is reflective of support for the opposite view. Notably, when coaches were answering from their own perspective, they agreed with the TID research for all five constructs. However, they believed the parents only supported the research in one construct: Construct 3 Athlete Development. In terms of the NGB, the coaches believed it to only support the research for three constructs: Construct 2 Practice, Construct 3 Athlete Development and Construct 4 Junior and Adult Success.

3.2.5. Parent perceptions of the TID research supported view

In similar fashion to the coaches, each parent ($n = 23$) was asked to respond to each statement from their own perspective and from those of coaches and the NGB. As with the coaches, a series of ANOVAs compared the effect of these perspectives on parent responses to each to the five TID constructs. Parent responses differed significantly for all five constructs. Post-hoc comparisons indicated that parents gave significantly different responses to Constructs 1 and 2 when responding as a parent,

coach or the NGB. For Construct 3 significant differences were found when parents responded as a parent ($M = 2.79$, $SD = .42$), as a coach ($M = 3.09$, $SD = .65$), or as an NGB ($M = 3.54$, $SD = .60$). No significant difference was evident between responses as a parent and coach. For Construct 4, significant differences were evident between the parents' own views ($M = 2.78$, $SD = .70$) and their perception of the NGB's views ($M = 3.48$, $SD = .86$). Similar results were evident for Construct 5 with significant differences evident between the parents' own view ($M = 3.25$, $SD = .66$) and their perception of the NGB's view ($M = 3.82$, $SD = .70$). However, no significant differences were evident for Constructs 4 and 5 between the parents' own views and their perception of the coaches' view or their perception of the coaches' view ($M = 3.39$, $SD = .73$) and NGB ($M = 3.82$, $SD = .70$) views.

As for the coaches, it is again worth considering how these findings may be reflected in practice (see Table 3.3). For example, while parents supported the TID research in every construct they did not believe coaches supported it in Construct 1 Sport Specialisation and Selection. The parents perceived that the NGB did not support the research except for Construct 4 Junior and Adult Success. Clearly, there was a lack of coherence between the parents' beliefs and their perception of the beliefs of coaches in one construct and of the NGB in all but one of them.

3.2.6. NGB perceptions of the TID research supported view

The three NGB TID staff responded to each statement from the NGB perspective and from the coaches and parents perspective. The ANOVA's compared the responses to each construct. No significant differences were evident across the five constructs and this may be linked to the small sample. Although the number of NGB staff was small, the assumptions underpinning the ANOVA were not violated and so the data were important to present to understand any implications from the findings.

Table 3.3. *Interpretation of Results*

Group	Construct	Coaches	Parents	NGB
COACHES	Sport Specialisation and Selection	Agree with research supported view	Agree with research unsupported view	Agree with research unsupported view
	Practice	Agree with research supported view	Agree with research unsupported view	Agree with research supported view
	Athlete Development	Agree with research supported view	Agree with research supported view	Agree with research supported view
	Junior and Adult Success	Agree with research supported view	Agree with research unsupported view	Agree with research supported view
	The Role of the Stakeholders	Agree with research supported view	Agree with research unsupported view	Agree with research unsupported view
Group	Construct	Coaches	Parents	NGB
PARENTS	Sport Specialisation and Selection	Agree with research unsupported view	Agree with research supported view	Agree with research unsupported view
	Practice	Agree with research supported view	Agree with research supported view	Agree with research unsupported view
	Athlete Development	Agree with research supported view	Agree with research supported view	Agree with research unsupported view
	Junior and Adult Success	Agree with research supported view	Agree with research supported view	Agree with research supported view
	The Role of the Stakeholders	Agree with research supported view	Agree with research supported view	Agree with research unsupported view
Group	Construct	Coaches	Parents	NGB
NGB	Sport Specialisation and Selection	Agree with research supported view	Agree with research unsupported view	Agree with research unsupported view
	Practice	Agree with research supported view	Agree with research supported view	Agree with research supported view
	Athlete Development	Agree with research supported view	Agree with research unsupported view	Agree with research supported view
	Junior and Adult Success	Agree with research supported view	Agree with research supported view	Agree with research supported view
	The Role of the Stakeholders	Agree with research supported view	Agree with research supported view	Agree with research supported view

The data in Table 3.3, above, indicates that notably, the NGB staff supported the research in every construct except (and perhaps importantly) Construct 1. However, they perceived coaches to support the research in every construct. Reflecting a further lack of coherence, the NGB staff perceived that parents did not support the research in

either Construct 1 or (in a further difference between them and parents and coaches) Construct 3.

Taken together, all these results suggest a lack of coherence between all three stakeholders in their understanding of the five TID constructs. This is further compounded by a lack of coherence in their perceptions of each other's understanding of the same constructs. Specifically, therefore, the results suggest a lack of coherence between what each stakeholder thinks and what they perceive other stakeholders to think about the five constructs.

3.3. DISCUSSION

The research presented in this chapter investigated different aspects of the perceptions of coaches, parents and the system/NGB of the five TID research constructs presented in Chapter 2. A number of findings emerge. Firstly, and of some importance, none of the stakeholders in the chosen sport environment (junior performance tennis) strongly agreed with research findings about key constructs of TID. The results therefore point to a lack of strong support for the research and thus, a preference to support existing practice in the sport. Clearly this has important implications for this and other TID systems (Abbott et al, 2005; Bloom, 1985; Côté, 1999) about how research outcomes are operationalised in applied practice. For example, even though all the stakeholders appear to understand that junior success is not a requisite for senior success (Baxter- Jones, 1995; Cobley et al., 2009; Moesch et al., 2011), significant emphasis is still given within tennis in the UK to underage successful performance. Young players are selected from as young as six years of age to participate in TID programmes that require competitive success (LTA, 2011). As such, the empirical evidence supporting the lack of correlation between junior and senior success has neither infiltrated current practice nor the beliefs of the key stakeholders involved in the process.

The reasons for this can only be surmised. All three stakeholders are part of the current tennis TID programme in the UK. Realistically, neither TID practice nor research will be familiar to many parents. They are in the position where their children have become involved in a system of which they, as parents, have no experience. Further, to question the system may not be seen to be in the best interests of their child or themselves (because finance is allocated). Thus, parent perceptions will be based on the experience of the processes they see and of which they and their children are part.

Coaches, in giving their responses, may also have displayed the self-interest factor (despite the anonymity of the questionnaire) because of their occupational status within the NGB. However, these coaches have also qualified through a coach education pathway, the information base of which is developed by the NGB (LTA, 2012). It would be reasonable to presume that the NGB ensures coaches are trained in, and with the best information and practice of, TID. It could also be reasonably surmised that the coaches based their questionnaire responses, at least in part, on their NGB coach education, their coach development from the NGB, and their own coaching experience. The coaches who answered the questionnaire had all coached at performance level for a number of years: the mean was 10.6 years. The fact that their responses, while closest of all the stakeholders to the research supported evidence, still indicated a strong lack of knowledge of the research could suggest that the TID content of NGB coach education and coach development programmes is not based on research outcomes. Analysis of the NGB information to coaches (LTA, LTA, 2011) supports this suggestion.

This point is further supported by closer examination of the NGB responses. In terms of raw data, the three NGB staff only agreed on six of 150 questionnaire items. It would be reasonable to presume that all NGB staff working in the TID programme

would have a commonality of knowledge of the complexities of TID, delivered through their regular staff training and thus would have similar perceptions of the key constructs of TID. Their diversity of responses seems to suggest a lack of knowledge of research outcomes with responses tending, perhaps understandably to favour current NGB practice. Finally, the fact that the responses differed to such an extent across the three NGB staff suggests that staff training does not fully prepare staff in well researched TID processes.

The second key finding of the study outlined in this chapter concerns the lack of coherence in stakeholders' perceptions and the extent to which each stakeholder accurately perceives what others think. This is a concern because every stakeholder is closely associated, albeit in different ways, with the development of young, selected athletes. While it is accepted that only one degree of difference separated responses to questionnaire statements, that degree of difference is most notable between participants agreeing with the TID research supported statements or taking the opposite viewpoint. This was the case across all three stakeholders.

In discussing the responses to the questionnaire and the dissonance between the stakeholders, consideration should be also given to the TID system itself (as distinct from the questionnaire), with which all three stakeholders are associated. The NGBs TID programme is concerned with player testing, selection, funding, training and practice, and competitions and rankings (LTA, 2011). Significantly, all of these issues are part of the TID research supported constructs noted throughout this thesis and from which the questionnaire statements were developed. The lack of coherence between the stakeholders results from their differing understanding of the questionnaire statements and of the TID process itself. It also appears therefore that there are substantial differences of perception between the research data (Baker & Cote, 2006; Bois et al., 2009; Bompa & Haff, 2009; Côté, 1999; Gould et al., 2004;

Malina et al., 2004) and current TID practice in the LTA. These perceptual differences presumably contribute to the lack of coherence between the stakeholders.

In interpreting the implications for action from these data, I must question how these differences in perception arise. A subsidiary question concerns where and how each of the stakeholders has accrued what knowledge they have. As previously discussed, it could reasonably be assumed that the NGB staff would be familiar with current research and apply the outcomes to both current practice in TID and to the coach education and coach development programmes they manage. However, the current situation suggests this not to be the case (LTA, 2012). It is also possible that TID researchers are not doing an effective job of ensuring that NGB's have access to research data, together with support in applying these findings to their TID programmes. Further complicating this, parents are even less likely to be familiar with, or have access to, the literature base concerning TID. As such, further research is warranted that examines where and how parents access information about TID.

It is also possible that what is written in the media and the popular press (e.g., Coyle, 2009; Gladwell, 2008; Los Angeles Times, 2011; Syed, 2010) impacts on the perceptions and practice of NGB's, parents and coaches. I noted in Chapter 2 (cf. Pankhurst & Collins, 2013a) the prevalent use of popular authors in talent development contexts, but also highlighted the simplistic and singular approach to the complex issues that such authors adopt. This point can be further illustrated by the practice of NGB's recommending such authors' texts to coaches during coach education courses (LTA, 2011; USTA, 2012). Another possibility in explaining how perceptions about TID arise could be that NGB's use their own experience of successful previous TID practices to develop the next tranche of athletes. However, in the case of the LTA, this is an unlikely reason for the current programme in the UK, since success in recent years has been lacking, as emphasised in numerous articles in

the UK sports press over the past several years. A final possibility for the development and use of a particular approach to TID is a “copycat” adoption of systems perceived to be successful in other nations. However, adopting such systems without a sound understanding of the cultural and social factors that impact on them, could limit their effectiveness. Whatever the reasons, a lack of coherence in stakeholder perceptions of TID is clearly evident given the results shown in this chapter.

3.4. MOVING FORWARD

Taken to a realistic conclusion, and with regard to the research literature, the lack of coherence apparent not just between, but also within the perceptions of different stakeholders, is a cause for concern. Logically, the chances of success for a young athlete would appear to be enhanced if all the stakeholders involved in his/her development have a similar perception (and therefore similar behaviours and reinforcement/support mechanisms) of the key elements of TID (cf. Bois et al., 2009; Gould et al., 2004; Martindale et al., 2005; Martindale & Mortimer, 2011; Young & Pearce, 2011). While each stakeholder will have specific skills and knowledge appropriate and pertinent to their role (which will also change as athletes grow and mature; Bloom, 1985; Côté, 1999), they also need to work with the other stakeholders involved in the TID process. Since TID for young athletes involves all five constructs, it follows that every stakeholder should at least understand the principal research outcomes of those same constructs.

Chapter 2 highlighted two pertinent examples of the importance of this understanding. Competition for a young athlete is different from that of an adult (Baxter-Jones, 1995; Gould et al., 2004). In the absence of stakeholder understanding of the research concerning junior and adult success, it is difficult to ascertain the basis on which any of them could judge or value the outcome of competition and competitive success for junior athletes. Similarly, understanding the type and volume

of practice that is developmentally appropriate for a junior athlete is important: the stakeholders should surely agree what “appropriate” actually means and involves.

It seems obvious that TID in any sport should be based on well-researched information and all stakeholders having relevant knowledge. Sport organisations (as “purveyors” of TID systems), need to be cognisant of the research that underpins quality TID systems, contributes to their coach education programmes and develops ways in which parents can support their children more effectively. Parents and coaches need to be given access to research data and be given opportunities to understand best practice in athlete development. The research outlined in this chapter indicates the need to further investigate the knowledge base of different stakeholders, especially coaches and parents, in order to increase and improve the coherence of their perceptions of the TID research and processes. The next chapter therefore takes the opportunity to examine current levels of coach and parent understanding of five TID concepts before investigating where their information and knowledge is presently obtained and where it could be obtained in the future by both of them. This information could enable the development of procedures that could increase coherence between parents and coaches.

Chapter 4

“WHY THEY THINK WHAT THEY THINK”: TRACKING THE ORIGIN AND IMPACT OF STAKEHOLDER PERCEPTIONS IN JUNIOR PERFORMANCE TENNIS

It has been noted in the preceding chapters that both TI and TD processes are used by different sports during the development of young athletes (cf. Abbott et al., 2002; Bloom, 1985). The importance of the relationships between different stakeholders to the successful development of young athletes has also been acknowledged. Taking this issue of relationship further, many researchers (e.g., Bloom, 1985; Côté, 1999; Fraser-Thomas, 2009; Gould, Lauer, Roman, & Pierce, 2005; Wolfenden & Holt, 2005) have highlighted the (ideally) *interactive* contribution of the three key stakeholders identified in this thesis (i.e., coaches, parents, and the system) to the athlete development process. The focus for these contributions would be at the "chalk face", impacting the interactions directly and also indirectly with the athlete. However, TID processes are often decided and managed by the system (usually an NGB), although they may also be orchestrated in a similar way, for example, by an academy or a club.

The quantitative investigation reported in the previous chapter revealed a lack of coherence between the different stakeholders, illustrated not only in the level of their own understanding of the TID constructs, but also in their perceptions of other stakeholders' understanding of those same constructs. As a consequence, I suggested that further investigation was needed to understand the reasons for this lack of coherence and to ascertain the current sources of TID knowledge of parents, coaches, and the sport organisation. While Chapters 2 and 3 both noted that the skills and knowledge of the three key stakeholders have been acknowledged as important there appears to be little research into *how* each of them either acquires or deploys these skills

or knowledge. Accordingly, and continuing the themes presented thus far, the study for this chapter uses a qualitative approach to examine the extent and quality of current coach and parent understanding of the TID constructs in a specific junior performance programme in the UK. The study then also assesses what knowledge and understanding could improve the coherence between these stakeholders.

Again the exemplar sport is tennis and the TID process is that used by the LTA as the sport organisation. While recognising that TID processes developed by other sports and systems may vary, I suggest that almost all of them include selection at a young age (often through testing) followed by training and competition at a high level of intensity. Typifying this approach, the LTA TID processes include a number of anthropometric and tennis tests to select existing young players aged between 6 and 9 years of age for a more intensive training and competitive programme. Involvement in this programme includes financial funding to parents for players over the age of 12 (from 2014: previously funding was given for children aged 8 years and upwards) and to club programmes, provided that benchmarks set by the NGB TID team are met by the player's competitive results.

The research methodology used in this chapter builds on that described in the two previous chapters. The literature review in Chapter 2 (cf. Pankhurst & Collins, 2013) and the development of the five constructs led to the quantitative research described in Chapter 3 (cf. Pankhurst, Collins, & MacNamara, 2013). This research revealed statistically significant differences between the stakeholders (i.e., parents, coaches, NGB), in their understanding of the five constructs. Furthermore, and of interest to the effective coaction and potential cooperation of stakeholders within a TID system, significant differences were also found between each stakeholders' perceptions of the other's opinions of these same constructs. While other researchers (e.g., Bloom, 1985, Gould et al., 2005) have considered the role, importance, and different skill levels of

coaches, parents, and systems involved in TID, none of their research, nor the outcomes of my own quantitative investigation, has considered the implications that such differences could hold for successful TID processes and thus athlete development.

Reflecting this gap, the qualitative research presented in this chapter had three objectives. The first was to examine the sources that inform and affect coach and parent knowledge and practice of the TID constructs. The second was to assess the consequences that these different perceptions of TID may have on each of their behaviours. The third was to evaluate the specific information needed to improve the coherence of stakeholder perceptions and understanding of TID. Given that there were only three respondents representing the LTA in the study detailed in Chapter 3, it was considered more effective to work specifically with parents and coaches.

4.1. METHOD

4.1.1. Participants

To ensure a representation of player ages and parent gender, a stratified sample ($n = 16$) was selected from the parent and coach participants who completed the questionnaire for Chapter 3 (cf. Pankhurst et al. 2013). Research by Wolfenden and Holt (2005) indicated that fathers and mothers in tennis can often hold different views. Therefore, seven (four male and three female) parents of performance players aged between 8 and 14 years of age and nine coaches (seven male and two female) from the original group were interviewed. They represented five different performance centres. All of the parents were first introduced to performance tennis when their child was selected for the LTA's TID programme. The coaches had between 5 and 17 years ($M = 10.6$ years) of performance tennis coaching experience.

4.1.2. Interview Guide

A semi-structured interview guide was adopted for this research. Three blocks of questions were developed; one block for each of the three objectives of the study. The

first block of questions linked to the first objective and was intended to ascertain the overall knowledge and understanding that each group of participants had of the TID processes. The second block linked to the second objective and took one representative statement from each of the five constructs on the questionnaire (Appendix A) used in Chapter 3. Every participant had therefore previously read and answered each statement. The participants were asked, in advance, to select two of the five statements to discuss in the interview. The third block of questions, for evidence for the third objective, focussed on one of three statements, chosen from three of the constructs. Prior to the interview the participants did not know which statements would be given to them. The eight individual statements were chosen to ensure a broad spectrum of TID issues. Specific probes and prompts were included for each question in each block to enable clarification and elaboration of key points and to help consistency in the depth of responses across participants (Patton, 2002). After development, two individuals experienced in TID and qualitative research reviewed the interview guide for its appropriateness and adequacy to gather rich data. A pilot study was then carried out prior to collecting data from the main participants, to refine my interviewing skills and the interview guide. A copy of the final interview guide is presented in Appendix B.

4.1.3. Procedure

Ethical approval was granted from the University's research ethics committee and informed consent was obtained from every participant. For the interview, I met with each participant privately and at a mutually convenient time and location. In order to create rapport and a positive atmosphere, each participant was first asked a general question about their tennis experience, before the interview guide questions were asked and the answers recorded. Interviews lasted between 45 and 85 minutes.

4.1.4. Data Analysis

Data analysis began when all interviews were complete, using an interpretational

qualitative analysis procedure that followed an inductive and then deductive paradigm (Patton, 2002). First, each interview was transcribed verbatim and the text read and checked twice against the recording to ensure accuracy. Each script was coded with a participant type and number to ensure confidentiality/anonymity and then sent to the relevant coach or parent for verification. In one case, a participant requested that the transcript be amended believing that, despite anonymity, one comment could be traced back. No changes were made to any of the other transcript.

Inductive content analysis of the data followed the recommendations of Côté, Salmela and Baria (1993). First, meaningful individual quotes from parents or coaches, *within each objective*, were allocated a raw data tag. These raw data tags were then organised and grouped into lower order themes that shared the same underpinning concepts. Finally, the lower order themes were grouped into higher order themes: a process that accounted for all of the relevant collected data. Following this inductive phase, a deductive content analysis was employed using the three objectives of the study as the categorisation matrix. The higher order themes content were coded for correspondence with the identified categories (objectives) (Patton, 2002). Every theme was successfully categorised under the three objectives (Marshall & Rossman, 1995).

4.1.5. Establishing trustworthiness

The accuracy and fairness of the results from the data analysis process were checked using the respondent validation techniques described above (Patton, 2002). In addition, a collaborative approach was taken during the analysis with an independent researcher, blind to the conditions and objectives of the investigation, coding part of the data used in the inductive element of the analysis (Rose & Jevne, 1993). When this process presented an initial disagreement, the independent researcher and I discussed our interpretations of the data until we agreed upon a plausible placement for it

(Sparkes, 1998). Such differences occurred less than 4% of the time, and all issues were resolved in the discussions.

4.2. RESULTS

The higher order themes for each category (cf. study objectives) as determined from the content analysis are presented in Table 4.1 below.

Table 4.1. *Results of Content Analysis*

Category (Objective)	Higher order themes
1. The sources that inform and affect stakeholder practice and understanding of TID	<ol style="list-style-type: none"> 1. Understanding and experience of TID systems in tennis in UK. 2. Information held by parents and coaches about the TI system. 3. Factors that contribute to the experience and knowledge of TD. 4. Impact of the TID system on coaching practice. 5. The perception of the outcomes of current TID processes.
2. The consequences that different perceptions of TID have on the behaviour of the stakeholders	<ol style="list-style-type: none"> 1. Differences in the perceptions of the TID construct statements. 2. Differences in the knowledge sources for chosen construct statements.
3. The specific information needed to improve the coherence of stakeholder perceptions and understanding of TID	<ol style="list-style-type: none"> 1. Present understanding and knowledge of specific issues from the TID constructs. 2. Future sources of knowledge about the TID constructs.

The higher order themes under each of the three categories will now be described in order to present the detail of the data in each theme.

4.2.1. Category (Objective) 1: The sources that inform and affect stakeholder practice and understanding of TID.

The responses to the first block of questions in the interview indicated that every

coach and parent was aware of the existing TID system within the NGB, but the sources and extent of their knowledge of that system were different. Every coach had played and/or coached in previous TID systems where players were selected at older ages. In contrast, the parents' knowledge was limited to having one child in the present system. Significantly, every coach not only had a negative view of the present system, but three of them, together with several parents, offered alternatives to it. There are five higher order themes in this category (Objective 1).

The results for the first higher order theme: *understanding and experience of TID systems in tennis in UK*, showed elements of both consensus and divergence between coaches and parents. In terms of consensus, the data revealed that every coach and several parents had a different perception of the LTA's objectives for the TID system. As examples, Coach 9 observed that "the purpose is confusing in that money and time is spent, but people are not quite sure what for. There are no consistent messages about what we are doing. And it changes often, even small changes". Coach 2 reported: "I think the purpose is to identify talent early...to get young players onto the correct pathway at a young age"; and Coach 6 suggested "TID is to test different abilities in children...to identify children with greater potential". Seven coaches also noted that, because only children already playing tennis could be selected, the process was not about finding new talent. Two coaches (perhaps cynically) suggested the objective of the system was to produce statistics, with one saying: "I think for some (LTA) staff, the purpose is to collate numbers to use in 10 years' time". In summation, these quotes indicate a perception that there is no clear objective for the LTA's TID programme.

Parents were similarly confused. For instance, Parent 5 asserted that the purpose of TID "is to identify up and coming youngsters who show signs that they could be future tennis stars". Four parents, probably because the testing process was new to them, suggested that the purpose was to use strict tests to select future players.

Notably, the initial testing and selection process was a real concern for every coach and some parents. Indeed, every coach considered testing young children to be a poor method of identifying talent and one that could not deliver the "right" children in the long term. Coach 3 explained that "the problem is that TID selection is all on one day and is all about tests. If the kid does not achieve on that day, they are out". In this vein, the majority of coaches and parents thought that tests could only indicate some of the factors associated with talent and therefore, unknowingly, agreed with the extant research (e.g., Farrow, Baker, & MacMahon, 2008; Lidor & Ziv, 2013). For example, Coach 4 stated that "it is perhaps possible to identify certain aspects with tests. You can see physical, but you still don't know all the mental capacities. You don't see how quickly they learn. I am sure wanting to play and compete is crucial too". Parent 3 went further:

I would say tests for talent are an indicator; they are a part of the puzzle.

Tennis is complex and loads of other things are needed. The competitive element is vital and does not come through in tests. I base this opinion on my experience and background in education. Also you can practice for tests. I think the NGB can do without them.

Eight coaches were also aware of how (TI) procedures could limit the available player pool, adding that young children with potential who had not yet played tennis were not even available for selection. Coach 8's assertion was typical of the coach responses:

The pool is so small and it's sending the message to so many children that they are a failure. Selection equals deselection and very young kids are getting a message that they do not meet the criteria for the game. So the player pool is getting smaller, with deselected children dropping tennis.

Expanding on this, coaches noted that the present system effectively excluded late developers. Coach 4 commented that "if they are not picked up by

7 or 8 [years of age], then they can never get on the radar". Selection between 7 and 10 years of age was also criticised as being misplaced because tennis, in the coaches' view, was a late performance sport. In addition, two coaches questioned whether selection for tennis at a young age was done simply to prevent other sports recruiting the talented children first.

The second higher order theme in Category 1 is *information held by parents and coaches about the TI system*. (The third higher order theme related to TD). In this theme, coaches and parents demonstrated similar perceptions in their answers, but from different viewpoints. Perhaps unsurprisingly, the parents always related their concerns to their own children, with four parents having concerns about the pre-selection of players by club coaches for selection days. Coach 7 in supporting this parent concern, said that "it all depends on the coaches who send them to the selection days. The awareness of standards by coaches in the clubs is critical and many do not have it".

Eight coaches, however, questioned the NGB's source of information and knowledge of how to identify talent. More specifically, while four coaches noted that the NGB's model is closely linked to a system in another nation, Coach 5 was critical of this approach, suggesting that "countries are different and that affects TID practice".

A further issue for the coaches was the credibility and experience of the coaches on the actual testing day (i.e., those who actually decided who was talented). As an example, Coach 3 revealed that "we have coaches taking those sessions who are not as experienced as those in the clubs or in the field". Usefully, Coach 7, who was invited to be part of a selection day, further described the selection process itself:

The environment was what I perceive to be negative...coaches with no training standing with arms folded and clipboards. No information was given to me to base my opinion on. At the end we sat down as a team, and the coach in charge had to click a report on the computer with a

drop down menu. The Tennis and Athleticism categories had nine possible answers on the report; A1 through A3, B1 through B3 and C1 through C3. But for the Attitude and Matchplay categories, it was just A or B or C. There were no comments or discussion; I just had to give a score to save time.

Coach 9, who also took part in a selection day, reinforced this point in commenting, "I can't grade any child on *anything* in 2.5 minutes".

The third higher order theme in Category 1, was *factors that contribute to experience and knowledge of TD*. The responses highlighted a knowledge gap between coaches and parents about TD, despite their more similar perceptions of TI. Unsurprisingly, parents had little knowledge of how talent could and should be developed, although six of them raised concerns about the amount of training and competition apparently required for young developing players. Parent 3 noted that, "every day of the week seems to be training of some sort and every weekend there is a tournament". In contrast, all of the coaches cited the use of long term development processes as being paramount to effective player development (thus supporting the research by Balyi & Williams, 2010, and Bompa, 2000). They also acknowledged that their own experience as a player and coach affected their thinking on player development. Coach 3 was typical in saying that "in our club we are very much geared around long term development, together with age appropriate fitness work. As a coach that guides you".

The fourth higher order theme developed under Category 1 concerned the perceptions of coaches and parents of the *impact of the TID system on coaching practice*. Responses were (understandably) dominated by coaches because, despite probing, parents appeared unable to comment in any depth on this area. All coaches spoke of the negative impact that the current TID process had on their coaching practice and/or

programmes, with the principal concern being "interference" from inexperienced NGB TID coaches. In particular, concern was voiced that the requirements demanded by the NGB for changes in young players (especially technically) were externally and system focused, rather than player based. For instance, Coach 3 noted that "I think coaches feel they have to do what the NGB says. Principles of long term development are not applied and growth and development is not taken into account because it conflicts with their results-orientated system". Every coach argued that, because each child is different, developmental targets should be player, not system, based. Significantly, several coaches also commented that the outcome of such NGB practice was that personal coaching philosophies, including those linked to player development research, had to be abandoned to follow system diktats in case funding of both players and programmes was cut. Emphasising this point, Coach 1 reported:

To get players to the NGB age standard they have to be doing certain things, so we work towards certain skills to achieve things that the TID people want. This is instead of developing players in the best way for each of them. My coaching has changed to have me doing things I would not normally do. And they *never, ever* ask my opinion.

Supporting this response, Coach 2 also strongly felt that "there is no faith in the coaches in the clubs; there are all these targets and measurements and coaches being told what to do by people with little or no experience, especially of the player". Two parents also had experience of the NGB's imposition on coaches, with Parent 5 stating that "the coach had to change what he was doing, because the LTA coaches were saying what they expected [the coach to do]".

In contrast to coach perceptions, parents focused on the effect the TID system had on their own children and families, rather than on coaching practice. Most notably, eight parents were concerned with the funding process, with Parent 7 asserting that

“funding is important. You want your child to get better and to do that they have to be exposed to the right level of tournaments and coaching and that means money”. Coaches too were affected by funding with Coach 3 stating: “if you don’t have players, there is no funding or it is reduced and then there are certainly no players”.

The fifth and final higher order theme developed for Category 1 concerned *the perception of the outcomes of current TID processes*. Albeit from different perspectives, both coaches and parents had fundamentally negative perceptions in this area. In terms of competition, both groups supported research evidence by Baxter-Jones (1995), Gullich (2011), and Gould et al. (2005) by questioning the LTA’s requirement for high volumes of competition and an emphasis on winning and rankings at a young age. Indeed, seven coaches commented on the overall negative impact that the TID system has on young players, coaches, and parents, while some parents were concerned about managing other children in the family. For example, Parent 2 stated: "with two children you have to give both the same. We cannot tell X you can’t have that. An NGB coach suggested Y should have more individual lessons than X, because Y was a selected player. As parents we refused".

Tellingly, three coaches suggested that the NGB, having begun the TID programme, would now continue with it for several more years, if only to save face.

4.2.2. Category (Objective) 2: The consequences that different perceptions of TID have on the behaviour of the stakeholders.

The data in this category were generated from responses to the second block of interview questions. For this part of the interview, I had taken five statements that each participant had previously graded in the quantitative research cited in Chapter 3 (cf. Pankhurst et al., 2013). Each participant was asked, prior to the interview, to choose two of the five statements on which to answer questions. The statements are listed in Table 4.2. Two higher order themes were identified for this category (cf. Table 4.1).

Table 4.2. *Statements from the Five TID Constructs Questionnaire*

Statement 1 (Construct 1: Sport Specialisation and Selection)
Either: Early talent identification is not necessary to develop successful adults.
Or: Early talent identification is essential to develop successful adults.

Statement 2 (Construct 2: Practice)
Either: The potential of each player can be best developed through different types of practice at different ages.
Or: The potential of each player can only be developed through deliberate practice, irrespective of age.

Statement 3 (Construct 3: Athlete Development)
Either: Parents should be encouraged to leave tennis development to the coach.
Or: Parents should be involved in the development of young players.

Statement 4: (Construct 4: Junior and Adult success)
Either: Competitive stress in young players is an outcome of adult pressure.
Or: Competitive stress in young players is not related to adult pressure.

Statement 5 (Construct 5: The Role of the Stakeholders)
Either: The national governing body is responsible for the ongoing education of coaches working with young players of potential.
Or: Coaches have responsibility for their own education when working with young players of potential.

Regarding the first higher order theme, *differences in perceptions of the TID construct statements*, the data indicated that, for both coaches and parents, previous experience was the primary source that informed their understanding and practice of the TID constructs, as indicated by the knowledge of the individual statements. However, the nature of that experience was different for each group, a factor that inevitably reduced the level of coherence between them.

The interview responses to these participant-selected statements strongly indicated that coaches and parents' perception and understanding differed considerably. The first indication of these differences was in the reasons given by each participant for actually choosing a particular statement. Every coach felt able to give an informed

answer on every statement, based on their existing knowledge or interest, and they only avoided statements if they thought them to be too vague or singular.

For instance, coach 8 explained that his choice of statements 3 and 4 was a result of "my knowledge and because I am happy with my ability to choose between the alternatives. I did not choose the others because they could go either way". Having chosen two statements the coaches in most cases still wanted to give their perception of the other three statements. In contrast to the coaches' positive selections and willingness to discuss any construct, all the parents admitted to a lack of knowledge and, as a consequence, chose statements about which they felt they had some experience. Parent 6 was typical of this trend in saying that "I had to choose statements 2 and 4 because they are in my experience and I can answer them better. The others I do not know much about".

Thus, coach data suggested the possession of factually based knowledge, often sourced from a specific coach education programme or professional interest. In contrast, parent data usually consisted of opinions and perceptions based on personal experience, observation, information from other parents, or "common sense". These results showed clearly that the interviewed parents' perceptions or knowledge of the statements lacked a factual underpinning. A further indication of the differences in perception and knowledge/understanding between the two groups is evident in the statements chosen. Specifically, every parent avoided both statement 1, concerning the relationship of success at a young age to adult success, and statement 5, which questioned whether the coach or the national governing body was responsible for the education of performance coaches. However, both were positively endorsed by three coaches. Conversely, in terms of the statements chosen most frequently, eight coaches and six parents chose to discuss statement 3 on parent involvement in tennis development, while a similar number chose to discuss statement 4 on adult pressure and

competitive stress. Notably, the respondents voiced strong opinions on these two statements. Indeed, both groups and especially the coaches agreed that parents were a necessary part of their child's sport involvement, but indicated that the issue was complex. The reality of negative or unhelpful parental behaviour was an issue for eight coaches and four parents. Significantly, the way in which parents should be involved in their child's tennis also represented the highest number of coded raw data themes ($N = 20$) from the parents' interview data. As an example, Parent 5 explained: "I think parents should be involved, except technically. I get involved in the fitness because it is my passion, but tennis stuff is for the coach. My wife does the planning with the coach". Parent 3 stated that "it all depends on the nature of parent, coach, and player relationships. The dynamic between all three is important".

Interestingly, every respondent misread statement 4 on adult pressure and competitive stress for young players. Each assumed that the statement referred to parent pressure only. Having been reminded that the statement read "adults" and not "parents", the parents were then very forthright in their perception that different adults, including coaches, create competitive stress for young players. Parent 2 described how:

The governing body is an adult and gives different signals that cause pressure because their own NGB coaches indicate to the kids what they want them to achieve, then they say they don't, but you know they do because they demand ranking points to be in the top 24. I know children who are obsessed with where they are on the leader board at 10 years of age and that comes down to NGB pressure.

Similarly, each coach identified that many factors caused competitive stress, but often linked this directly to the LTA requiring players to have rankings.

Coach 8 said:

I think competitive stress is a combination of the system and the parents.

Parents put stress on their kids because winning matters. But the system is at fault because it puts pressure all round. It is related to finance: if the kids do well, the ranking changes and the matrix funding is affected.

In contrast, however, Coach 5 gave a different perspective in relation to young players and in doing so supported the research evidence (e.g., Gould et al., 2005):

I know there are other pressures on young players. Adults might also suffer stress, but they have developed coping skills. The difference is the coping skills – kids don't have them. For example, an opponent who cheats is a big deal to a kid and he will think about it for a long time, but an adult will deal with it and just brush it off.

Both groups were asked about differences that might exist between their perception of a statement and the perception of the same statement by the other stakeholders. Notably, every coach felt strongly that there were significant differences between their perceptions of each statement and those held by the parents or the NGB. For example, Coach 4 highlighted the differences between his/her understanding of practice and that held by the NGB, saying that “at different ages the emphasis will change. Young ones need variety, more fun. I think the LTA want a lot of deliberate practice”. In contrast, parents had fewer and certainly weaker opinions of the perception of other stakeholders on the statements. In many cases, they admitted to guessing what the perceptions of the other stakeholders would be. Illustrating this, Parent 6 stated that “I don't think deliberate practice is really right at any age. The NGB would probably think deliberate practice was necessary, but does what the LTA thinks work?”

The second higher order theme in Category 2 concerned *differences in the*

knowledge sources for chosen construct statements between coaches and parents. This was an important issue, because a commonality and equality of knowledge is an effective means of creating coherence between stakeholders. Further, one lower order theme indicated that coaches were concerned with the sources of knowledge available to the other stakeholders. Indeed, three coaches suggested that the LTA had a responsibility to give TID information to parents and coaches, but they (i.e., the LTA) appeared to consider it unnecessary to do so. Parent 6 supported the coach view in saying: "I am sure the NGB has lots of information. I don't know what hymn sheet they sing off, but it is not the same one as the parents". Of further concern was the fact that every parent suggested that he/she had no idea where to search for information about TID, although they used the NGB website for tournament information. Responses also indicated that parents wanted to know what it is possible or necessary to know about child development, practice, and competitive stress. However, parents were very clear that coach feedback was a vital source of information to them. Parent 3 explained: "I would love more feedback. You want information and feedback from the coach. Tournament results are one feedback, but coach feedback is critical".

4.2.3. Category (Objective) 3: The specific information needed to improve the coherence of stakeholder perception and understanding of TID.

The interview questions for the third objective again used statements from the questionnaire (Form 3.2). In this last block of questions, three statements, (Table 4.3, p.63) were used to focus the discussion, but neither group was aware, in advance, of the actual statements.

There were two higher order themes for this category. The first: *present understanding and knowledge of specific issues from the TID constructs*, established a low number and range of lower order themes (and therefore raw data) in the interviews around the three statements, indicating that understanding of the statements was similar

for both groups. However, for Statement 1, concerning how talent can be identified, there were a higher number of lower order themes for the coach responses, suggesting that coaches had more extensive sources of information (again, understandably given their experience) than parents. Indeed, while every coach and parent conveyed some knowledge of the standardised tests used to identify talent, the responses indicated that the depth of knowledge and its certainty was at a different level for each group. To provide an example, Coach 5 was emphatic in stating that “you can’t identify talent at a young age through standardised physical, technical, and tactical tests. You can identify exposure to training, but not talent”. However, Parent 2 had a lower level of certainty, suggesting that “the tests are a snapshot.....perhaps at a young age the tests don’t show what will happen later, but I do not know what else you do”.

Table 4.3. *Three Statements from the TID Constructs Questionnaire*

Statement 1 (Construct 1: Sport Specialisation and Selection)

Either: Talent can be identified at a young age through a number of standardised physical, technical and tactical tests.

Or: Talent cannot be identified using standardised tests.

Statement 2 (Construct 2: Practice)

Either: Players should undertake the volume of practice appropriate to their developmental age.

Or: Players should practice as much as possible irrespective of their developmental age.

Statement 3 (Construct 4: Junior and Adult success)

Either: Rankings in junior tennis predict adult success.

Or: Rankings do not predict adult success.

In terms of accounting for their knowledge of specific TID issues, coaches cited their experience and coach training as key sources, whereas parents often referred to common sense. Further, while every parent was certain that it was possible to identify talent in young players, coaches were emphatic that talent is only evident when the

player is older; indicating an apparent awareness of the research outcomes on TI although specific sources could not be detailed. The parent responses may be explained in two ways. Firstly, as their own children have been selected as talented, they need to believe that the system is correct. Secondly, they assume that the NGB (as the system) knows what it is doing.

Statement 2 on the volume of practice (as distinct from the types of practice discussed in the Category 2) again showed that coaches had a higher level of knowledge than parents; sourced from coach education training and experience. Supporting this point, Coach 2 was clear in asserting that “the volume of practice has to go with the developmental age”. Interestingly, two coaches had undertaken research measuring and recording practice volume for each player. Coach 6 explained:

Coaches do volume by guesswork, but then say it is so important to know the player. They could be right, but they really can’t hide behind knowing the player and having no more empirical or research based knowledge. I know that when you have recorded and measured practice and done it yourself, you know what you did right and wrong for each player. There is no guesswork.

In contrast to the sophistication of the coach knowledge, every parent described confusion in understanding the practice volume in relation to age and other factors. Encouragingly, however, parents realised this topic was important and were aware of their lack of knowledge. Parent 3 said that “I worry about injury because of the tennis and fitness volume. I am not an expert, but I know every child is different. Statistics generalise the practice volume, but what is appropriate for the individual must matter”.

The third statement on whether rankings in junior success predict adult success elicited few sources of knowledge from either group, apart from experience (as reported by every coach) or common sense (as reported by three parents). As each coach

answered the question, they verbally worked out the age at which they thought rankings could be indicators of talent. The majority suggested 16 and older for girls and 17 or 18 and older for boys. Typically, Coach 7 said: "I would guess after puberty would be more likely", while Coach 4 reflected that "my feeling is that at 10 or 12 the kid should be in the pack or thereabouts...that's enough". Parent 5 felt that "at different ages it might be possible to predict, say at puberty and beyond. The rankings at 12 are just for motivation". However, Parent 2 was more pragmatic and suggested that:

As time moves on and kids get older, then the rankings are much more likely to indicate adult success at 16-18 [years old]. At 10 [years of age] the chances are very slim because you have no idea how children develop around puberty. I suspect, despite success now at 10 years of age, by 14 my son may still be a good player, but not highly ranked.

As part of the second higher order theme developed under Category 3, *future sources of knowledge on TID constructs*, both groups suggested that specific and different sources of information on TID would enable them to increase their knowledge base. Parents had a variety of issues about which they would like more information. For example, Parent 4 said that "I think there should be information a long time in advance from the LTA itself about TID", and Parent 1 asked if a parent handbook existed, adding that "new parents especially need support and lots of information early on". Parent 3 was even more specific and stated that:

My job and my experience are my sources of information. I also read tennis bios, I talk and listen and, most importantly, I seek people out on specific things. Not technical stuff on the internet though. I need to constantly improve how we do things, and know what is the best route forwards. I think and ask a lot, but I am always confused!

While two parents were unconcerned about the extent of their knowledge, the other five clearly recognised that gaps in their knowledge could not be resolved by common sense. They suggested possible sources of future information as the LTA, websites, or other parents, but many were more interested in specific courses designed especially for them and given as soon as possible after their child was selected for TID. Nonetheless, every parent listed at least one area of knowledge that they would like to have (e.g. understanding competition and training ratios, conflicts between tennis and education, practice volumes, the impact of growth and development, family issues, their own role, and the parent-coach relationship).

The coaches suggested that future information sources would be other coaches, mentors and individualised training, but interestingly not LTA courses. In giving this view, agreement is found with research by Mallett, Trudel, Lyle, and Rynne (2009) who also reported that coach education and development courses were felt to be limited or not useful by experienced coaches. Additionally, the coaches admitted reading popular books, but suggested research journals were neither accessible nor viable sources of information. Finally, five coaches mentioned listening to specific, knowledgeable coaches and speakers as important information sources.

4.3. DISCUSSION

The objective of the qualitative investigation was to explore the extent and quality of coach and parent perceptions and understanding of the TID process used by the LTA. The preeminent issue arising from the data is that, for both coaches and parents, experience, albeit of a different nature, is their primary information source about TID. The coach experience is both personal as a player and professional as a qualified coach and acquired over several years. In contrast, the experience parents have of tennis and TID is acquired over a very short time frame and is almost solely derived from the

involvement of their child. Common sense (defined here as knowing intuitively what is right or wrong) features heavily as a source of information for parents.

The current TID programme with which both coaches and parents are associated is entirely dictated by the LTA as the originators and drivers of the system. Neither coaches nor parents are consulted by the LTA and are only involved because of their roles with young players in the TID system. The findings of this study indicate that, perhaps unsurprisingly, both groups have negative perceptions of the current NGB TID system and its effect on players, coaches, parents and clubs. Analysis of the results, suggests an apparent and important contributor to these perceptions is the clear confusion over the objectives and purpose of the current NGB TID programme. Since neither group had been informed of either, it followed that they relied on personal experience or conjecture as their information source. While it would seem logical for an NGB to ensure that key stakeholders were aware of the objectives for a major, highly funded TID programme, this clearly is not the case with the LTA. The principal outcome, as evidenced from the findings presented above, is that stakeholder coherence and confidence is lost.

Another notable outcome of this study relates to the research-supported coach perceptions of testing and selection processes that are largely ignored by the system (Pankhurst et al., 2013). More specifically, the coach responses indicate that, even unknowingly, they have more knowledge of TID than the LTA, at least on the basis of publicly accessible information. In fact, the NGB, as the third stakeholder in the TID process, appears neither to have based its decisions and actions on a strong empirical base nor provided an effective forum for discussion with parents or coaches. Illustrating this issue, several coaches and parents mentioned attending NGB conducted parent education sessions, but stated that the content was not consistent, informative, and certainly not interactive. Further, at no time did the NGB consider it necessary to

ask for parent contribution or feedback. Neither do they consult coaches or ask for their opinions. As the stakeholder leading and funding the TID process, it would seem critical for the LTA to develop positive relationships with, and sound information bases for, the coaches and parents who work closely with their selected young players.

In addition, both coaches and parents voiced negative responses about the LTA's policy on the high volume of competition for selected players. As well as the direct physical and psychological challenges for the player, competition also created other concerns such as expense, funding, rankings at a young age, the effect on other children in the family. Research (e.g. Baxter-Jones, 2005; Eklund & Gould, 2008; Gould et al., 1996) has consistently identified the negative outcomes of too much competition on young athletes. This research should be a concern to the LTA as the system manager, but it appears to disregard or ignore both stakeholder opinions and research evidence.

Coaches also indicated frustration that the diktats from the NGB on what and how they should coach, contradicted their own philosophy, knowledge, and practice. Problematically, this frustration was increased because they needed NGB funding to run a performance programme. The fact that these diktats came from NGB staff whom the coaches also perceived to lack experience and knowledge was an additional issue and is further evidence of the different perceptions of the different stakeholders in the LTA's TID programme.

Additionally, coaches were concerned at the NGB's policy of selecting very young players for the TID programme. This policy again contradicts and ignores research (Abbott et al., 2002; Lidor & Ziv, 2013). The coaches, in their own and earlier role as players, had personal experience of other TID programmes. While they understood previous programmes were not perfect in terms of TI and selection, they judged them to be more realistic, less draconian, and more likely to increase the player pool because they took effect when players were moving through puberty.

Reflecting on the higher order theme of *differences in knowledge sources for chosen constructs* (Category 2), it is pertinent to discuss the consequences that different perceptions of the TID constructs have on how coaches and parents think and behave. Data, unsurprisingly, revealed a superior knowledge base of tennis and TID by coaches. Parents will inevitably have lower levels of experience of tennis than tennis coaches, while coaches in comparison will have high levels of experience of both tennis and of tennis parents themselves. Further, these different perceptions may not be changeable because while coaches continue to increase their experience of working with parents over time, parents actually leave the system after a few years. This suggests that working with parents as they become "tennis parents" and before the different perceptions and knowledge bases can take effect would be useful.

Another example of the parent-coach disparity was found in the responses to the statement on competitive stress. While the coaches perceived parents to be a major cause of stress to their children before, during, and after competition, the parents considered other factors, notably coaches, the NGB, and the peer group to be the main stressors. Several parents did, however, recognise they could be a stressor, but never considered themselves to be in the group that actually was! Significantly, neither coaches nor parents were aware of any research on competitive stress. Again, if both stakeholders were aware of research evidence because methods could be found to give them such information, their perception and their behaviour would possibly be different. Competitive stress in young athletes is actually well researched (e.g., Baxter-Jones, 1995; Gould et al., 1996), but in a similar manner to coaches and parents, does not appear to impact on NGB thinking, either on the role, volume and outcomes of competition for children or the stress that regular and frequent ranking updates based on tournament results causes to parents, players, and coaches alike.

In another notable outcome, the perceptions of different types of practice (as driven by statement 2 in the exploration of Category 3), indicated that coaches were aware of the practice research and understood the concept of deliberate practice in particular. They often cited information from a coach development programme in 2001-2004, since dropped by the LTA. While none of the parents understood the concept of deliberate practice, a brief explanation always increased interest and pointed to implicit understanding that different types of practice exist, are used by coaches, and serve different purposes. Every parent wanted to know more about practice.

Interestingly, the differences in the perceptions of the two groups of what the NGB as a stakeholder thinks were reflected in the data in Chapter 3. In essence, the studies for both this chapter and for Chapter 3 suggest none of the stakeholders appear to know what the others think. In relation to the present study, two issues consequently arise. The first is that coaches and parents have different perceptions of the five TID constructs identified in Chapter 2 and the second is that both groups can only guess at the NGB's perceptions of the same constructs. This possibly reflects the different experiences of, and levels of information acquired by each of the stakeholders (as evidenced within this chapter between parents and coaches), but the consequences are that the degree of coherence and the likelihood of developing understanding between them are reduced. According to the findings of this chapter, the lack of coherence between parents, coaches, and the NGB appears to stem from a reluctance of the system to involve the other stakeholders in the TID process. It would suggest that if the NGB involved the other two stakeholders then the coherence between them all would increase. The concept is discussed in the final chapter of this thesis.

Finally, it is pertinent to note differences in each stakeholder's sources of knowledge about different TID constructs. Again, data are clear that both coaches and parents recognise that they currently do not have sufficient information to optimally

fulfil their specific role. Every parent expressed the need to know more and recognised that the statements used to guide the discussion for Category 3 highlighted gaps in their knowledge, but admitted to not knowing where to source relevant and quality information. Particularly important as a source of parental knowledge, however, was more feedback from the coach on their child's progress. The coaches, on the other hand, perceived the LTA to have information that it was not sharing; a view that is difficult to substantiate though likely to be another consequence of different perceptions.

On a positive note, the findings of this study suggested that both coaches and parents had ideas on how they could access specific information on TID processes in the future and, more importantly, were interested to learn more. Furthermore, the issue of coherence between the stakeholders was not viewed as a concern by either group- perhaps ignorance is bliss! Indeed, their perception appeared to be that the relationship would be different if their knowledge bases could be equalised. However, if increasing knowledge bases (and improving behaviour in different aspects of TID) enabled a better working relationship between them, it is likely both parties would see the benefits.

4.4. MOVING FORWARD

The research presented in this chapter extends the results of Chapter 3 in demonstrating the consistent lack of coherence across coach and parent perceptions, understanding, and level of knowledge of TID in junior performance tennis in the UK. Based on these findings, it appears necessary, in the first instance, to increase the TID knowledge base of parents. While parents are the group with the least experience and knowledge of tennis and TID, they recognise the need to know more if they are to be in the position to help and support their children in the best way possible. In the interviews with parents it was possible to identify and list many of the issues that they wanted to know and understand as tennis parents. Moving forward therefore, the

opportunity exists to initiate a systematic and specific programme of learning for parents of young tennis players. This programme should be based firstly on what parents want to know and secondly it should develop parent understanding to the five constructs identified in Chapter 2 (i.e., Sport Specialisation and Selection, Practice, Athlete Development, Junior and Adult Success, and the Role of the Stakeholders). The expected outcomes would be changes in parent understanding of the TID process, better working relationships with the coaches, and thus an improved environment for their children. Pertinently, such parent understanding will continue to be important as the NGB appears intent on continuing the present TID programme.

Coaches also listed a number of ways in which they could improve their knowledge base of TID. Mentoring, personal responsibility and an individual, specific programme were suggested by every coach as a welcome alternative to the present system based process of attendance courses. Coaches also recognised that their continuing development was their own responsibility and suggested that experiences in different work environments could contribute further information and therefore knowledge.

From the NGB perspective, the findings of this chapter indicate that the LTA's present TID programme cannot be considered evidence-based as it largely ignores and even defies the wide and comprehensive topic-relevant research literature. Further, this stance appears to antagonise performance coaches and bewilder parents. Accordingly, it is suggested that the NGB should acknowledge the sizeable research base and make such changes to its TID programme as are necessary to bring it into line with the scientific evidence. Should this and the specific parent and coach support measures outlined above be put in place, increased coherence between parents, coaches, and the NGB is likely, resulting in long term benefits for young players who want to be the best they can. The following chapter consequently describes the development and

implementation of an intervention strategy that seeks to develop parental knowledge of TID and their own role, in combination with action to increase coach awareness of parent needs. Other strategies to increase stakeholder coherence are discussed in the final chapter.

Chapter 5

TALENT IDENTIFICATION AND DEVELOPMENT IN JUNIOR PERFORMANCE TENNIS: A STRATEGY TO SUPPORT THE PARENT ROLE

Preceding chapters of this thesis have revealed the particular need for coherence between all the stakeholders in the TID process. The research outlined in Chapter 2 (and in Pankhurst & Collins, 2013) reported and emphasised that parents are an important stakeholder in the development of young athletes. However, and consistent with media reports on the negative behaviour of world class tennis players' parents, Chapters 3 and 4 found that the relationship between parent, coaches, and the NGB is neither a simple nor necessarily positive one. Notably, these results are further supported by prior research which has recognised that, although parent involvement in a child's sport is necessary, the quality and nature of that involvement can vary (e.g. Bloom, 1985; Cote, 1999; Wylleman, DeKnop, Ewing & Cumming, 2000). Accordingly, and in an attempt to develop greater coherence between coaches and parents, this chapter will first consider what coaches think parents want to understand and know against the reality of what parents have actually said they want to understand and know. Then the discussion will consider the outcomes for both parents and coaches of an intervention strategy (a parent workshop) undertaken with parents of players in UK junior performance tennis.

Usefully, a large research base on the role of parents in junior sport has built up over the past 20 years. Much of this research relates to the behaviour of parents in team sports or sport in general (as examples, see Bois et al., 2009; Brustad, 1993; Côté, 1999; Fraser-Thomas, Strachan, & Jeffery-Tosoni, 2013; Fredricks & Eccles, 2004; Horn & Horn, 2007; Wuerth et al., 2004). However, and of greater relevance to the context of tennis as an individual sport and to this thesis, an increasing number of studies pertain specifically to the behaviour of tennis parents (DeFrancesco & Johnson, 1997;

Genevois, 2011; Gould, Lauer, Roman, & Pierce, 2010; Harwood & Knight, 2009a, 2009b; Wolfenden & Holt, 2005). These studies are important because they may indicate differences between parents in the team and individual sport contexts.

However, when deciding what parent behaviours are appropriate in junior sport, none of the published literature appears to consider the likely genesis of parent behaviour; namely, the actual level of parent knowledge and/or experience of either the sport or of the child in sport. Researchers and practitioners seem to presume that parents (perhaps intuitively?) know what to do and how to behave as a sport parent, without acknowledging that they often have no previous experience of, rationale for, or opportunity to acquire knowledge and understanding of their role. In short, recent studies indicate that little is considered about why parents behave in the way they do. Furthermore, Horn and Horn (2007), having actually acknowledged that it is necessary to *know* why parents behave as they do, then proceeded to discuss the belief and value systems that may influence their behaviour; but *not* their existing experience or knowledge. In fact, it has not been possible, either in the tennis specific or general sport parent research, to find any reference to the *a priori* experience or knowledge that could influence parent behaviour. Further, there is an absence of investigative research regarding the parent knowledge base as a sport parent, even when the researchers have an opportunity to do so. As a further example, Lauer, Gould, Roman, and Pierce (2010), investigated parent behaviour in tennis, noting that, of eight parents of successful tennis players in the study, only 50% had played tennis competitively and one was a coach. However, it appears that no consideration was then given to the impact that this competitive experience could have, however positively or negatively, on the parents' subsequent behaviour. Furthermore, the research did not quantify the number of years parents had of child sport experience, or with how many children. It seems reasonable to

suggest that both issues could impact on parent experience and knowledge and thus their behaviour.

Supporting advances in this critical yet underexplored area, Chapters 3 and 4 revealed that, for several reasons, tennis parents typically have low levels of knowledge. More specifically, Chapter 4 reported that parents are very frequently new to tennis and are thus unaware of the specifics of competition, practice, or even the role of the coach. Indeed, only one of the seven parents interviewed for this chapter had played tennis competitively; and for six of them, their present experience was their first with a child in any sport performance programme (one parent had had another child in a soccer programme). Even if parents have played the sport, their experience of being an observer, understanding player development pathways, or appreciating what "appropriate behaviour" is will still be low; points that suggest that many parent behaviours are therefore likely to result from ignorance or "educated" guesswork. I can substantiate the reality of these issues with (unpublished) data obtained in two parent discussion groups with 38 parents of junior performance tennis players. The responses indicated that 86% of the parents had never played tennis and only 4% had previously had a child in a performance sport. This evidence, albeit limited, suggests there may be understandable reasons why parents behave as they do.

The challenge of changing behaviour without first considering the existing knowledge and skills of an individual in any field has been noted, for example, by Ajzen and Madden (1986). They suggested that a lack of skills, knowledge or even opportunities could contribute to behaviour. Furthermore, it would appear from the popular press that, in many fields of research (e.g., illiteracy, smoking, alcoholism, obesity and sexual behaviour), the reality of *existing* participant knowledge is considered before any attempt is made to change behaviour.

Accordingly, the study presented in this chapter had three objectives. The first

was to assess the level of coherence between what parents said they wanted to know for their tennis parent role against what coaches perceived they needed to know. The second, and based on the findings reported in Chapter 4, was to assess the outcomes for parents of a dedicated parent workshop based entirely on what parents said they wanted to know. The third and final objective was to assess the perceived success (or otherwise) that the workshops had in helping parents in their role. This objective was achieved by interviewing coaches three months after the workshops

5.1. METHOD

5.1.1. Participants

For the first objective, performance coaches ($N = 12$) in four HPCs that would not be involved in the workshop intervention, completed a coach perception questionnaire Form 5.1 (Appendix C), the statements for which were based on the information that parents wanted and had referred to in Chapter 4 (cf. p 66).

For the second objective, small groups of parents ($N = 48$) of young performance players attended a parent workshop. These workshops were conducted in four different HPCs to those used in the first part of the study. The workshop content was based on information parents had first said they wanted to have in Chapter 4 of this thesis and these were the issues generated for Appendix C. The parents completed a post workshop questionnaire (Appendix D) at the end of the workshop discussion .

For the third objective, performance coaches ($N = 11$) from the same four HPCs used for the parent workshops were interviewed three months after the workshops. A week before the interview, each coach was sent a copy of the coach perception form (Appendix C) listing the parent issues which were the foundation for the workshop content. The coaches were asked to study these issues and ask questions as they felt necessary during the interview. In the interview itself, the coaches were given a copy of the post-workshop questionnaire (Appendix D), and asked how they thought the

parents would have responded. Each coach was asked structured questions to determine his or her perception of parent behaviour in the three months since the workshops.

The use of different groups of coaches and HPCs was to ensure that no sensitising or bias effects would be exerted on the coaches involved with the target groups of parents. Importantly, there were no systemic differences between the coaches taking part in each part of the study. Furthermore, parents from both groups of HPCs had been part of the generation of the "issues of interest" to parents.

Ethical approval for all interviews and questionnaires used in this study was granted from the University's research ethics committee. Informed consent was obtained from each participant and their anonymity assured.

5.1.2. Instrumentation

5.1.2.1. Objective 1: Assessing coach perceptions in non-workshop HPCs of issues raised by parents in relation to their child's tennis.

To achieve this objective, parent responses to the structured questions detailed in Appendix B were summarised as individual statements under each of the five TID constructs and then used to develop the issues for the coach perception questionnaire (Appendix C). To acquire more detail of the coach's perception of parent knowledge, statements relating to the fifth construct (the Role of the Stakeholders) were split into two sections: the Role of the Parent and the Parent–Coach relationship. As discussed in Chapters 3 and 4, parents had indicated both a low level of existing knowledge of the five TID constructs and a need to know more. Only those parent responses concerning what they thought would best inform them *for the future* were used to develop the questionnaire.

5.1.3. Procedure

The coach perception questionnaire (Appendix C) was given to the 12 junior performance coaches based in four HPCs that would not be involved in the intervention

part of this study. Their questionnaire responses enabled comparison between what parents had previously indicated they *wanted* to know and what the coaches perceived parents *needed* to know. The coaches were asked to (anonymously) record their perception of each statement on a scale of 1 to 5 under three benchmarks (concern, frequency and importance) as indicated in Appendix C. Finally, the coaches were asked to include any other issues they considered parents should know. (Five issues were added, but all were repeats of those already included). Of key importance was the fact that the coaches were informed, *before* they answered the questionnaire that the statements were generated from issues raised the parents as being information they wanted to have. On completion, the questionnaires were subsequently analysed.

5.1.3.1. Objective 2: Assessing post-workshop outcomes for parents.

The parent workshop content was based on the parent statements presented in Appendix C, since this was the information parents had said they wanted to have (cf. Chapter 4). Each workshop was a structured discussion with 8 to 16 parents of junior performance players aged 9 to 14 ($M=10.2$ years), in four of the HPCs used for Chapter 2. After each workshop, parents anonymously completed a questionnaire, giving their perceptions of the information they had received to help them in their parent role. The parents were also asked to indicate any missing topics. This question was important because the majority of the parents were not the original interviewees in Chapter 4.

5.1.3.2. Objective 3: Assessing coach perceptions post-workshop.

For this objective, coaches in the four workshop HPCs answered semi-structured questions on any changes that they had perceived in parent behaviour in the three months since the workshops. These interviews were individual, face-to-face, conducted in a private location and at a time convenient to each coach. To facilitate discussion and familiarise them with the workshop content, the coaches received, in advance of the

interview, the list of the statements contained within the questionnaire developed for Objective 1 (cf. Appendix C).

The coaches were first asked their perception of the likely parent responses to the post workshop questionnaire (Appendix D). They were then asked questions to assess their perception of any changes in parent behaviour since the workshop, together with the nature of that change. Finally they were asked if they considered the workshops to have been successful.

5.2. RESULTS

The data for all three objectives were analysed before commonalities and differences between them were considered.

5.2.1. Objective 1: Assessing coach perceptions in non-workshop HPCs of issues raised by parents in relation to their child's tennis.

Table 5.1. *Mean and (Standard Deviations) of Coach Ratings of Issues raised by Parents within Different Constructs under the Three Benchmarks*

Construct	Concern	Frequency	Importance
Sport Specialisation and Selection	3.12 (.68)	2.79 (.78)	3.29 (1.08)
Practice	2.40 (.81)	1.86 (.89)	3.43 (1.16)
Athlete Development	2.77 (.58)	2.38 (.53)	3.23 (1.05)
Junior and Adult Success	3.11 (.57)	2.80 (.67)	3.86 (.87)
Role of the Parent	3.11 (.63)	2.56 (.64)	3.77 (.73)
Parent–Coach relationship	2.80 (.82)	1.87 (.89)	3.65 (1.05)

Analysis of the data presented in Table 5.1 was completed through a series of three, repeated measure ANOVAs on each of the key areas: Concern, Frequency and Importance. In each case, Mauchly's Test was applied to check for violation of the Sphericity assumption. When this was significant, the more conservative Greenhouse-Geiser df were used to protect against inflation of Type 1 error. In the case of

significant findings from the ANOVAs, this was followed up through the use of a Tukey WSD test to identify where the significant differences actually lay. There were significant differences across Concern ($F(2.3,14) = 4.1, p < .05$) and Frequency ($F(5,14) = 9.1, p < .001$). Follow up tests showed that, for Concern, this was due to significant differences between ratings for Sport Specialisation and Selection, Junior and Adult Success and the Role of the Parent versus ratings for Practice and Athlete Development. In the case of Frequency, ratings for Sport Specialisation and Selection and Junior and Adult Success were found to be significantly different to those for Practice and the Parent-Coach relationship. However, no significant differences emerged for Importance, suggesting that (at least in the coaches' perceptions of parental views) all these statements were of equal importance.

5.2.2. Objective 2: Assessing post-workshop outcomes for parents.

Tables 5.2 – 5.7 give the data for the parent responses on the questionnaire.

Table 5.2.

Q.1. How much of the Information in the Workshop was New to You?

% of new information	Total parents	% of parents
100	6	12.5
75	24	50
50	16	33.4
25	2	4.2

Table 5.3.

Q.2. How much of the Information will be Useful to You?

% of useful information	Total parents	% of parents
100	24	50
75	12	25
50	9	18.7
25	3	6.2

Table 5.4.

Q.3. What were the most Useful Topics to You and Why?

Topic (from the constructs)	Total parents	% of parents
Athlete Development (total)	45	84
Physical development (part of Athlete Development)	28	58
Mental/emotional development(part of Athlete Development)	9	9
Development plan for different ages (part of Athlete Development)	8	17
Practice	11	23
The Role of the Parent	11	23
Junior and Adult Success (total)	15	32
Competitive pressure (part of Junior and Adult Success)	7	15
Number + Types of matches (part of Junior and Adult Success)	5	10.5
Ratings and rankings (part of Junior and Adult Success)	3	6.3

Q.4. regarding least useful topics had no suggestions.

Table 5.5.

Q.5. What are the Sources of Information You Currently use to help You Understand and Support your Child's Tennis?

Current sources of information	Total parents	% of parents
Coach	22	45.8
NGB website (tournament information)	17	35.4
Common sense	12	24.9
Other parents	10	20.8
Internet	5	10.4
Books	4	8.3
Club	3	6.2
Self –taught	1	2.1

Table 5.6.

Q.6. Is there any Topic You think should have been Included, but was Missing?

Topic	Total parents	% of parents
Nothing	39	81.2
How to maintain child's motivation	1	
A training plan	1	
Who runs junior competition	1	
How to keep a child in the sport	1	
How parent guidelines could be put in place	1	
Financial issues	1	
The position of the club in the system	1	
The NGB viewpoint	1	

Table 5.7.

Q.7. When would You Find this Workshop to be Most Useful?

Option	Total parents	% of parents
When child starts to play tennis	10	21
After 2-3 years in the sport	10	21
When child starts to compete	23	47.9
At all stages	5	11.5

Q.8. asked the parents if they would recommend the workshop to other parents. 100% stated that they would do so.

Q.9. The parents gave the age of their child: the average age was 10.2 years.

5.2.3. Objective 3: Assessing coach perceptions post-workshop.

The performance coaches in the four workshop HPC's were asked if they had any questions regarding the parent statements in Appendix C: none were raised. The results for Objective 3 are presented in Tables 5.8–5.12.

Table 5.8.

Q.1. How much of the Information do You Think was New to the Parents?

% of new information	Total coaches	% of coaches
100	0	0
75	5	45.5
50	5	45.5
25	1	9

Table 5.9.

Q.2. How much of the Information do You Think was Useful to the Parents?

% of useful information	Total coaches	% of coaches
100	8	73
75	2	18
50	1	9
25	0	0

Table 5.10.

Q.3. What do You Think were the most Useful Topics for the Parents and Why?

Topic	Total coaches	% of coaches
Athlete Development	6	55
Practice	2	18
Role of the Parent	2	18
Number + Types of Matches (part of Junior and Adult Success construct)	1	9

Table 5.11.

Q.5. What do You Think are the Current Sources of Information that Parents use to help them Understand and Support their Child's Tennis?

Current sources of information	Total coaches	% of coaches
Coach	10	90
NGB website	11	100
Other parents	11	100
Common sense	1	9

Table 5.12.

Q.7. When in their Child's Tennis Career do You Think Parents thought this Workshop would be Useful?

Option	Total coaches	% of coaches
When the child starts to play tennis	4	36.5
After 2-3 years in the sport	2	18
When the child starts to compete	5	45
At all stages	0	0

In answer to Q.8. 100% of coaches thought the parents would recommend the workshop to other parents

Following the coaches questionnaire-based responses regarding parent perceptions of workshop content, ten of the 11 coaches reported that they had seen positive changes in parent behaviours in the three months following the workshop. However, two coaches qualified this response: the first indicated that while there were positive changes during practice and in meetings, a few parents reverted back to their previously habitual negative and anxious behaviour when their child was losing in a match. Specifically, this coach commented that parents "still get very upset with losses, despite the fact that these are part of tennis and are learning opportunities." The second coach stated that changes were apparent only with parents whose children had been in tennis for several years and who were playing more tournaments. The single coach who perceived that parent behaviour was unchanged since the workshop qualified this opinion by suggesting that parents were now actually more confused, because information given as part of the workshop conflicted with the information previously provided by the LTA.

In terms of the nature of the changes in parent behaviour, the coaches' responses were similar and almost all positive. For example, it was reported that, following the workshop, the parents appeared calmer or more "laid back", had become more reasonable in their expectations of their children and the coach, were more realistic in their expectations of the outcomes of training and competition for young players, and were generally more open to ideas. Parents were also perceived to be asking more questions and had applied the age-based information about athlete development to both practice and competitive outcomes. Tellingly, one coach observed that a particularly difficult parent was now asking questions because he realised that "there was science behind the practice."

Taking the workshop as an overall package, every coach was enthusiastic in stating that the workshops were very necessary and worthwhile. Furthermore, ten of

the 11 added that parents should be introduced to such a workshop when their child started to play (at either 6 or 9 years of age), while the eleventh suggested that group workshops should begin when players started to compete. All of the coaches were in favour of a series of workshops, with two suggesting that the topics should change as children get older and parents gained experience. Three coaches also mentioned that the structure of parent sessions should become more individualised as players become older and/or more successful.

Finally, and while the workshops were considered both necessary and valuable, all of the coaches indicated that who should deliver these events was a major problem. Realistically they felt that they (or a colleague) should conduct the workshop, but all recognised that, at present, they were neither sufficiently knowledgeable nor trained to do so. They also recognised that relevant training did not exist and seven coaches alluded to the fact that their coach education courses did not even include information about parents, let alone give them information or training on how to conduct parent workshops. In this vein, two coaches initially suggested that the LTA Talent Development coaches should conduct the workshops because "they are in their remit", but both immediately and conversely added that would not to be a good idea (a finding which resonates with the coach comments presented in in Chapter 4.

5.3. DISCUSSION

5.3.1. Objective 1: Assessing coach perceptions in non-workshop HPCs of issues raised by parents in relation to their child's tennis.

Despite the fact that the coaches in the non-workshop HPCs were told that the statements in the questionnaire had actually been generated by parents, Table 5.1 indicates they have little idea of parent concerns on the different TID issues and they also perceived parents to raise the issues infrequently. This suggests that coach/parent communication is either ineffective or severely limited; a finding that is perhaps driven

via the combination of a coach-generated culture of "they don't understand/want to understand" and a reluctance on the part of parents to raise issues with coaches. Notwithstanding these possibilities, however, the fact that the coaches agree that the topics are important for parents is encouraging and *could* be the starting point for improving communication (if both parties could be engaged).

One limitation of this research was that coaches were not asked about other ways in which parents could be made familiar with the information they wanted.

Considering the mean ratings for each of the three factors detailed in Table 5.1, it is noteworthy that for Frequency (i.e., how often parents have raised the issue with the coach) all the means are low (between 1.86 and 2.80); equating to "infrequent" on the Likert scale employed by the questionnaire (Appendix C). In contrast, the means for the Importance of the issues to parents are all above 3, although the differences between the ratings for these statements were non-significant and therefore revealed a homogeneity of responses. The means for Concern are mixed, but lean slightly towards the lower end of the scale. From an observational viewpoint, this suggests that while coaches perceived the statements to refer to important topics that parents should have information on, they seemed to perceive parents as less likely to discuss or ask about these areas (Frequency) or view them as an issue (Concern). Given the fact that all of these topics actually emanated from parents in the first place (and the coaches knew this before responding), there appear to be some important and potentially disruptive disjoints between parent desires and coaches perceptions of what they want!

5.3.2. Objective 2: Assessing post-workshop outcomes for parents.

A number of discussion points emanate from the results presented in Tables 5.2 – 5.7. Despite the fact that the workshops were constructed around information parents said they wanted to have (cf. Chapter 3), some figures in Table 5.2 appear a little low. The data indicates that only 62.5% of the parents perceived over 75% of the information

to be new to them. I would have expected more parents to indicate more information to be new. Against this point, the results may have been skewed by the fact that several parents in one HPC had previously attended a parent workshop. Nonetheless, the data presented in Table 5.3 indicates positive outcomes concerning the parent's perceived usefulness of the information.

While this may be unsurprising given parents' awareness of their lack of knowledge in TID (cf. Chapter 4), it importantly addresses the thesis put forward at the beginning of this chapter that, in order to develop parent knowledge and skills, it would seem important to at least first find out what they wanted to know. Leading on from this, the results presented in Table 5.5 reiterate the findings presented in Chapter 4 in indicating that the *current* sources of parent information centred around coaches and the NGB website (if only for tournament information) but were nonetheless varied.

In terms of any topics perceived to be missing from the workshop, the responses shown in Table 5.6 do not suggest any particularly noteworthy omissions. This question was of interest because I wanted to know if the parents interviewed in Chapter 4 spoke "comprehensively" for all parents of junior performance tennis players. It appears that they did, since over 80% of the parents who had attended the workshop had no topics to add, while the remaining 20% each cited only a single issue already covered in the workshop. In reality, these data supplement the viewpoints from the original parent cohort. Results suggest that the workshop parents were largely in agreement in suggesting very few new topics.

Whereas parents shared similar views on the comprehensiveness of the workshop, they did differ on when in the child's tennis development these workshops would be most useful. The fact that nearly half of them thought that the workshops would be useful as the child started to compete suggests this to be a time when parents feel the need for more knowledge; possibly, I would suggest, because they have not

played competitive tennis themselves. Conversely, it appears that many parents do not think it important to increase their knowledge as soon as their child enters a sport, despite having very little experience of that sport and contrary to the parent responses reported in Chapter 4. Problematically, these different perceptions may not change because while coaches continue to increase their experience of working with parents over time, parents actually leave the system and are replaced by new ones every few years.

5.3.3. Objective 3: Assessing coach perceptions post-workshop.

In terms of coherence, similarities across the perceptions of the coaches and parent from the HPCs where the workshops were delivered suggests that these coaches were aware, at least in part, of the parents' needs for knowledge. This contrasts to the coaches sampled for Objective 1, who indicated they did not consider the knowledge areas chosen by parents to be of concern, nor to be frequently stated by them.

Further evidence of improvements in coach-parent coherence within the HPCs used for the workshop was shown in the similarity of views regarding whether the workshop provided new information. Specifically, 90% of coaches thought parents would consider over 50% of the workshop information to be new to them (cf. Table 5.8) with the actual parent response being 96% (cf. Table 5.2). Yet more evidence of parent-coach coherence is shown with coaches and parents having similar perspectives regarding the usefulness of the information (100% of the coaches thought over 50% of the information would be useful and 93% of parents agreed), when the workshops should be introduced (45% of coaches and 48% of parents agreed that this should be as the child starts to compete), and 100% of both coaches and parents would recommend the workshop to other parents.

However, an important contrast in parent-coach coherence exists in the responses to *current* sources of information used by parents. Underlining the lack of

coherence between the parties highlighted in previous chapters the coaches clearly misperceived parents' sources of information, thinking they would rank the NGB website, the Internet, other parents, and coaches as principal sources of parent information. In reality, however, fewer than half of the parents listed these four sources. Only 10% added the Internet as a source of information and only 20% admitted to turning to other parents. Further, while only one coach suggested that common sense would be part of the parent information base, 25% of parents actually cited this as important and had mentioned this in Chapter 4. This contrast in information sources presently used by parents is important, and appears little understood by coaches. It suggests that coaches need to better understand parents' current information base/requirements in order to interact in a cohesive and coherent manner.

Another notable difference between the two stakeholders concerns the most useful TID topics and thus constructs for parents to understand. Indeed, while only 55% of the coaches perceived that parents would find information on Athlete Development important and only 9% thought Junior and Adult Success information to be useful, the parent-based figures were actually 84% and 32% respectively. However, it should be noted that the data may have been skewed because the coaches only selected one topic while the parents highlighted several.

Contrasting data from the non-workshop coaches used to meet Objective 1, with the data from the workshop coaches in Objective 3, also suggests differences appear to exist between two groups in their perceptions of what parents want to know and understand. The reason for these differences is difficult to quantify, given that both groups of coaches have the same training and overall experience base. However, and as a possible (part of the) explanation, it must be acknowledged that the coaches at the HPCs where the workshops were delivered had time to talk with parents after the

workshop and subsequently deal with their focused questions on TID related issues and practices.

Taking an overall perspective on the intervention workshop, the results indicated the workshops to be a worthwhile and successful exercise, from both the parent and coach viewpoint. Furthermore, the consequent changes in parent behaviour listed by the coaches were both noticeable and specific. Both parties considered the workshop information to be valuable and also agreed on when the workshops should be introduced. Indeed, the only outstanding question was not about the value, content, or necessity of parent workshops, but rather who would/could deliver them in HPCs and clubs in the future.

5.4. MOVING FORWARD

This chapter has continued the debate noted in previous chapters concerning the coherence of coach and parent perceptions and relationships in junior performance tennis. In many respects, the results further support the notion that coherence across these stakeholders does not always exist, or at least not in all circumstances. However, there is evidence that an intervention delivering parent-driven content (such as the workshop described above) can help parents to understand the key issues involved in player development in tennis, improve their behaviour, appreciate their role, and increase the coherence in their relationship with the coach.

At the beginning of this chapter the question was posed about the validity of strategies to change behaviour that did not first attempt to assess the understanding of the subjects (in this case, tennis parents) and then employ procedures to develop that understanding. The key point about the workshops, therefore, was that the content was based entirely on what parents said they needed/wanted to know to support their role. Importantly in the TID context, these points all related in some way to the five TID constructs and sub-themes identified in Chapter 2. The workshop content also appeared

to build on what parents already knew. That there were subsequently behavioural changes in parents which were perceptible to the coaches in the HPCs that held workshops is encouraging. That there was evidence of developing and improving relationships between coaches and parents in each of the performance clubs involved as a result is also very positive.

However, for such workshops to continue and to be consistent in content in other HPC's, training of the "deliverers" is essential. It seems sensible for the workshops to be frequent, interactive and dynamic in content; thus, simply in terms of scale, club performance coaches need to deliver them. However, the deliverer coaches clearly need support and training to deliver what the parents say they need to know and not what the coaches or the NGB decide they need to know. If these issues can be resolved, it would appear that the methodology presented above could increase the coherence between parents and coaches and so ultimately benefit young players.

While this chapter has concentrated on the fifth TID construct outlined in Chapter 2 (with two of the three stakeholders), it is possible that the conditions within the specific nation and culture that were studied may themselves be the determinants of that coherence. However, the same conditions could also exist in other cultures and nations. After all, TID is TID! The following chapter will therefore contrast coach perceptions of parent requests for information on TID processes and systems that affect their children across three different nations and sport cultures. More specifically, it will attempt to determine whether, and to what extent, culture and background impacts on coach-parent understanding of the TID process.

Chapter 6

A COMPARISON OF TALENT SYSTEMS AND COACH PERCEPTIONS IN THE UK, USA AND CHINA

To achieve success at Olympic and other high levels of sport, many sport organisations (e.g., British Cycling, Major League Baseball, UK Sport) often use specific TID systems/processes that initially select and then train young athletes to win trophies and medals in the future. Research into TID processes has been discussed in Chapter 2 (cf. Pankhurst & Collins, 2013), offering some structure and underpinnings to these methods, but based on an implicit assumption (or rather a lack of consideration) of national differences. In the preceding chapters I have studied the TID process used in one sport and in one nation (i.e., tennis in the UK), but it seems a reasonable proposition that subtly different processes, albeit with similar objectives, may exist in other sports and nations. To this point, Vaeyens et al. (2008) have noted an increasing trend in the development of different TID systems in different nations, presumably motivated, at least in part, by such international variations.

Taking a different perspective, the discussion in Chapter 3 (cf. Pankhurst et al., 2013) noted that TD typically involves three stakeholders: coaches, parents, and the sport system itself; a theme which has continued throughout this thesis. I have noted that, while each stakeholder must have different skills for their role, there is an implicit requirement for a commonality of knowledge and understanding between them if the athlete is to be optimally and consistently successful. Martindale et al. (2005) have already suggested that developing this commonality is important for generating and maintaining positive stakeholder relationships.

Accordingly, this chapter links these two perspectives with the objective of understanding whether TID systems in other nations affect the coherence of two of the primary stakeholders: namely coaches and parents. My intent was to compare and contrast the coach responses to the information that parents of young performance

tennis players had said they wanted to have (cf. Chapter 3 and 4). To facilitate this objective, the three nations were selected: China, the USA and the UK because they offered a spread of cultures. Given the common factors of tennis and of athlete development processes, irrespective of the country, it is reasonable to assume that parent requirements for information and subsequent knowledge would be the same across the three nations and link to the same five TID constructs first outlined in Chapter 2. However, the possibility also existed that cultural differences between these nations would impact on these factors and/or change coach perceptions of these same parent needs. If so, there would therefore be a clear and evidence-based need for nationally-specific educational initiatives.

To fully interpret the findings of such a focused inquiry, it was important to understand the context in which each group of coaches was responding. As a precursor to data collection therefore, differences and similarities of the sport system and TID processes within and across the different nations were investigated to assess their possible impact on coach perceptions. To achieve this, I first interviewed three senior staff in United States Tennis Association Player Development (USTA PD) as well as five tennis officials and ex-players from Shanghai and Sichuan Provinces and Beijing Municipality. My previous experience and research in the UK offered me sufficient knowledge of the UK setting, thus rendering interviews un-necessary!

6.1. NATIONAL SYSTEMS

China has a socialist, centrally controlled economy with a national sports budget that is derived from a combination of national, provincial, and commercial funding sources. According to Hong (2013, p. 406), China has developed "one of the most effective systems in the world for systematically selecting and producing sports stars from a very young age". To this end, nearly 400,000 young children train in the 3000 plus sports schools that operate in every province to train future stars in many

sports, but especially in those that will deliver Olympic medals. However, despite its Olympic status, tennis is not a priority sport in China; a fact that affects its funding base, organisation, and public perception. The China Tennis Association (CTA), while responsible for the sport's development, operates within government guidelines in linking to the sports schools. Young players are selected for intensive training by the age of 10 (from age 6), based entirely on their tournament results. They are then enrolled in schools within each province that cater for tennis players as well as children in other sports. All aspects of tennis training and coaching are provided within the school, initially for at least three hours a day for four to five days per week, rising to four to five hours a day for five to six days a week after two to three years. Individual tennis clubs also exist and many of them train young players, none of whom have been selected for the sports schools. However, it appears that, for parents, the goal is to have their child selected for a sports school not just because their child could become a successful adult player, but also because the sport school students qualify automatically for a college place and are thus guaranteed a job should they not be successful in the sport. In tennis, as in many other sports since 1990, parents partially cover the costs of the sports school training. The Chinese system therefore (to an extent) parallels the present TID system in the UK in that players are selected before the age of 10 and the NGB funds a percentage of their training costs. A further similarity exists between the two nations in that both tennis systems appear to consider education to be secondary to tennis development. Clearly, for Chinese parents, the outcomes of lower levels of education for tennis players are overcome by the guaranteed college place and subsequent degree (even if the player does not actually attend college), but that is not the case in the UK.

In the capitalist USA, there are neither government directives nor government or NGB funding for players under the age of 16. In addition, the NGB (as in the UK)

is responsible for its own sport and player development policies. However, in the USA multiple private and commercial academies conduct tennis training for young players at a high cost to parents, and so vie with and complicate the overall picture (Bowers, Chalip, & Green, 2013).

In all three nations, the tennis NGBs are responsible for the sport's competitive systems. However, there are important differences between them regarding the *use* of the competitive system. In China and the USA, TI is based solely on competitive results, either before 10 years of age (China) or before 12 or 13 years of age (USA). In contrast to China, (but similar to the UK), young players in the USA remain in the club system with their own coach, but attend regular, nationally (UK), or regionally (USA) based training camps, from 9-13 years of age. In the full-time Chinese sports schools, young players are coached (and regularly tested) by provincial or national coaches. Interestingly, it is possible for a young player to lose their tennis school place at age 13-14 by failing physical tests, despite the fact that many at this point are moving through puberty (cf. my comments in Chapter 2, p. 19).

This process of selection by competitive results and then retention by testing is a reversal of the system in the UK. Here (as described in Chapter 3), initial player selection is made centrally by the NGB through an identical, nationwide, systematic but largely anthropometric testing process at 7-9 years of age. From this process, players train in a club-based, but NGB decreed, development and competitive structure. To remain in this system, every player must then meet competitive criteria.

On the organisational level, the Chinese governmental sport system (34 municipalities and 22 provinces, some of which do not include tennis), is somewhat replicated in the USA. For tennis purposes, the 50 States of the USA are organised into 17 sections, with each ostensibly responsible for player development in that section, albeit under the central jurisdiction of USTA PD. Other players develop in

the commercial academies. Thus, in both China and the USA, the provincial/sectional structure is important (perhaps as a function of country size). However, in the UK, tennis is centrally organised, but club administered.

Coach expertise should be an important impactor on developing players in any nation or sport. Notably, however, the ways in which that expertise is acquired or assured is different in the three nations. In China and the UK, the coach education programme is run by the NGB and appears well structured, if not always of a high quality. The coach knowledge-base and the understanding of international standards in China is increasing as more Chinese coaches work with coaches and ex-players from other nations (notably Europe and the USA) and as Chinese players compete internationally. Tennis coach education in the US is currently of a low quality, organised by two independent business organisations and not, at present, by the NGB. Anyone, perhaps as a result of the American culture, can coach without any training. Ex-players are automatically considered to be good coaches, despite having no formal coach education. In the UK, by contrast, coach education is very prescriptive: coaches working with a performance junior player must have a certain level of qualification and undertake regular and on-going training. Thus, differences in coaching standards between the three nations could derive from the coach education systems - or lack of them.

From this brief review it appears that the organisational, TID, and coach education system pertaining in all three nations is different. It could therefore be expected that coach perspectives of parents' knowledge requirements would be different in each nation, because coach opinions will emanate from differences in their own cultural, educational, and system experiences as players and as coaches. Indeed, the now less apparent, but once popular study of comparative sport is based on an implicit assumption and subsequent study of such differences (e.g., Houlihan, 1997; Riordan &

Kruger, 2003). Thus, against the backdrop of the central questions of this thesis, my purpose in this investigation was to check for the existence and nature of any differences across contrasting national TID systems, with a particular focus on the coaches' views of the perceptions of parents regarding information they needed to know.

6.2. METHOD

6.2.1. Participants

Twelve performance coaches were recruited in both China and the USA. The Chinese coaches were recruited randomly from 104 attendees at the 2012 China Coaches Conference in Shanghai by the knowledgeable and independent organiser of the event, himself a performance coach working with the national federation. The invitation criteria to participate were that the coach was qualified and working with performance players (described as juniors attending training at provincial level and regularly competing) and that each participant understood written English. 12 coaches (eight men and four women) were then randomly selected from the 64 who met the criteria to complete the coach perception questionnaire (Appendix C).

From the USA, 12 coaches (nine men and three women) were randomly selected by an independent and knowledgeable coach, from the group of 76 coaches who had attended a Level 5 performance coach education program in the previous two years; English reading ability was assumed! A second requirement was that the coach was currently coaching performance juniors, described as those who were regularly training and competing at sectional level or higher in the USA. Data already acquired from the 12 UK performance coaches in non-workshop clubs Chapter 5 was used for the UK representation of this study.

6.2.2. Procedure

Ethical approval for the questionnaire was granted from the University's research ethics committee. Twelve performance tennis coaches in each of three nations completed the same parent statement questionnaire (Appendix C), discussed in Chapter 5. As a recap to the reader, the statements in this questionnaire were developed from responses to structured interview questions by parents of junior performance tennis players in different HPCs in the UK (see Chapter 4).

Written informed consent was obtained from each participant prior to their completion of the questionnaire. Every coach was assured of anonymity and given a number according to his/her nation.

Akin to the procedure detailed in Chapter 5, the coaches were asked to record their perception of each statement on a scale of 1 to 5 under three benchmarks:

1. The degree of *concern* the coach perceived parents to have for each statement (this rating would reflect the coach's opinion of parent concern about the issue).
2. How *frequently* the coach had heard parents comment about the statement (this rating would reflect how often that issue was raised with them by parent).
3. How *important* the coach thought it was for parents to have information on the specific issue (a high rating would reflect great importance in the coach's view).

As with Chapter 5, coaches were informed *before* they answered the questionnaire that the statements all came from information parents of young UK-based performance tennis players had wanted to know. Notably, the Chinese and USA coaches appeared to accept without question that the same issues were still relevant in their own country. Finally, the coaches were asked to include any other issues they considered parents should have an understanding of, but had not been listed.

6.2.3. Data Analysis

A series of three, repeated measures ANOVAs enabled analysis of the concern, frequency, and importance benchmarks across the nations. In each case, Mauchly's Test was applied to check for violation of the Sphericity assumption. When this was significant, the more conservative Greenhouse-Geiser correction was used to protect against inflation of Type 1 error. In the case of significant findings on the ANOVA, this was followed up by the use of the Tukey HSD test to identify where the differences lay in each of the benchmarks.

6.3. RESULTS

The coach perception data were analysed within and between nations. Table 6.1 shows the summary of all means and standard deviations for coach ratings of each construct across the three benchmarks and for each nation.

Table 6.1.

Means (and Standard Deviations) for Benchmark Ratings for each Nation

Construct	Nation	Concern	Frequency	Importance
Sport Specialisation and Selection	UK	3.12 (.68)	2.79 (.78)	3.29 (1.07)
	USA	2.79 (.78)	2.83 (.81)	4.00 (.85)
	CHINA	3.00 (.88)	2.70 (.86)	3.29 (.81)
Practice	UK	2.40 (.81)	1.86 (.89)	3.43 (1.17)
	USA	2.6 (1.06)	2.33 (.66)	3.95 (1.21)
	CHINA	2.60 (.65)	2.10 (.71)	3.55 (.89)
Athlete Development	UK	2.77 (.58)	2.38 (.53)	3.23 (1.05)
	USA	2.16 (.68)	1.96 (.46)	4.00 (1.19)
	CHINA	2.51 (.70)	2.11 (.81)	3.68 (.41)
Junior and Adult Success	UK	3.11 (.57)	2.80 (.67)	3.86 (.87)
	USA	2.89 (.57)	2.74 (.37)	4.37 (.52)
	CHINA	2.04 (.60)	1.93 (.63)	3.20 (.96)
Role of the Parent	UK	3.11 (.63)	2.56 (.64)	3.77 (.73)
	USA	2.97(.80)	2.71 (.59)	4.44 (.60)
	CHINA	2.43 (.59)	2.36 (.65)	3.63 (.75)
Parent – Coach Relationship	UK	2.80 (.82)	1.87 (.89)	3.65 (1.05)
	USA	2.45(1.01)	2.33 (.66)	3.89 (1.15)
	CHINA	2.70 (.65)	2.10 (.71)	4.00 (1.90)

Table 6.2 further shows the means and standard deviations for coach ratings of each construct across the three benchmarks (i.e., concern, frequency and importance), but collapsed across all three nations.

Table 6.2.

Means and Standard Deviations for Benchmark Ratings Collapsed Across Nations

Construct and Benchmark	<i>N</i>	Min. rating	Max. rating	<i>M</i>	<i>SD</i>
Sport Specialisation and Selection: Concern	36	1.50	4.50	2.9722	.77408
Sport Specialisation and Selection: Frequency	36	1.00	4.50	2.7778	.79682
Sport Specialisation and Selection: Importance	36	1.00	5.00	3.5278	.95577
Practice: Concern	36	1.00	4.20	2.5389	.83744
Practice: Frequency	36	1.00	3.80	2.1000	.76270
Practice: Importance	36	1.00	5.00	3.6444	1.0903
Athlete Development: Concern	36	1.20	4.00	2.4833	.68515
Athlete Development: Frequency	36	1.00	3.60	2.1556	.62356
Athlete Development: Importance	36	1.00	5.00	3.6389	.94635
Junior and Adult Success: Concern	36	1.29	3.86	2.6825	.73012
Junior and Adult Success: Frequency	36	1.17	3.57	2.4888	.68624
Junior and Adult Success: Importance	36	1.71	5.00	3.8095	.92267
Role of the Parent: Concern	36	1.22	4.44	2.8395	.72274
Role of the Parent: Frequency	36	1.11	4.00	2.5463	.62425
Role of the Parent: Importance	36	2.67	5.00	3.9444	.76359
Parent-Coach Relationship: Concern	36	1.14	4.29	2.6508	.82839
Parent-Coach Relationship: Frequency	36	1.00	3.80	2.1000	.76270
Parent-Coach Relationship: Importance	36	1.57	4.86	3.9484	.98182

For the Concern benchmark, significant differences were apparent for Junior and Adult Success ($F(2,33) = 3.31, p < .01$) and the Role of the Parent ($F(2,33) = .541, p < .05$) constructs. Follow up Tukey HSD tests showed this significance to be due to differences between China and the UK/USA for Junior and Adult Success, although the Role of the Parent differences between the three nations did not meet the criterion value. With regard to the Frequency benchmark, only the Junior and Adult Success construct ($F(2,33) = 8.85, p < .01$) reached significance. Follow up Tukey HSD tests again

showed no significant differences, but low values were apparent between China and both the UK and the USA for this construct. Finally, for the Importance benchmark, significant differences between nations were again apparent for the constructs of Junior and Adult Success ($F(2,33) = 6.3, p < .05$) and the Role of the Parent ($F(2,33) = 4.6, p < .05$). Follow up Tukey HSD tests showed these differences to exist between China and the USA, with the UK values falling (non-significantly) between these two extremes.

The coaches in all three nations were also asked to add any issues that they thought were important for parents, but which the parents who had helped to generate the questionnaire had not listed. Largely, these additional issues reflected either national stereotypes or concerns. Notably, neither Chinese nor USA coaches specifically answered the question but rather, took the opportunity to highlight what can best be described as the “cultural issues” that they considered to have affected parent behaviours in their own country (in contrast to the largely non-significant quantitative findings!). In contrast, and in keeping with their British counterparts in Chapter 3, both groups of coaches commented on the apparent lack of parent knowledge of tennis. Those Chinese coaches who were coaching players who had not been selected for the sports school (and who had thus missed out on the guaranteed college place), suggested that the parents prioritised the educational needs of their child above sport. Every Chinese coach also noted that Chinese children do not choose what they want to do, are expected to work hard, and are tested frequently at school. They suggested that, because parents consider competition simply to be an extension of school testing, they want as much competition as possible but always expect the child to win. The Chinese coaches also commented that the parents assume a right to comment during practice and training and to interfere with the coaches’ teaching. The coaches perceived this behaviour to be linked to the need for success.

US coaches also noted that US parents need their children to have immediate and consistent competitive success, but linked this to the American culture. Both Chinese and US coaches listed that parents were also persistent in always wanting their children to practise with players better than their own child.

6.4. DISCUSSION

Prior to the interview process, I expected TID processes for young athletes to vary to some extent across different nations, if only because of the national and sport system differences that have evolved over many years. In addition, the three nations clearly have different cultures and patterns of sport development. The findings from the pre-cursor interviews indicated that while TID at the national level is the responsibility of the NGB in all three nations, in terms of the age of the player and the extent to which that responsibility is assumed, there were clear variations. This observation came not from the research outcomes described in Chapter 2, but from the way in which the NGB itself (for whatever reason) organises, or is required (in the case of China) to organise, the sport.

This study sought to investigate whether different national TID systems would impact on the level of coherence between two of the three TID stakeholders; namely, coaches and parents. It appears that any differences were rather more complex than a stereotypical view of the three nations would suggest. While there were some similarities, there were also many differences between the national TID systems in the three nations. However the results of this research suggest that only in the Junior and Adult Success and the Role of the Parent constructs were there significant differences apparent between what coaches thought parents wanted to know and what parents themselves did want to know in different nations. It is possible this could be explained by coach perceptions of the parent role within each nation. Specifically, the one child policy in China was suggested by the Chinese coaches in their questionnaire comments

to be a factor that determined parent (perhaps over-) involvement in their child's tennis – an involvement that went so far as parents considering part of their role to be on court in most lessons to co-instruct the child. From personal experience, I can support the coaches' comments. Parents considered a 4 day coach seminar that I was conducting to be something they should attend, taking photos and copious notes and questioning my information, before relaying that to their child's coach! It is more difficult to explain the US parent situation, except by noting the "helicopter" parent syndrome that is increasingly evident in the American parent behaviour (Levine, 2012). This phrase refers to the over-cosseting behaviour of parents who first organise and then oversee every aspect of their child's lives.

I would suggest that the differences apparent in the Concern benchmark in relation to the Junior and Adult Success construct could be caused by parent concerns of the NGB basing either TI and selection (USA and China) or TD opportunities (UK) on competitive success. The fact that other constructs did not show differences between coaches and parents is more difficult to explain. Indeed, based on the statistical outcomes there were only four items of significant difference (of a possible 54) between nations across all three benchmarks. Four constructs (Sport Specialisation and Selection, Practice, Athlete Development, and the Parent-Coach relationship) did not attract any significant differences. That so few elements of difference were apparent between such contrasting nations and national systems suggests much agreement exists between coaches in the different nations, despite the differences between them that were discussed at the beginning of this study. This apparent agreement could relate to tennis being a "western" and relatively new sport in China and also to the fact that many western coaches are responsible for the sport's development in that country. The fact that in the Junior and Adult Success construct there are differences between the nations in all three benchmarks could be linked to this point and also to the low level of tennis

success in China, especially for boys and men, versus the USA and UK; both nations with a long tennis history, albeit with varying levels of success.

Culturally, educationally, and systemically, Chinese coaches and parents appear to expect instant success and anything less than winning, even at a young age, is deemed to be failure. The long term view that success is something to be worked towards on an incremental basis, especially by children, is understood by coaches in the USA and the UK, but currently appears largely absent in China. Again several instances of personal experience have taught me the importance of success to Chinese coaches and parents alike. Notably, however, these qualitative differences apparent in systemic observation and interview do not seem to be manifested in the quantitative analysis conducted here.

In relation to the China-UK and China -USA differences respectively on the concern and importance benchmarks for the Role of the Parent, these may be explained by perceptual differences between the three nations' coaches of tennis parents and their role. It is also possible that the differences in national systems (both in TID and educationally) have a greater effect on parents in China than they do in the UK or the USA.

In a similar vein to the UK coaches at the HPCs where workshops were not delivered (cf. Chapter 5), there is commonality in the means for all three benchmarks for all three nations and a limited range between the minimum and maximum scores (see Table 6.1). It is also important to note that, as discussed in Chapter 5, only in the Importance benchmark did the coaches move to the upper end of the range (1-5) with means ranging from 3.20 to 4.44, indicating an agreement regarding Importance.

There are other issues worthy of discussion. I have suggested that it is conceivable that the behaviour of Chinese coaches is heavily influenced by the significant, and seemingly increasing numbers of overseas coaches who are now

working in China (almost exclusively at the performance level), and the fact that the government seeks success (despite low funding) in tennis as an Olympic sport. In other words, the international influence has become an increasing influence and “game changer” for Chinese coaches to the extent that it may over-ride their cultural background. In the American and Chinese coach comments on the questionnaire, a parental necessity for competitive success was suggested. This *could* be linked to the TID system in both nations selecting young players for TD on their competitive results (albeit at slightly different ages). Thus, it may be understandable that competitive success becomes important. By contrast, in the UK the primary parent concern is to find the "right" competition that will give the child success and therefore finance and the right to remain in the TID system, while in China and the USA almost any competition will do!

Perhaps surprisingly, coach education systems are more similar in the UK and China than they currently are in the USA. Again this may explain some of the differences for the coach perceptions. In terms of the Sport Specialisation and Selection, Athlete Development, Practice, and the Parent-Coach relationship constructs, none of which showed any within nation or between nation differences, it may be that personal experience and the sport itself have all played a part. Many coaches in all three nations come from a successful playing background themselves, are familiar with the competitive and training regime deemed necessary to succeed and are likely to have specialised in the sport from an early age (cf. Chapter 2). As a consequence, they may simply be so influenced by their own background and understanding of the sport that their views are very similar, irrespective of their nation.

6.5. MOVING FORWARD

This chapter has discussed the cultural, tennis, and organisational diversity of three different national TID systems as they affect the coherence between coaches and

parents. It is surprising that so few significant differences were apparent in that coherence. This perhaps implies that coaches themselves may not be the agents for change in the future. I have suggested that the international nature of tennis has impacted the coaches themselves, especially in China, and may have overridden the cultural differences between them. This will only increase in the future as the game extends its world-wide influence.

However, it remains a concern that the TID processes in all three nations concentrate on young (pre-puberty) players and appear to take little account of the TID research outcomes or the constructs discussed in Chapter 2. The impact that TID practice has on the coherence of the stakeholders who are considered to be important in the successful development of young athletes has been a central theme throughout this thesis. In Chapter 1, I set out an objective of recommending best practice for TID systems in the future. The final chapter will therefore suggest measures that could bring greater levels of coherence between the different stakeholders as a result of those changes in practice.

CHAPTER 7

DELIVERING BEST PRACTICE IN TALENT IDENTIFICATION AND DEVELOPMENT

7.1. THE KEY ISSUES FROM THE THESIS

This thesis began with a review of the large volume of TID research literature, from which I concluded that placing the research into five constructs, each with a number of sub-themes, enabled closer analysis of the key issues. It was apparent that the (often unstated) objective of TID systems (e.g., Abbot et al., 2002; Baker et al., 2012; Durand-Bush & Salmela, 2001) is to recruit young talented athletes to become successful adult performers (success being determined by medals, trophies, and championships according to the sport). This objective is often lost because of the pressure for immediate (junior) success in many sports. However, the research evidence indicated that the timing and method of identification and selection of that talent to be crucial to long term success. Essentially, I concluded that, although the research evidence suggests TID processes to be more successful if selection and training processes are delayed until puberty or later, the majority of sports continue to set up and manage TID programmes for children or pre-puberty athletes and expect junior success, despite evidence that indicates it does not lead to or indicate adult success (e.g., Gullich, 2013; LTA 2011).

The research literature also pointed to other reasons why TID processes do not achieve their objectives. I surmised that because children and pre-pubertal athletes have few of the necessary capacities (Simonton, 1999) in place for adult performance they cannot realistically be identified either as future successful adult performers or even as talented athletes. I further concluded that many research outcomes within the five constructs appeared to be either unknown by, not communicated to, or ignored by those who are responsible for TID practice. My analysis also indicated that the fifth

construct, the Role of the Stakeholders, has attracted a lower level of research attention, despite its obvious and documented importance (Baker, Schorer & Cobley, 2012; Bloom, 1985 and Cote, 1999) as a contributor to the efficacy of the total TD process.

The responsibility for TID in any sport is assumed by a sports organisation; often an NGB, but also by a sport club or academy. This assumption of responsibility thus places the sport organisation as the system stakeholder in the TID process along with coaches and (depending on the age of the athletes) the parents. As a consequence, the Role of the Stakeholders and the relationships between them became the key construct to be investigated throughout this thesis. How the different stakeholders worked together and the nature, quality and coherence of their relationships, was mentioned by both coaches and parents in Chapter 4. The stakeholder relationships, while not necessarily being the only factor, clearly have some impact on the success (or otherwise) of any athlete.

Reflecting these concerns, in Chapter 3, I presented my analysis of stakeholder understanding of the five constructs and their sub-themes within one sporting system (i.e., tennis in the UK). My conclusion was that ignorance (for whatever reason) of TID research evidence appeared to be an important reason why this sport organisation (the LTA) continues to implement a flawed TID system for young athletes. The impact of this was further compounded by the lack of coherence apparent in the understanding of the five constructs, both between and within the three principal stakeholders (i.e., NGB, coaches and parents). As a result, even if / when the correct message was sent, it was only partially received.

My research also indicated some of the problems associated with the prevailing TID system in tennis (in common with some other systems) in relation to its inability to develop successful adult athletes. The evidence is that the problems are increased

when younger athletes (whose growth, development and maturation is incomplete), are identified as talented and selected to follow a developmental pathway that ultimately under equips them with the psycho-social and competitive skills needed for adult success. Thus the critical variable for TID success is, as I suggested, age and maturity.

Chapter 4 developed the theme of stakeholder coherence and enabled me to conclude that coaches and parents were both clear on the TID information they wanted to become more knowledgeable for, and about their own role. The coaches, however, preferred to obtain this information independently of the standard NGB route of coach education courses, although they needed help to organise this. The coaches were also clear that the TID policies of the NGB often contradicted their own knowledge, experience and beliefs. For parents, in contrast, there appeared to be few ways by which they felt able to increase their understanding of key TID issues. However, the indications were that, if parents were given more specific and evidence-based knowledge, this could be a tool to improve the coherence between them and the other two stakeholders. It could also help parents contribute more positively to the development of their children as tennis players.

Chapter 5 therefore discussed the delivery and consequences of parent workshops, based on what parents said they wanted to know. The workshops were demonstrated to have a positive effect on parent behaviour and a consequent improvement in coach perceptions of parents, leading to a more coherent parent-coach relationship. Two fundamentals arose from the parent workshops. The first was the necessity that they should be based on what parents themselves wanted to know and the second was that the delivery of them required trained personnel. The latter point is more difficult to resolve than the first, since a training programme for coaches as deliverers would be necessary.

Throughout my own research for this thesis, I considered it important that coaches and parents were recruited from different parts of the UK. The parent workshops were similarly distributed. Therefore, the coach and parent data in every study were designed to be universal across the UK context. Indeed, it was evident that stakeholder understanding of TID research across the UK was very similar: there were no local differences. Accordingly, when it became apparent that I could also conduct the same research of coach perceptions of what parents wanted to know about TID in different nations, with dissimilar cultures and sport structures, I took that opportunity in order to inform the design of bespoke solutions for their particular needs. My expectation that different results would prevail to those found in the UK sample, because of organisational and cultural differences, proved to be incorrect. However, the TID systems in the three nations were very similar and again appeared to ignore the extensive TID research evidence concerning children and pre-pubertal athletes. I concluded that, when similarities in TID systems exist, the international dynamic can be lost irrespective of culture, and the lack of knowledge of the TID constructs remains apparent, perhaps because of a dominant influence of the sport over the national culture.

7.2. BEST PRACTICE IN TID

The studies in this thesis have raised many issues concerning the development of junior athletes and the coherence in understanding of the TID constructs by the different stakeholders. While I am certain (and have demonstrated in Chapter 5) that steps can be put in place to increase parent understanding and knowledge and thus improve the coherence between them and coaches, the fundamental problem will always be the TID system itself. The persistent use of a flawed TID system in different nations for pre-pubertal children creates many problems that almost inevitably impact on the players and the stakeholders and lead to a lack of coherence

between them. However, whatever the system in place, all those involved in the development of young athletes need to find ways of improving their ability to work together and demonstrate that they understand, respect and recognise the importance of each other's role. Additionally, the research in this thesis has pointed to the fact that each stakeholder needs a better *and* common knowledge and understanding of the five TID constructs and sub-themes in order to contribute positively to an environment that could increase the likelihood of young athletes becoming successful adult performers.

In any TID system there is a leader of the programme, whose role is to develop specific objectives, a sequential process from TI to TD and a quality system that positively involves the other stakeholders. Bemowski, cited by Martindale and Mortimer (2011), suggested that organisations that are effective work hard to make their objectives clear and have quality communication systems in place so that any problems and issues that arise can be resolved quickly. However, Chapter 5 in particular indicated that unclear objectives, poor communication and a hierarchical structure were part of the extant tennis TID system in the UK. The leader of that system was the NGB. The other stakeholders (the coaches and parents of the junior players selected at the TI stage) had, of necessity and in relation to the system and financial funding, to follow the (unclear) objectives of the NGB. Ideally, the leader should work in partnership with the other stakeholders and agree clear objectives for the system that are in keeping with best practice. In terms of TID, these objectives should logically be based on research evidence so that they follow best practice and also resonate with every stakeholder. It is clear from the evidence in this thesis that, in the case of the TID system run by the tennis NGB in the UK, the objectives were not clear to the other stakeholders and the TID system itself was flawed.

I suggest that both mind-set and organisational changes are needed if the NGB is to create an effective talent development system that delivers better (and hopefully,

best) practice for young players in the future. Partnerships with the other stakeholders are essential. Since a partnership is, by nature, inclusive, this chapter will next suggest a number of practical measures that could firstly create best practice and secondly, by including all the stakeholders, develop coherence between them. These practical measures are linked to the five constructs that were outlined in Chapter 2 and referred to throughout the thesis. Of importance, is the fact that they also arise from the mismatches / conflicts that have become evident between the current TID system and the TID research evidence. The discussion, however, begins with an analysis of best practice that could be undertaken by the researchers themselves in relation to making their research evidence more easily available to those who need it.

7.2.1. Best practice for TID researchers

Chapter 2 acknowledged the extent of TID research. However, in other chapters it has become clear that existing research information that could lead to best, or at least better, practice is not being applied. I suggest this could be because the research evidence is not actually reaching the practitioners (sport organisations, coaches and parents) and so cannot be understood or applied by them. It appears researchers need to find practical and user friendly ways of presenting their research evidence to meet the needs of all the three stakeholders, but especially the NGB. In contrast, for example, the apparent ease with which popular science books such as those by Coyle (2009) and Syed (2010) are accepted by sport organisations and then recommended to coaches when, and conversely, research papers (and even books) that discuss the outcomes of quality TID research rarely find their way into those same organisations. This implies that research papers, while important, may not be easily obtainable and anyway are not a practical tool for sport organisations or any of the stakeholders. Researchers need to find ways of conveying their information in "bite sized chunks" and easily understandable language. The principle of framing information in a pragmatic way: "so

this is what we have found and so we can recommend the following action" (cf. Giacobbi, Poczwadowski & Hager, 2005), should be paramount because it will help the NGB understand ways in which the research evidence can be put into practice. In addition, researchers should recognise that research evidence needs to be seen as supportive of what sport organisations are trying to do. Finally, it would be of benefit if the researchers highlighted specific examples of good, research evidenced TID practice by other sport organisations. For example, the RFL research based Player Development Pathway, cited by Till, Chapman, Copley, O'Hara & Cooke (2012), offers a model to other NGBs of a TID programme founded on research evidence, initiated in 2001 and modified in 2008 on the basis of experience. In the tennis environment, the French Tennis Federation (France is a very successful tennis nation in terms of its consistent numbers of highly world ranked players over many years) operates a high quality club based player development system and an ability based competition structure with players only linking to the national system after puberty.

On a different, but linked note, it was indicated in Chapter 2 that systems and practice are often mismatched with research based evidence. While the evidence from the quantitative study in Chapter 3 linked specifically to the five constructs and their sub themes, both it and the evidence from Chapter 5 showed this mismatch. As examples: the understanding of talent, early specialisation in a single sport, selection pre puberty, the volume, type and purpose of practice and competition, the impact of growth, development and maturation, competitive stress and the discrepancies between junior and adult success were all raised as problem areas by coaches and parents. The research evidence exists, but is not being applied! Further to the discussion above, in a practical application of their work, researchers could also consider the actual tools: workshops, mentoring, websites and experts online that could be used to convey the information that coaches and parents need and indicated they want in Chapter 4.

7.2.2. Best practice for the stakeholders

The challenge in terms of developing coherence between the NGB, coaches and parents is that the present lack of coherence appears to be an outcome of the coach and parent perception of their role in the TID system that is currently organised by the NGB. In the RFL Talent Pathway mentioned previously, specific efforts were made by the RFL (as the NGB) to involve coaches and parents in the objectives and processes of the system from the outset. In the UK tennis system, coaches and parents (Chapter 5) often did not know the objectives and also perceived themselves to be unimportant. Further, they were concerned by poor practice in the selection phase (TI) and training and competitive phase (TD) for young players. Consequently, if the NGB continues to conduct the programme in its existing format, I suggest that it will be impossible for quality relationships to be established with either coaches or parents. Something will have to change!

In order to suggest ways in which change could take place, it would seem pertinent first to present information concerning issues where research evidence contradicts / mismatches current TID practice in tennis before suggesting how the lack of coherence could be improved. Chapters 2, 3, 4 and 5 are particularly helpful in this regard because the information in them is linked to the five constructs of TID. Thus it is possible to list the specific issues within each construct where conflict occurs between research evidence and current practice. Then practical ways can be identified both to resolve the conflict and create opportunities for the different stakeholders to work together. Tables 7.1 - 7.5 therefore fulfil these two objectives under each construct. Throughout the thesis it has been clear that the different issues involve the stakeholders to a greater or lesser extent with the result that not all of the practical measures suggested in Tables 7.1- 7.5 are initiated by the NGB, although the majority are dependent on changes being put in place by the NGB.

7.2.2.1. Construct 1: Sport Specialisation and Selection

This table shows conflict to exist between research evidence and current TID practice in both sport specialisation and selection. In reality, and as far as coaches and parents are concerned, while the major conflicts appear to be in TI selection processes, they also exist in the methods by which young players remain in the system: i.e. competitive results and ranking lists.

None of the stakeholders appeared very knowledgeable regarding the outcomes of early specialisation except as it was manifested in not taking part in other sports. The practical ways of overcoming the conflicts in this construct are to radically change or abandon any selection processes in favour of improving club based programmes and to understand the importance to adult success of psycho-social development.

7.2.2.2. Construct 2: Practice

Five different areas of conflict were identified by both the coaches and parents as issues on which they both wanted more information. In Chapter 2, I noted the research outcomes indicated deliberate practice to be an unrealistic form of practice for young athletes, especially in an open skill sport. This point was raised by coaches, but not parents because the term was not known by them. Practical applications of the research evidence in this construct centre around the need for the NGB to review and apply the practice research that relates specifically to young athletes and to the sport itself. (Tennis is an open skill sport so practice for the nature of the sport is important).

In relation to coaches and parents the practical changes link volume, type and purpose of practice for young children and include fundamental changes to coach education content. Following on from this is the recommendation that coaches and parents should work more closely together to monitor player practice levels to ensure that it is appropriate. Finally, change is recommended to competitive schedules (arranged by the NGB) to ensure that education remains the priority for young players.

Table 7.1. *Best Practice in TID: Construct 1: Sport Specialisation and Selection. Practical applications for the Stakeholders*

Construct	Conflicts between current TID practice & research evidence	Sport Organization	Coaches	Parents
		Practical applications	Practical applications	Practical applications
1. Sport Specialisation and Selection	Tennis as the only sport from young age: importance and contribution of other sports to athlete development.	<ol style="list-style-type: none"> 1. Communicate the benefits of multi-sport participation. 2. Publish website material re. sport specialisation. 3. Increase information to coaches on Construct 1 4. Train coaches for parent workshops. 	<ol style="list-style-type: none"> 1. Support players in other sports until puberty. 2. Maintain records on other sports played on player data. 3. Receive training to deliver parent workshops 4. Communicate website material to parents in workshops / meetings. 5. Apply information to coaching. 	<ol style="list-style-type: none"> 1. Support child in at least one other sport. 4. Receive and apply web / workshop information on sport to child.
	Anthropometric testing and/or competitive success are used as methods of selection.	Abandon testing and competitive results as selection method pre-puberty. Use regular camp days to monitor player development.	Join with other clubs to establish programme of local camp days for players with potential.	
		Ensure coaches understand methods of developing and monitoring athletic skills.	Include athletic skills in training sessions and develop regular monitoring of performance.	2. Learn generic athletic skills to help child develop the technical skill base.
	The importance of ranking and competitive results from a young age.	Abandon ranking lists before 12 years of age. Monitor overall progress of players.	Develop intra and inter club matchplay systems to teach competitive skills.	Encourage child to play matches against different levels of opponent in order to learn competitive skills.
	Exclusion of psych-social skills in selection and development of young players.	Include information on psycho- social development, especially pre puberty in all coach training.	Understand impact of coaching behaviour on psychological skill development in young players...	Understand impact of own behaviour on ability of child to develop psychological skills.

Table 7.2. *Best Practice in TID: Construct 2: Practice. Practical applications for the Stakeholders*

Construct	Conflicts between current TID system & research evidence	Sport Organization	Coaches	Parents
		Practical applications	Practical applications	Practical applications
2. Practice	Differences in volume of practice at different ages and stages of development are not apparent.	<ol style="list-style-type: none"> 1. Accept research on volume of practice at different ages / stages. 2. Apply research evidence to coach education. 3. Reduce volume of deliberate practice. 	<p>Apply learning to coaching, modifying volume (especially of deliberate practice) for different players and include time on other sports.</p> <p>Communicate with parents (direct and/or workshops).</p>	<p>Work with the coach. Understand principles of ‘how much is too much’ from coach and parent workshops.</p> <p>Ensure child has both sufficient practice and rest.</p>
	Different type of practice at different ages and different stages of development are not apparent.	<ol style="list-style-type: none"> 1. Accept research on types of practice at different ages / stages. 2. Apply research evidence to coach education. 	<p>Apply learning to coaching, ensuring types of practice are meaningful to age and stage of players’ development.</p> <p>Communicate with parents.</p>	<p>Work with the coach.</p> <p>Understand principles of ‘how much is too much’ from parent workshops.</p>
	The types of practice necessary for an open skill sport are not applied.	<ol style="list-style-type: none"> 1. Accept research on types of practice for open skill nature of tennis. 2. Apply research evidence to coach education. 	<p>Apply learning to coaching, ensuring types of practice are appropriate to age and stage of players.</p> <p>Communicate with parents.</p>	<p>Work with the coach.</p> <p>Understand the principles of tennis as an open skill from parent workshops and observation of coaching.</p>
	The purpose of practice at different ages is not understood.	<ol style="list-style-type: none"> 1. Accept research on purpose of practice at different ages / stages. 2. Apply research evidence to coach education. 	<p>Apply learning to coaching; ensuring the purpose of every practice is appropriate to the age and stage of each player.</p> <p>Communicate with parents.</p>	<p>Work with the coach.</p> <p>Understand the principles of tennis as an open skill from parent workshops and observation of coaching.</p>
	The demands of tennis conflict with need for education.	Adjust practice/ competition requirements to enable full time education.	Work with parents to plan player schedule to limit days out of school.	Work with the coaches and school to plan player schedule to limit days out of school.

7.2.2.3. Construct 3: Athlete Development

In the coach and parent responses to questions in Chapter 4, it was clear that coaches had more detailed knowledge of the different elements of this construct than the NGB. Further, Chapter 2 indicated NGB policies regarding athlete development to be in conflict with the research evidence. The NGB appeared not to know the growth, development and maturation research. The NGB also based all selection for TI and all competitions and rankings for TD on the chronological age of players pre-puberty, instead of taking note of developmental age. In terms of RAE however, the NGB had made some changes in the competition ages in line with the research.

While the practical changes suggest in this construct involve the development of dedicated websites and printed materials, the real change is for the NGB to ask clubs and parents to monitor players' development on a regular basis so that practice and the outcomes of competition can be linked to the level of maturation. Ultimately however competition should be brought in line with ability for players per puberty, and not chronological age.

7.2.2.4. Construct 4: Junior and Adult Success.

In this construct the conflicts between the research evidence and current TID practice concern junior competition and the impact of competitive stress on junior players. The practical changes suggested are for more localised junior competition, the requirement for all stakeholders to understand / agree the purpose of competition at different ages and the abolition of junior ranking lists before puberty. Competitive stress was noted to be a real area of concern for coaches and parents (Chapter 4), with a suggestion that the NGB, through its competitive requirement and its national coaches was responsible for much of the stress felt by young players and their parents. Measures to reduce competitive stress therefore include changing the behaviour of all three stakeholders, as well as changing the competitive structure and system.

Table 7.3. *Best Practice in TID: Construct 3: Athlete Development. Practical applications for the Stakeholders*

Construct	Conflicts between current TID system & research evidence	Sport Organization	Coaches	Parents
		Practical applications	Practical applications	Practical applications
3. Athlete Development	Stages of maturation and development are not taken into account in TI or TD	Adjust TID systems from research evidence. Increase club coach responsibilities for best practice in athlete development.	Read, understand and apply all available information from LTA and websites, on effects of coaching behaviour and practice in athlete development on players and parents.	Attend workshops that include the different topics of athlete development. Ask relevant questions as needed.
	Age of maturation of different gender and ethnicity are not taken into account in TD	Develop resources (web + printed + workshops) on athlete development for coaches and parents.	Display printed resources in the club to increase available information base for parents.	Measure own child and feedback relevant information on growth and maturation to coaches.
	Chronological and biological age is not taken into account in TI or TD	Adjust coach education systems to give ongoing training on details + impacts of different ages, RAE, stages of growth and maturation for all NGB staff, coaches and parents.	Assume responsibility for training and competitive systems within the club that ensure best practice and replace NGB domination of TD.	Communicate with club coach on a regular basis re player growth and maturation and its impacts on TD of own child.
	The impact of RAE is not fully understood.	Revise TID processes to give more responsibility to club coaches for quality TD programmes.	Monitor / record player growth and development. Conduct parent workshops to athlete development topics.	
Coach skills necessary at different ages / stages of development are not understood.	Ensure coaches can access resources / training re how and what to change in their coaching practice to meet individual player needs.	Access specific resources and training. Work with colleagues to evaluate own coaching with different ages.	n/a	

Table 7.4. *Best Practice in TID: Construct 4: Junior and Adult Success. Practical applications for the Stakeholders.*

Construct	Conflicts between current TID system & research evidence	Sport Organization	Coaches	Parents
		Practical applications	Practical applications	Practical applications
4. Junior and Adult Success	The outcome of competition is not linked to the maturity of the player.	Review past history of adult v. junior success levels. Review reliability of junior ranking lists as predictors of adult success and abandon their use before 12 years of age Assess competitive results for 10-15 year olds against coach / parent monitoring outcomes. (Construct 3).	Relate expectations of player's tournament outcomes to age and stage of development. Concentrate on training players for long term, not immediate success. Discuss parent/coach behaviour re competition directly or in workshops.	Learn how to evaluate child's tournament outcomes to age and stage of development. Recognise longevity of development pathway. Discuss tournament outcomes with coaches.
	The competitive structure is not based on the needs of players.	Change competitive structures to localise competition and reduce travel before puberty.	Adapt player schedules to access more local tournaments.	Work with coach to access appropriate local tournaments for stage of development.
	The purpose of competition is not defined for different ages.	Review research evidence on purpose and benefits of competition at different ages. Train coaches in line with evidence.	Identify reasons for individual player's competition schedules. Communicate with parents re tournament planning.	Work with coaches to determine optimal schedules in terms of purpose and desired outcomes for the player of each tournament.
	The nature and impact of competitive stress on young players is not understood or considered.	Review and apply research evidence re competitive stress. Re-train NGB coaches to ensure their behaviour does not increase stress.	Reduce own 'coach driven' competitive stress. Develop player's coping skills to realistically evaluate own performance.	Apply information from parent workshops. Reduce 'parent driven' stress. Work with coach to improve child's coping skills.

7.2.2.5. Construct 5: The Role of the Stakeholders

The role of the stakeholders has been a major focus of this thesis. As a consequence, seven areas of conflict between the system and the research evidence have been identified in this construct. These concern the lack of coherence between the stakeholders, the low level of perception of parents by the NGB and the coaches, the source of information for both coaches and parents and the relationship between the coach education system and best practice moving forwards.

Again, many of the suggested practical changes link to the NGB first reviewing the TD research evidence and then applying it to practice. Major changes are recommended for coach education, with fewer formal course and more mentoring and self-led study opportunities to accommodate the coaches' own comments in Chapter 4. The benefit of parent workshops was noted in Chapter 5 and they are suggested as a practical way of increasing the information base of parents and so enabling them to contribute positively to the development of their own children. Mentoring by experienced parents of new parents is also a practical way of helping parents in their role.

Table 7.5 is on pages 124-126.

7.3. THE IMPACT OF CHANGE

It is important to consider how the practical methods of countering the conflict between current TID practice and the research evidence listed in Tables 7.1 - 7.5 would impact on the future development of young players. Several examples can be given. For example, in making research based changes to the current methods of player selection, rankings and competition, the NGB should gain the confidence of coaches and parents because a logical and fair system will be in place. When coaches deliver parent workshops in an interactive way, basing the content on what parents want to know, both stakeholders are more likely to recognise and respect each other's expertise

Table 7.5. *Best Practice in TID: Construct 5: The Role of the Stakeholders. Practical applications for the Stakeholders.*

Construct	Conflicts between current TID system & research evidence	Sport Organisation	Coaches	Parents
		Practical applications	Practical applications	Practical applications
5. The Role of the Stakeholders	The role of each stakeholder is not understood.	Review the research evidence that relates to the links between athlete success and parents, coach and system input. Prepare web + printed materials for each group.	Work positively with NGB colleagues and parents to clarify and recognise / respect the different roles and responsibilities within the club TD process.	Liaise with other parents and coaches to clarify and recognise the different roles and responsibilities within the club TD process.
	A lack of coherence between stakeholders is evident.	Identify reasons that prevent coherence: lack of respect / understanding, poor communication, low levels of involvement. Conduct regular meetings / forums to discuss key issues with coaches and parents in order to increase partnership.	Recognise that poor relationships exist. Work positively with NGB, colleagues and parents to increase opportunities to increase partnerships with other stakeholders within the club TD process.	Use increased knowledge base of constructs to contribute to meetings. Work with other parents and coaches in a positive way.
	The involvement of parents is not considered a key priority and a negative attitude exists towards them from both the NGB and coaches, which then has a negative impact on the player.	Review research evidence on role of parents in developing athlete success. Understand parent need for specific information. Develop specific ways for parents to access that information: regular workshops, parent specific web + printed materials.	Work closely with parents for all player goal setting and planning. Conduct regular meetings with parent groups with information they ask for, but with listening also a priority. Ensure regular feedback meetings with individual parents.	Recognise coach knowledge and expertise in the sport development of the child. Support the coach in joint decisions and work to ensure 'open' conversations. Aim to work closely and positively with other parents. When experienced act as a mentor to new parents.

	<p>The sources of information for parents on TID are not understood or known by other stakeholders.</p>	<p>Increase measures to find out and then provide parents with the information they indicate that they want. Consider and plan the different methods by which this information could be given: webinars, pre-recorded presentations, workshops, printed information. Train coaches to deliver the workshops and recruit experts to write and record materials.</p>	<p>Review the research evidence on the information that parents want to have. Learn the information and receive training to deliver parent workshops. Maintain high levels of contact with parents to try and give them other information they may need. Develop mentoring scheme in club for parent with parent.</p>	<p>Consider different ways in which knowledge can be obtained and make efforts to obtain it. Take opportunities to source information within the club or on the web. Consider asking another parent to act as a mentor.</p>
	<p>The sources of information for coaches on TID are assumed to be coach education courses.</p>	<p>Review content of coach education courses to ensure it is fit for purpose. Make positive efforts to understand and encourage coach requests for training that is not NGB formal coach education courses. Offer alternative ways for coaches to access information, including mentoring and coaching related self-study. Consider different methods of delivering TID information: mentoring, website + printed materials, TID specific conferences.</p>	<p>Consider different ways of obtaining information that will improve own performance: the use of mentors, finding experts in a particular area of TID, working with colleagues and other coaches, articles and books.</p>	<p>n/a</p>

	Formal NGB coach education and development courses are not related to TID	Review the content of NGB coach education courses, together with the TID research evidence. Consider different ways of providing evidenced information to coaches.	Discuss with NGB of need to ensure higher levels of coach courses and qualifications are fit for purpose; research based and meet the needs of coaches.	n/a
	The training systems for coach behaviour, skills and knowledge are not linked to different age and stages of player.	Review the research evidence on coaching behaviour, skills and knowledge, together with the evidence on age and stage of athlete development. Provide different coherent and practical links between them in different resources available to coaches.	Make efforts to access information and training on age / stage specific coaching behaviours, skills and knowledge. Progress own coaching to develop own coaching. Evaluate own coaching performance with video and colleague feedback.	n/a

In addition, parents can support and help their children more because they have a higher knowledge base and an understanding of the objectives for player development. When other coaches also join the parent discussions, coherence between the stakeholders must improve and a partnership mentality must develop. When the NGB first revises the content of formal course-based coach education programme to include discussion on sport specialisation, the importance of other sports, skill development and principles of practice and also applies this theory to its own practice, coaches will be have a sound understanding of TID and feel able to support the NGB. This will be further increased when coaches are, as part of their ongoing training, able to follow individual pathways such as mentoring and working with experts in different fields. My real concern is that, from my own experience, NGBs often lack knowledgeable people in the right positions who are willing to change current practice. I anticipate therefore that the changes recommended for the NGBs will be slow, while the researchers, coaches and parents are probably more likely to change their practice quickly.

However, and on a positive note, if the majority of the practical applications listed in Tables 7.1 - 7.5 were to be put in place, common and clear objectives for future player development pathways could be agreed by all three stakeholders. Thus the chance of increasing the coherence between the stakeholders will increase and a more evidence based system of developing young players will be in place: to the benefit of young players and the sport.

7.4. CONCLUSIONS

This thesis began with an acknowledgement of the extensive research literature in TID and with the objective of determining best practice. It continually noted a division between the research and practice in different sport organisations that resulted in poor practice. It was clear that the TID research evidence is not impacting what sport

organisations actually do in the TID arena. Further, it noted dissonance in stakeholder coherence and even a lack of respect for one another in one sport. The reasons for the inevitable poor practice and its outcomes have been suggested throughout the thesis.

This chapter has also summarised the principle issues of mismatch/conflict between the research evidence and what actually happens in one sport and has suggested practical ways in which the application of the research evidence could lead to better, if not yet, best practice. I contend that both researchers and the stakeholders need to “make the move” towards a better TID system, but I can recognise, from personal experience in two sports, the difficulties of doing so. In May, 2013, the Rugby Football Union (RFU), in seeking to establish new policies and practices for the development of talented players in the sport, scheduled a conference of researchers, coaches and club officials. During the conference, the gulf between the different groups was plain to see. From the practitioners’ perspective, the conference appeared to be an opportunity for researchers to present their work in a bidding process to assume responsibility for a new TID system for the RFU. The information given was presented in a theoretical manner to people who needed practical information, ideas, support and help. The only follow up by the RFU to the practitioner was a vague report that was sent out several months later. In a similar vein, in February, 2012, USTA hosted a conference on best practice in 10 and under tennis; a topic that related closely to the best ways of identifying and developing talent. The presentations were well received by the coaches and organisation leaders present. However, the subsequent and again delayed, summary document was an academic tome with little practical guidance to coaches or the NGB on research based development pathways for young player.

If theory is to meet with and even guide practice, both researchers and practitioners have to accept responsibility for change. I have suggested (perhaps as a poacher turned gamekeeper!) that researchers must present their work in practical ways

(the “so... therefore” approach) that practitioners can actually make sense of and use. Stakeholders however, as practitioners, must also find practical ways to apply the research evidence and implement change that is based, not only on their experience, status and judgement, but on that well-researched evidence. Further, they must in future take every opportunity to learn and review the outcomes of their own practice, especially in terms of working with other stakeholders, if coherence between the stakeholders is to impact on athlete success. A meeting of minds and spirits is required!

REFERENCES

- Abbott, A., Collins, D., & Martindale, R. J. J. (2002). Talent identification: how not to do it!! Current 'world best' practice? *Journal of Sports Sciences*, 21(4), 255–256.
- Abbott, A., & Collins, D. (2004). Eliminating the dichotomy between theory and practice in talent identification and development: Considering the role of psychology. *Journal of Sports Sciences*, 22(5), 395–408.
- Abbott, A., Button, C., Pepping, G. J., & Collins, D. (2005). Unnatural selection: Talent identification and development in sport. *Nonlinear Dynamics, Psychology and Life Sciences*, 9(1), 61–88.
- Abraham, A., & Collins, D. (2012). Taking the next step: Ways forward for coaching science. *Quest*, 29(12), 1353–1356.
- Abraham, A., Collins, D., & Martindale, R. (2006). The coaching schematic: Validation through expert coach consensus. *Journal of Sports Sciences*, 24(6), 549–564.
- Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes and perceived behavioral control. *Journal of Experimental Social Psychology*, 22(5), 453–474.
- American Academy of Pediatrics Committee on Sports Medicine and Fitness. (2000). Intensive training and sports specialization in young athletes. *Pediatrics*, 106(1), 154–157.
- Bailey, R., Collins, D., Ford, P., MacNamara, Á., Toms, M., & Pearce, G. (2010). *Participant development in sport: an academic review*. Sportscoach UK & Sport Northern Ireland.
- Bailey, R., & Collins, D. (2013). The standard model of talent development and its discontents. *Kinesiology Review*, 2, 248–259.
- Baker, J. (2003). Early specialisation in youth sport: A requirement for adult expertise?

High Ability Studies, 14(1), 85–94.

- Baker, J., & Côté, J. (2006). Shifting training requirements during athlete development: Deliberate practice, deliberate play and other sport involvement in the acquisition of sport expertise. In D. Hackfort & G. Tenenbaum (Eds.), *Essential processes for attaining peak performance* (pp. 92–109). Oxford: Meyer & Meyer Sport.
- Baker, J., Schorer, J., & Cobley, S. (2012). Lessons learned. In J. Baker, S. Cobley & J. Schorer (Eds.), *Talent identification and development in sport* (pp. 166-173). Abingdon, Oxford: Routledge.
- Balyi, I., & Williams, C. (2010). *Coaching the young developing performer: Tracking physical growth and development to inform coaching programmes*. Leeds, UK: Coachwise.
- Baxter-Jones, A. D. G., & Sherar, L.B. (2007). Growth and maturation. In N. Armstrong (Ed.), *Paediatric Exercise Physiology* (pp. 1-26). Edinburgh: Elsevier.
- Baxter-Jones, A. D. G. (1995). Growth and development of young athletes - Should competition levels be age related? *Sports Medicine*, 20(2), 59–64.
- Beunen, G., & Malina, R. (2008.) Growth and biological maturation: Relevance to athletic performance. In H. Hebestreit & O. Bar-Or (Eds.), *The young athlete. The encyclopaedia of sports medicine XIII* (pp. 3–17). Malden, MA: Blackwell Publishing.
- Bloom, B. (1985). *Developing talent in young people*. New York: Ballantine Books.
- Boaz, F. (1912). The growth of children. *Science*, 13(36), 815–818.
- Bois, J., Lalanne, J., & Delforge, C. (2009). The influence of parenting practices and parental presence on children's and adolescent's pre-competitive anxiety. *Journal of Sports Science*, 10, 995-1005. doi: 10.1080/02640410903062001
- Bompa, T.O. (2000). *Total training for young champions*. Champaign, IL: Human

Kinetics.

- Bompa, T. O., & Haff, G. G. (2009). *Periodization: Theory and methodology of training* (5th ed.). Champaign, IL: Human Kinetics.
- Bowers, M. T., Chalip, L., & Green, B. C. (2013). Beyond the façade: youth sports development in the United States and the illusion of synergy. In B. Houlihan & M. Green (Eds.), *Routledge handbook of sports development* (pp. 173-183). Abingdon, Oxon: Routledge.
- Bruner, M. W., Côté, J., Erickson, K., & McFadden, K. (2009). Tracing the origins of athlete development models in sport: A citation-genealogical approach. *International Review of Sport and Exercise Psychology*, 2(1), 23–37.
- Bruner, M.W., Eys, M. A., & Turnnidge, J. (2013). Peer and group influences in youth sport. In J. Côté & R. Lidor (Eds.), *Conditions of children's talent development in sport* (pp. 85-98), USA: FiT, West Virginia University.
- Brustad, R. J. (1993). Who will go out and play? Parental and psychological influences on children's attraction to physical activity. *Pediatric Exercise Science*, 5, 210–223.
- Bullock, N., Gulbin, J. P., Martin, D. T., Ross, A., Holland, T., & Marino, F. (2009). Deliberate programming and talent development in skeleton: Ice novice to Winter Olympian in 14 months. *Journal of Sports Sciences*, 27(4), 397–404.
- Cassidy, T., Jones, R., & Potrac, P. (2004). *Understanding sports coaching - the social, cultural and pedagogical foundations of coaching practice*. London: Routledge.
- Cobley, S., Schorer, J., & Baker, J. (2012) Identification and development of talent. In J. Baker, S. Cobley, & J. Schorer. (pp. 1-10). *Talent Identification and Development in Sport*. Abingdon, Oxon, Routledge.
- Cobley, S., Wattie, N., Baker, J., & McKenna, J. (2009). Annual age-grouping and

- athlete development: A meta-analytical review of relative age effects in sport. *Sports Medicine*, 39(3), 235–256.
- Collins, D. (2008a, September). Where from here? Reflections on Beijing. BOA invited keynote. *British Association of Sport and Exercise Sciences Annual Conference*, Brunel University, London.
- Collins, D. (2008b, December). Strange bedfellows: WHY sport AND exercise psychology? Invited keynote. *British Psychological Society DSEP Conference*, London.
- Collins, D., & Bailey, R. (2012). ‘Scienciness’ and the allure of second-hand strategy in talent development. *International Journal of Sport Policy and Politics*. 5(2), 183–191. doi:10.1080/19406940.2012.656682.
- Collins, D., Bailey, R. P., Ford, P., MacNamara, Á., Toms, M., & Pearce, G. (2011). Directions in participant development in sport and physical activity. *Sport, Education & Society*, 17(2), 225–243.
- Côté, J. (1999). The influence of the family in the development of talent in sport. *The Sports Psychologist*, 13(4), 395–417.
- Côté, J. (2004). A cost-benefit analysis of early specialization. In Klisouras, V., Kellis, S. & Mouratidis, I. (Eds.), *Proceedings of the 2004 Pre-Olympic Congress: Sport Science through the Ages*, Aristotle University of Thessaloniki, Greece.
- Côté, J. (2011, April). Cost benefit analysis of early specialisation. Presentation to *1st Melting Pot Conference*, Leeds Metropolitan University, UK.
- Côté, J., Salmela, J., & Baria, A. (1993). Organizing and interpreting unstructured qualitative data. *The Sports Psychologist*, 7(2), 127-137.
- Côté, J., Baker, J., & Abernethy, B. (2007). Play and practice in the development of sport expertise. In G. Tenenbaum, & R. C. Eklund (Eds.), *Handbook of sport psychology* (pp. 184–202). New York: Wiley.

- Côté, J., Lidor, R., & Hackfort, D. (2009). ISSP position stand: To sample or to specialize? Seven postulates about youth sport activities that lead to continued participation and elite performance. *International Journal of Sport and Exercise Psychology*, 7(1), 7–17.
- Côté, J., Bruner, M. W., Erickson, K., Strachan, L., & Fraser-Thomas, J. (2010). Athlete development and coaching. In J. Lyle & C. Cushion (Eds.), *Sport coaching: Professionalism and practice* (pp. 63–83). Oxford, UK: Elsevier.
- Côté, J., & Lidor, R. (2013). Early talent development in sport: A multifaceted approach. In J. Côté & R. Lidor (Eds.), *Conditions of children's talent development in sport* (pp.1-8), USA: FiT, West Virginia University.
- Coyle, D. (2009). *The talent code*. London: Random House.
- Crouse, K. (2010, September 13). American beats American for Open's junior title. *The New York Times*.
- Cushion, C. J. (2006). Mentoring: Harnessing the power of experience. In R. Jones (Ed.), *The sports coach as educator: Reconceptualising sports coaching* (pp. 128–144). Oxford: Routledge.
- De Bosscher, V., & van Battenburg, M. (2013). Elite for all, all for elite? In B. Houlihan & M. Green (Eds.), *Routledge handbook of sports development* (pp. 579-599). Abingdon, Oxon: Routledge.
- DeFrancesco, C. & Johnson, P. (1997). A comparison of athlete and parent perceptions in junior tennis. *The Journal of Sport Behavior*, 20(1), 29-36.
- Dillman, D. (2000). *Mail and internet surveys: The tailored design method*. New York: Wiley.
- Durand-Bush, N., & Salmela, J. H. (2001). The development of talent in sport. In N. Singer, H. A. Hausenblas, & C. Janelle (Eds.), *Handbook of sport psychology* (pp. 269–289). New York: Wiley.

- Dweck, C. S. (2008). The secret to raising smart kids. *Scientific American*, 18(6), 37–43.
- Eklund, R. C., & Gould, D. (2008). Emotional stress and anxiety in the child and adolescent athlete. In H. Hebestreit & O. Bar-Or (Eds.), *The young athlete. The encyclopaedia of sports medicine XI* (pp. 319–334). Malden, MA: Blackwell Publishing.
- Edgar, S., & O'Donoghue, P. (2005). Season of birth distribution of elite tennis players. *Journal of Sports Sciences*, 23(10), 1013–1020.
- Epstein, D. (2013). *The sport gene*. London: Yellow Jersey Press.
- Ericsson, K. A., Krampe, R. T., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100(3), 363–406.
- Farrow, D., Baker, J., & MacMahon, C. (2008). *Sport expertise*. Abingdon, UK: Routledge.
- Fitts, P. M., & Posner, M. I. (1967). *Learning and skilled performance in human performance*. Belmont, CA: Brock-Cole.
- Ford, P. R., Yates, I., & Williams, A. M. (2010). An analysis of practice activities and instructional behaviours used by youth soccer coaches during practice: Exploring the link between science and application. *Journal of Sports Sciences*, 28(5), 483–495.
- Football Canada. (2009). *Football for life through long-term athlete development*. Retrieved from <http://www.footballcanada.ca>
- Fraenkel, J. R. & Wallen, N. E. (2000). *How to design and evaluate research in education*. New York: McGraw-Hill.
- Fraser-Thomas, J., Côté, J., & Deakin, J. (2008). Examining adolescent sport drop-out and pro-longed engagement from a developmental perspective. *Journal of Applied Sport Psychology*, 20(3), 318–333.

- Fraser-Thomas, J. (2009). Developing athletes: It's a family affair. *Sports Coach UK, Coaching Edge, 17*, 30-32.
- Fraser-Thomas, J., Strachan, J., & Jeffery-Tosoni, S. (2013). Family influence on children's involvement in sport. In J. Côté & R. Lidor (Eds.), *Conditioning of children's talent development in sport* (pp.179-196). USA: FiT, West Virginia University.
- Fredricks, J. A., & Eccles, J. S. (2004). Parental influences on youth involvement in sports. In M. R. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 145–164). Morgantown, WV: FiT. West Virginia University.
- Genevois, C. (2011). The role of parents in the training of beginner tennis players. *ITF Coaching and Sport Science Review, 55*(19): 26–27.
- Gentile, A. (2000). Skill acquisition: Action, movement, and neuromotor processes. In J. Carr, & R. Shepherd (Eds.), *Movement science: Foundations for physical therapy in rehabilitation* (pp. 111–187). Gaithersburg, MD: Aspen.
- Giacobbi, P.R., Poczwadowski, A., & Hager, P. (2005). A pragmatic research philosophy for applied sport psychology. *The Sport Psychologist, 19*, 1-31
- Gladwell, M. (2008). *Outliers*. London: Penguin.
- Gould, D., Tuffey, S., Udry, E., & Loehr, J. (1996). Burnout in competitive junior tennis players: II. Qualitative analysis. *The Sport Psychologist, 10*(4), 322–340.
- Gould, D., Medbury, R., Damarjian, N., & Lauer, L. (1999). *Fostering and maintaining motivation among urban youth tennis players*. Report to U.S.T.A. U.S.T.A Sports Science Committee. Boca Raton, FL.
- Gould, D., & Dieffenbach, K. (2002). Psychological characteristics and their development in Olympic champions. *Journal of Applied Sport Psychology, 14*(3), 172–204.
- Gould, D., Lauer, L., Rolo, S., Jannes, C., & Sie-Pennisi, N. (2004). *The role of*

- parents in junior tennis success and failure*. Final Report to U.S.T.A. High Performance, Boca Raton, FL.
- Gould, D., Lauer, L., Roman, N., & Pierce, M. (2005). *Understanding the role parents play in junior tennis success. Phase 3: Interview study of top tennis players, coaches and parents*. Report to U.S.T.A. High Performance, Boca Raton, FL.
- Gulbin, J. P., Oldenzel, K. E., Weissensteiner, J. R., & Gagne, F. (2010). A look through the rear view mirror: Developmental experiences and insights of high performance athletes. *Talent Development & Excellence*, 2(2), 149–164.
- Gullich, A. (2011, October). Training quality in high-performance youth sport. Invited keynote at *The Science for Success Conference* conducted at the Research Institute for Olympic Sports (KIHU), Finland.
- Güllich, A. (2013). Selection, de-selection and progression in German football talent promotion. *European Journal of Sport Science*.
doi:10.1080/17461391.2013.858371
- Hambrick, D. Z., Oswald, F. L., Altmann, E. M., Meinz, F. G., Gobet, F., & Campitelli, G. (2013). Deliberate practice: Is that all it takes to become an expert? *Intelligence*. Advance online publication.
<http://dx.doi.org/10.1016/j.intell.2013.04.001>
- Harwood, C., & Knight, C. J. (2009a). Understanding parental stressors: An investigation of British tennis parents. *Journal of Sport Sciences*, 27(4), 339-351.
- Harwood, C., & Knight, C. J. (2009b). Stress in youth sports: A developmental investigation of tennis parents. *Psychology of Sport & Exercise*, 10(4), 447-456.
- Herman-Giddens M. E., Steffes, J., Harris, D., Slora, E., Hussey, M., Dowshen, S. A., Reiter, E.O. (2012). Secondary sexual characteristics in boys: Data from the pediatric research in office settings network. *Pediatrics* 2012;130(5):e1058-68.
doi: 10.1542/peds.2011- 3291

- Hodges, N. J., Starkes, J. L., & MacMahon, C. (2006). Expert performance in sport — A cognitive approach. In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. Hong, F. (2013). Sports development and elite athletes in China. In B. Houlihan & M. Green (Eds.), *Routledge handbook of sports development* (pp. 319-417). Abingdon, UK: Routledge.
- Horn, T. S., & Horn, J. L. (2007). Family influences on children's sport and physical activity participation, behaviour, and psychosocial responses. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed.) (pp. 165-711). New York: Wiley.
- Horton, S. (2012), Environmental influences on early development in sports experts. In J. Baker, S. Cobley & J. Schorer (Eds.), (2012). *Talent Identification and Development in Sport*. (pp. 38-50). Abingdon, Oxon, Routledge.
- Houlihan, B. (1997). *Sport, Policy and Politics: A comparative analysis*. London: Routledge.
- Jonker, L., Elferink-Gemser, M. T., & Visscher, C. (2010). Differences in self-regulatory skills among talented athletes: The significance of competitive level and type of sport. *Journal of Sports Science*, 28(8), 901–908.
- Lansley, P. (2011, December 14). Bernstein targets skills shortage. *The Times*, London, p. 78.
- Lauer, L., Gould, D., Roman, N., & Pierce, M. (2010). How parents influence junior tennis player's development: Qualitative narratives. *Journal of Clinical Sport Psychology*, 4(1), 69–92.
- Lawn Tennis Association. (2011). *Notes from 10 and under performance speciality Course*. London, UK: Author.
- Lawn Tennis Association. (2012). Coach Education. <http://www.lta.org.uk/Coaches-coaching-assistants/Coach-education-structure>

- Levine, M. (2012). *Teach your child well*. USA: Harper/HarperCollins.
- Lewis, M. (2004). *Moneyball*. New York: Norton.
- Lidor, R., & Ziv, G. (2013). Physical and skill testing in early phases of talent development. In J. Côté & R. Lidor (Eds.), *Conditioning of children's talent development in sport* (pp.85-98), USA: FiT, West Virginia University.
- Lubbers, P., & Pankhurst, A. E. (2006). The links between physical maturity and technical development of the serve. *U.S.T.A. High Performance Newsletter*, 8(4), 5–9.
- MacNamara, Á., Button, A., & Collins, D. (2010a). The role of psychological characteristics in facilitating the pathway to elite performance. Part 1: Identifying mental skills and behaviours. *The Sport Psychologist*, 24(1), 52–73.
- MacNamara, Á., Button, A., & Collins, D. (2010b). The role of psychological characteristics in facilitating the pathway to elite performance. Part 2: Examining environmental and stage related differences in skills and behaviours. *The Sport Psychologist*, 24(1), 74–96.
- MacPherson, A. M., & Howard, P. (2011). The team perspective: Organising excellence in performance teams. In D. Collins, A. Button & H. Richards (Eds.), *Performance psychology: A practitioner's guide* (pp. 121-137). Oxford: Churchill Livingstone.
- Malina, R. M., Bouchard, C., & Bar-Or, O. (2004). *Growth, maturation and physical activity*. UK: Human Kinetics.
- Mallett, C. J., Trudel, P., Lyle, J., & Rynne, S. B. (2009). Formal versus informal coach education. *International Journal of Sports Science and Coaching*, 4, 325-334.
- Marshall, C., & Rossman, G. B. (1995). *Designing qualitative research*. London: Sage Publications.
- Martindale, R. J. J., Collins, D., & Daubney, J. (2005). Talent development: A guide for

- practice and research within sport. *Quest*, 57(4), 353–375.
- Martindale, R. J. J., & Mortimer, P. (2011). Talent development environments: Key considerations for effective practice. In D. Collins, A. Button, and H. Richards (Eds.), *Performance psychology: A practitioners guide* (pp. 65–84). Oxford: Elsevier.
- Moore, D.L (2013, August 21). Foot injury is so hard to Kick. *USA Today Sports*, pp.1-2.
- Morris, J. G., Dunman, N., Alvey, S., Wynn, P., & Nevill, M. E. (2004). *Systems and procedures used around the world*. Institute of Youth Sport, Loughborough University, UK.
- Morris, J. G., & Nevill, M. E. (2006). *A sporting chance. Enhancing opportunities for high-level sporting performance: influence of 'relative age'*. (Report for Sport Nation, Institute of Youth Sport). Loughborough University, UK.
- Moesch, K., Elbe, A. M., Hauge, L. T., & Wikman, J. M. (2011). Late specialisation: The key to success in centimeters, grams, or seconds (cgs) sports. *Scandinavian Journal of Medical Science and Sports*, 21(6), 282–290.
- Musch, J., & Grondin, S. (2001). Unequal competition as an impediment to personal development: A review of the relative age effect. *Developmental Review*, 21(2), 147–167.
- Musch, J., & Hay, R. (1999). The relative age effect in soccer: Cross-cultural evidence for a systematic discrimination against children born late in the competition year. *Sociology of Sport Journal*, 16, 54–64.
- National Association for Sport and Physical Education. (2010). *Guidelines for participation in youth sport programs: Specialisation versus multi-sport participation* [Position statement]. Reston, VA. Author.
- National Association for Sport and Physical Education. (2008). *National coaching*

- report*. Reston, VA. Author.
- Oakley, G., & Green, M. (2001). The production of Olympic champions: International perspectives on elite sport development systems. *European Journal for Sport Management*, 8(2), 83-105.
- Pankhurst, A. & Collins, D. (2013). Talent identification and development: The need for coherence between research, system and process. *Quest*, 65(1), 83-97.
- Pankhurst, A., Collins, D., & MacNamara, Á. (2013). Talent development: Linking the stakeholders to the process. *Journal of Sports Sciences*, 31(4), 370-380.
doi:10.1080/02640414.2012.733821.
- Patton, M.Q. (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage Publications.
- Plaschke, B. (2011, August 9). Real Madrid signing 7-year-old is not so beautiful. *Los Angeles Times*. Retrieved from http://latimesblogs.latimes.com/sports_blog/2011/08/bill-plaschke-signing-a-7-year-old-child-is-not-so-beautiful.html
- Poppleton, W. L., & Salmoni, A. W. (1991). Talent ID in swimming. *Journal of Human Movement Studies*, 20(1), 85–100.
- Reid, F. (2009). Born identity: The impact of place on athletic performance. Sports Coach UK: *Coaching Edge*, 16, 22–24.
- Reade, I., Rodgers, W., & Spriggs, K. (2009). New ideas for high performance coaches: A case study of knowledge transfer in sport science. *International Journal of Sports Science and Coaching*, 3(3), 335–354.
- Riordan, J., & Kruger, A. (2003). *European cultures in sport: Examining the nations and the regions*. Bristol, UK: Intellect Books.
- Rose, J., & Jevne R. S. J. (1993). Psycho-social processes associated with athletic injury. *The Sports Psychologist*, 7(3), 309-328.

- Rowley, S. (1992). *TOYA and identification of talent*. London: Sports Council.
- Sanchez, E. (2010, June). System Sánchez-Casal. In *High Performance Tennis*. Coaches workshop conducted at West Hants Club, Bournemouth, UK.
- Schmidt, R. A. (1975). A schema theory of discrete motor skill learning. *Psychological Review*, 82(4), 225–260.
- Simonton, D. K. (1999). Talent and its development: An emergenic and epigenetic model. *Psychological Review*, 106(3), 435–457.
- Simonton, D. (2001). Talent development as a multidimensional, multiplicative, and dynamic process. *Current Directions in Psychological Science*, 10(2), 39–43.
- Sparkes, A. C. (1998). Validity in qualitative inquiry and the problem of criteria: Implications for sport psychology. *The Sports Psychologist*, 12(4), 363-386.
- Stewart, C. C., & Sweet, L. (1992). Professional preparation for high school coaches: The problem continues. *Journal of Physical Education, Recreation and Dance*, 63(6), 75–79.
- Stoszkowski, J., & Collins, D. (2012). Communities of practice, social learning and networks: Exploiting the social side of coach development. *Sport, Education and Society*. doi: 10.1080/13573322.2012.692671
- Syed, M. (2010). *Bounce*. London: Fourth Estate.
- Tabachnick, B.G., & Fidell, L. S. (2001). *Using multivariate statistics*. Boston, MA: Allyn and Bacon.
- Till, K., Chapman, C., Copley, S., O'Hara, J., & Cooke, C. (2012). Talent identification, selection and development in UK junior rugby league. In J. Baker, S. Copley, & J. Schorer. (pp. 107-118). *Talent Identification and Development in Sport*. Abingdon, Oxon, Routledge.
- UK Sport (2008). London 2012 — it could be you. Talent identification and Confirmation — the hunt for London 2012 talent. Retrieved from

<http://www.uk sport.gov.uk/pages/talent-id/>

UK Sport (2012). World class performance programme. Retrieved from

<http://www.uk sport.gov.uk/pages/wc-performance-programme/>

United States Tennis Association Player Development. (2012, April). High Performance 10 and under training draft. *Coach Conference*, Boca Raton:Author.

United States Tennis Association, (2006) Progressive Player Development program.

http://assets.usta.com/assets/1/15/2006_USTA_Progressive_Dev_9d1.PDF

USA Football, (2011). Progressive Player Development Model (PPDM):

<http://usafootball.com/programs/ppdm>

Vaeyens, R., Gullich, A., Warr, C., & Philippaerts, R. (2009). Talent identification and promotion programmes of Olympic athletes. *Journal of Sports Sciences*, 27(13), 1367–1380.

Vaeyens, R., Lenoir, M., Williams, A. M., & Philippaerts, R. M. (2008). Talent identification and development programmes in sport. *Sports Medicine*, 38(9), 703–714.

Van Yperen, N. W. (2009). Why some make it and others do not: Identifying psychological factors that predict career success in professional adult soccer. *The Sports Psychologist*, 23, 317–329.

Vickers, J. N. (2011). Skill acquisition: Designing optimal learning environments. In D. Collins, A. Button & H. Richards (Eds.), *Performance psychology: A practitioner's guide*. (pp.191-206). Oxford: Churchill Livingstone.

Wall, M., & Côté, J. (2007). Developmental activities that lead to dropout and investment in sport. *Physical Education and Sport Pedagogy*, 12(1), 77–87.

Ward, P., Hodges, N. J., Starkes, J. L., & Williams, A. M. (2007). The road to excellence: Deliberate practice and the development of expertise. *High Ability Studies*, 18(2), 119–153.

- Warriner, K., & Lavalley, D. (2010). *Life beyond gymnastics*. Poster session presented, at the British Amateur Gymnastics Association Conference, Birmingham, UK, April.
- Webb, P. I., & Pearson, P. J. (2008). An integrated approach to teaching games for understanding (TGfU). *Journal of Health, Physical Education, Recreation, and Dance, 67*(1), 28–33.
- Weiss, M. R., Bhalla, J. A., & Price, M. S. (2008). Developing positive self-perceptions through youth sport participation. In H. Hebestreit & O. Bar-Or (Eds.), *The young athlete. The encyclopaedia of sports medicine XI*, pp.302–318). Malden, MA: Blackwell Publishing.
- Wiersma, L. D. (2000). Risks and benefits of youth sport specialisation. *Pediatric Exercise Science, 12*(1), 13–22.
- Wiersma, L. D. (2001). Conceptualization and development of the sources of enjoyment in youth sport questionnaire. *Measurement in Physical Education and Exercise Science, 5*(3), 153–177.
- Wolfenden, L. E., & Holt, N. L. (2005). Talent development in elite junior tennis: perceptions of players, coaches and parents. *Journal of Applied Sport Psychology, 17*(2), 108-126.
- Wuerth, S., Lee, M. J., & Alfermann, D. (2004) Parental involvement and athlete's career in youth sport. *Psychology of Sport and Exercise, 5*(1), 21-33.
- Young, J. A., & Pearce, A. J. (2011). The dynamic role of the elite coach: player and coach perspectives. *Medicine and Science in Tennis, 16*(1), 21-30.
- Wylleman, P., DeKnop, P., Ewing, M. E., & Cumming, S. P. (2000). Transitions in youth sport: A developmental perspective on parental involvement. In D. Lavalley, & P. Wylleman (Eds.), *Career transitions in sport: International perspectives* (pp. 143–160). Morgantown, WV: FiT. West Virginia

University.

Wylleman, P., & Lavallee, D. (2004). A developmental perspective on transitions faced by athletes. In M. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 507-527). Morgantown, WV: FiT. West Virginia University.

Zervas, Y., Stavrou, N. A., & Psychountaki, M. (2007). Development and validating of the self-talk questionnaire (S-TQ) for sports. *Journal of Applied Sport Psychology, 19*(2), 142–159.

APPENDIX A

Figure 3.2. *Talent Identification and Development in Tennis Questionnaire*

This questionnaire is about the key aspects of Talent Identification and Development. It consists of a number of statements (one of which comes from research) that are opposite to each other. You are asked to give your response to whichever ONE of the two statements you consider to be the right one and then to grade the quality of that response.

The questionnaire will be answered by three different groups of people: PARENTS of young performance players, coaches working with young performance players and staff members of the NGB (the LTA). Each of them will answer from their own perspective first, and then from their perceptions of both of the other two groups. The answers from all three groups will then be analysed. Please note there are no correct answers – they are your own opinions. None of the information can or will be linked to any one person.

Please read both statements in each question carefully: choose the statement you consider to be correct and place an X in the box that most closely represents your views. For each pair of statements therefore you will only have ONE response. Please try to put your response immediately, rather than spending time thinking about the statements. Two examples of the statements and responses are given below to help you.

The person completing this example, somewhat agreed that playing with a large racquet head was likely increase a young player’s success in tennis...

For young players, playing with a large racquet head will increase their tennis success	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	For young players, playing with a large racquet head will not increase their tennis success
		x					

The forehand is the most important stroke to perfect in tennis.	strongly agree	agree	agree	agree	agree	strongly agree	The forehand is not the most important stroke to perfect in tennis.
		somewhat			somewhat		
						x	

In this second example, the person strongly agreed that the forehand is not the most important stroke to perfect in tennis.

The questionnaire needs completing three times: (30-45 minutes in total). The first time you complete it, please do so from your own perspective as a PARENT. The second time, please give responses that you think would be those of a coach, and the third time please complete with responses that you think would be those of a staff member of the LTA.

Thank you very much for your time. I am very grateful because it will be of great benefit to my research into Talent Identification and Development practice in tennis.

Anne Pankhurst anne@annepankhurst.co.uk

Category of person completing this questionnaire:	PARENT	Date of completion	Questionnaire ID number	P
---	--------	--------------------	-------------------------	---

Questionnaire 1: Please answer as a parent.

The likelihood of players continuing to work hard and develop skills depends on them being <i>involved</i> in high quality programs in their club.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The likelihood of players continuing to work hard and develop skills depends on them being <i>selected</i> for performance programmes.
The social environment surrounding tennis training and practice is important for the effective development of young players.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The social environment surrounding tennis training and practice is not important for the effective development of young players.
NGB's are responsible for the on-going education of coaches working with young players of potential.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Coaches have responsibility for their own education when working with young players of potential.
Practice should take priority over competition pre puberty.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Competition should take priority over practice pre puberty.
Talent can be identified at a young age through a number of standardised physical, technical and tactical tests.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Talent cannot be identified at a young age using standardised physical, technical and tactical tests.
For young players, playing a variety of sports helps avoid the risk of burnout and injury.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	For young players, playing a single sport helps avoid the risk of burnout and injury

Players should follow a coach led, structured practice schedule.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Players should be encouraged to set their own practice schedule.
Players should attend normal school until at least 16 years of age.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Players should be home schooled to increase opportunities to develop tennis.
Until puberty, practice should establish a wide sport skill vocabulary.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Until puberty, practice should develop sport specific skills.
The type and volume of competition should match the stage of development and age of the player.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The type and volume of competition should relate to the ability of the player, irrespective of age.
Success in tennis depends on the same requirements for successive generations on players.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Success in tennis depends on different requirements for successive generations of players.
Players of different genders have different requirements in tennis and so should not practice together.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Players of different genders do not have different requirements in tennis and so the gender can practice together.
The developmental age of the player should be the principal criterion for technical development.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The chronological age of the player should be the principal criterion for technical development.
Psychological skills can be developed in training and in competition.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Psychological skills can only be developed in competition.

Age group competitive success does not determine future success.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Age group competitive success determines who will succeed in the future.
Young players with potential need coaches with experience of working with young players.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Young players of potential need coaches with experience of coaching successful adults.
NGB financial support should be given to programmes that develop and retain large numbers of junior players	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	NGB financial support should be given to programmes that develop small numbers of selected junior players.
The principal requirements for success in tennis do not change over time.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The principal requirements for success in tennis change for successive generations of players.
Modified equipment and playing areas should be used in accordance with the player's age and size.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Full size equipment should be used as soon as the player begins to improve.
Every player requires the same identifiable skills and abilities to succeed in tennis.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Every player can have different skills and abilities and still succeed in tennis.
Mental and physical skill development in young players is the outcome of individual rates of growth and development.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Mental and physical skill development in young players can be accelerated with specific training.

Players should be selected for a tennis development programme only if facilities, coaches and financial support are easily accessible.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Players should be selected for a tennis development programme irrespective of access to facilities, coaches or financial support.
The month of the year in which a player is born will impact future success.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The month of the year in which a player is born is irrelevant to future success.
The coaching environment should be empathetic, positive and match the present needs of each player.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The coaching environment should make demands that mirror the future situation/status of the player.
The NGB should have responsibility for arranging the education programme and syllabus of performance coaches.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Performance coaches should have responsibility for arranging the format and syllabus of their own coach education.
Competitive stress in young players is an outcome of adult pressure	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Competitive stress in young players is not related to adult pressure.
Parents should be encouraged to leave tennis development to the coach.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Parents should be involved in the development of young players.
Deliberate practice is not always enjoyable, but is the key to success in a sport.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Different types of practice are enjoyable and lead to success in a sport.

Tennis talent is only noticeable when young players develop different skills over a number of years	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Tennis talent is only noticeable when players show sport specific skills at a very early age.
Tennis is an early specialisation sport.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Tennis is not an early specialisation sport.
The purpose of competition for juniors is to teach them how to compete.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The purpose of competition for juniors is to find the successful players.
Talent ID and development programmes are an un-necessary waste of NGB resources.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Talent ID and development programmes are an important use of NGB resources.
Coaches working with young players of potential should have competitive experience at Tour level.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Coaches working with young players of potential do not need competitive experience.
Players should undertake the volume of practice appropriate to their developmental age.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Players should practice as much as possible irrespective of their developmental age.
Optimal talent development is more likely when generic sports skills are learned before puberty.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Optimal talent development is more likely when sport specific skills are learned before puberty.

Young players should be trained to develop their own key strengths.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Young players should be trained to develop the key capacities prescribed as necessary in the sport.
Players should only practise with players of the same level of skill.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Players should practise with players with different levels of skill.
Young players should be based in a tennis academy that may be away from home.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Young players should be based in a club that enables them to live at home.
Physical maturation has a major impact on a young player's technical ability	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Physical maturation has little impact on a young player's technical ability.
Rankings in junior tennis predict adult success.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Rankings in junior tennis do not predict adult success.
The coach's knowledge and skills should match the future adult needs of the player.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The coach's knowledge and skills should be appropriate to the developmental age of the player.
The NGB should create opportunities for talented young players to compete in high level competition for experience.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The NGB should not be involved in creating competitive opportunities for young players.

Parent support is essential for players of all ages.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Parent support should be limited once players have reached puberty.
All practice should link to the reality of the game.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	All practice should concentrate on drilling technical skill.
Early talent identification is not necessary in developing successful adults.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Early talent identification is essential to develop successful adults.
Players should not receive national and NGB recognition for success pre 18 years of age.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Players should receive national and NGB recognition for success pre 18 years of age.
Young players should be taught every aspect of specific tennis skills from a young age.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Young players should be taught different aspects of tennis skills according to their developmental age.
Potential in players cannot be identified until puberty at least.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Potential in players can be identified before the age of 10.
Coaches should coach young players on the basis of their present skills.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Coach should coach young players on the basis of their projected talent.

The potential of each player can be best developed through different types of practice at different ages.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The potential of each player can only be developed through deliberate practice, irrespective of age.
Talent develops when a systematic, identifiable, standard and regular pathway is used.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	Talent develops in a random manner, linked to the development of the individual player.
The physical development of the player has the most impact on future success.	strongly agree	agree somewhat	agree	agree	agree somewhat	strongly agree	The physical development of the player is only one factor of future success.

Questionnaire 2: This time, please answer the following questionnaire as if you were a performance coach.

Questionnaire 3 This time, please answer the following questionnaire as if you were member of staff for the National Governing Body (LTA).

The full questionnaire was repeated for each set of responses in order that respondents would not see their previous response. However, the full questionnaire is reproduced only once for reasons of space.

Thank you very much for your time.

Anne Pankhurst anne@annepankhurst.co.uk

APPENDIX B

Form 4.1. *Interview Guide*

BLOCK ONE

Objective: to ascertain the sources of information that stakeholders use to inform their practice and understanding of TID

Questions	Probes
1. In your opinion, what are the main purposes of TID in tennis?	• How much control is needed and by whom, to optimise the talent development process?
2. How have your opinions about TID been influenced by your experiences?	
3. Where has your knowledge and understanding of the selection and development process of young performance tennis players come from?	
4. Has anything changed your opinion of TID recently and if so what was it?	• Can you think of a recent change to your thinking and what caused it; was it due to an external influence?
5a. In what way does this recent experience (name it) affect your coaching of performance players?	
OR	
5b. How would you like to see your recent experience (name it) applied to your child's tennis development?	• How does experience X influence what you do?

BLOCK TWO

Objective: to assess the consequences of different perceptions by stakeholders on the TID process and their behaviour within it.

I am interested in how different perceptions may influence your thinking and behaviour in TID. Before the interview I asked you to study the statements and the alternatives for them and then choose two of them so I could ask you some questions about them.

(Construct 1: Sport Specialisation and Selection)

Early talent identification is not necessary to develop successful adults.

Early talent identification is essential to develop successful adults.

(Construct 2: Practice)

The potential of each player can be best developed through different types of practice at different ages.

The potential of each player can only be developed through deliberate practice, irrespective of age.

(Construct 3: Athlete Development)

Parents should be encouraged to leave tennis development to the coach.

Parents should be involved in the development of young players.

(Construct 4: Junior and Adult Success)

Competitive stress in young players is an outcome of adult pressure.

Competitive stress in young players is not related to adult pressure.

(Construct 5: The Role of the Stakeholders)

The NGB is responsible for the ongoing education of coaches working with young players of potential.

Performance coaches have responsibility for their own education when working with young players of potential.

Questions

1. Do you have any particular reasons for choosing the two that you have?
2. What is your opinion of the two statements and on what are you basing these opinions?
3. Which alternative in each of the two statements do you think is valid or true?
4. Let's talk about each statement in turn.
Please tell me how and why your opinions on this statement might be different or similar to those of other coaches/parents or the LTA.
- 4a. How do the differences you have just described influence your coaching of young performance players?
- OR
- 4b. How do the differences you have just described appear to impact how your child is coached in the Performance programme?
5. Why do you think these differences exist?
6. What differences do you think might exist because other stakeholders have information that you cannot access?
7. What might the sources of their information be?

Probes

- Do you have: an interest in the topic / previous knowledge / is it a new idea?
- Do you think your opinion is perceived as valid?
- Do the opinions of other coaches /parents / LTA seem to be different to yours?
- Do the differences change or affect your behaviour on court / with your child?
- What sort of differences exist and how important are they to what you think / do?
- Do you feel you have to change what you do in order to agree with other stakeholders think?
- Are the differences simply about the sources of knowledge that you are not party to?

BLOCK THREE:

Objective: to determine what specific information could be disseminated to improve stakeholder perceptions and understanding of TID.

I am interested in knowing how certain you were when you answered the questionnaire. I would like to read you three statements from the questionnaire, one at a time and then ask you about your answers.

Statement 1: (Construct 1: Sport Specialisation and Selection)

Talent can be identified at a young age through a number of standardised physical, technical and tactical tests.

The alternative is: Talent cannot be identified using standardised tests.

Statement 2: (Construct 2: Practice)

Players should undertake the volume of practice appropriate to their developmental age.

The alternative is: Players should practice as much as possible irrespective of their developmental age.

Statement 3: (Construct 4: Junior and Adult Success)

Rankings in junior tennis predict adult success.

The alternative is: Rankings do not predict adult success.

Questions	Probes
1. What were the sources of information on which you based your answer? In short, why did you respond as you did?	• Was the answer an informed opinion or just a guess?
2. Do you think you had enough knowledge as a <i>coach/parent</i> to answer the question?	• Were some topics much harder to answer? • Did you feel confident about your answer? • Were you interested in knowing the ‘right’ or ‘best’ answer after you completed the questionnaire?
3. Moving forwards, what sort of information and from where, would give you more knowledge and help you work better with (young performance players / help support your child better in tennis)?	• Do you think more information would help you in your role?

APPENDIX C

Form 5.1. *Issues raised by Parents of Performance Players in Relation to Their Child's Tennis.*

Please indicate your perception of the issues raised by parents during interviews about talent identification and development:

First: how much concern parents appear to have for the issues listed, even if only a few have expressed this openly. Your rating will reflect how concerned you think parents are about the statement.

Second: how frequently you hear each statement. Your rating will reflect how often you hear this topic from a parent.

Third: how important you think it is for parents to have information on this topic. A high rating will reflect great importance in YOUR view.

Please use the scale of 1-5, 1 = little concern/very infrequent/very unimportant and 5 = great concern/almost daily/very important and put an X in the appropriate box for each statement.

Thank you very much. Anne Pankhurst. anne@annepankhurst.co.uk

Sport Specialisation and Selection

1. I need to know whether talent can be detected in tests.
2. I need to know at what age children should concentrate on tennis and not other sports.

CONCERN					FREQUENCY					IMPORTANCE				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Practice

1. I want to know how much practice in a week is 'right' for my child.
2. I want to know who should decide practice time and volume for my child
3. I want to know the right ratio of group to individual lessons.
4. I should understand why the coach is working on a particular skill in a lesson.
5. I should know why parents cannot be on court during practice.

CONCERN					FREQUENCY					IMPORTANCE				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Athlete Development

1. I need to know if successful juniors always become successful adults.
2. I need to know how to prevent or at least reduce the number of injuries.
3. I need to know if young players respond to winning and losing in the same way.
4. I want to know how much rest my child should have from practice and tennis.
5. I need to know what my child should be able to do and when.

CONCERN					FREQUENCY					IMPORTANCE				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Junior and Adult Success

1. I want to know the purpose of rankings and ratings.
2. I need to know which and how many tournaments my child should enter.
3. I want to know many matches my child should play in a year and how often.
4. I want to know when to get involved in the competitive process.
5. I want to know if I should get involved when an opponent cheats.
6. I want to know how to deal with competitive stress for my child.
7. I want to know what to do and where to be during a match.

CONCERN					FREQUENCY					IMPORTANCE				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

The Role of the Parent

1. I want to know how much I should be involved in my child’s tennis.
2. I want to know what to leave entirely to the coach
3. I want to know if and when goal setting and planning is important in junior tennis.
4. I want to know how to evaluate information given to me by the coach or the LTA.
5. I want to know the best way to combine tennis development with education.
6. I want the coach to run some coaching sessions for parents so we can understand what is being coached and why.
7. I want to know how to manage the family finances with so much tennis expense
8. I need to manage the family relationships and be fair to each child.
9. I want to know what to say when my child loses a match.

CONCERN					FREQUENCY					IMPORTANCE				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Parent-Coach relationship

1. I need to know how to find the right coach for my child.
2. I want to know when or why to change the coach.
3. I want to know how often and when, I should expect feedback from the coach.
4. I want to know if performance coaches are well trained and updated.
5. How can I understand why coaches do not want parents involved?
6. I want to know what the coach expects from me as a parent.
7. I want to know what the coach should leave to the parent.

CONCERN					FREQUENCY					IMPORTANCE				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

APPENDIX D

Form 5.2. *Post Parent Workshop Questionnaire*

Thank you for attending the parent workshop and I hope very much you have found the information interesting and helpful. Please could you answer the following questions before you leave, so that we can develop the workshop for other parents in the future? It is not necessary to sign the form or indicate who you are, but if you would like more information or help in the future, please add your email.

1. How much of the information was new to you? *all 75% 50% 25% none*
2. How much of the information will be useful to you? *all 75% 50% 25% none*
3. Please could you name the topic that you have found the most useful and say why?
4. Please could you name the topic that you thought was the least useful and say why?
5. What are the sources of information you already use to help you understand and support your child's tennis?
6. Is there any topic that you think should be included, but was missing and say why?
7. When in their child's tennis career would parents find this workshop useful?
when they start to learn the game after 2 or 3 years when they start to compete
8. Would you recommend this workshop to other parents? *totally probably perhaps no*
9. Your child's age is

If you would like more information to be sent to you, please give your name and email).

Thank you very much for your help. Anne Pankhurst anne@annepankhurst.co.uk

APPENDIX E

PUBLICATIONS

Pankhurst, A. E. & Collins, D. (2013a). Talent identification and development: The need for coherence between research, system and process. *Quest*, 65(1), 83-97.

Pankhurst, A., Collins, D., & MacNamara, Á. (2013b). Talent development: Linking the stakeholders to the process. *Journal of Sports Sciences*, 31(4), 370-380.
doi:10.1080/02640414.2012.733821.

Pankhurst, A., MacNamara, Á., & Collins, D. (under review). "Why they think what they think": Tracking the origin and impact of stakeholder perceptions in junior performance tennis.

Pankhurst, A. (2013). Talent identification and development – The important links between research, systems, parents and coaches. *ITF Coaching and Sports Science Review*, 59(21), 15-16.

Pankhurst, A. (2013). How tennis players learn motor skills: Some considerations. *ITF Coaching and Sports Science Review*, 60(21), 6-7.

APPENDIX F

OUTPUTS EMANATING FROM THE THESIS: CONFERENCES AND OTHER PRESENTATIONS

Pankhurst, A. (2010, August 20-21). Talent Development. In *USA Football Staff Conference*. Indianapolis, IN, USA.

Pankhurst, A. (2010, October 12-13). Growth, Development and Maturation for Sport Development. In *PTR China Asia Coaches Conference*, Shanghai, China.

Pankhurst, A. (2010, November 24). Developing Talent in Tennis. In *Performance Parents meeting*, West Hants Club, Bournemouth, UK.

Pankhurst, A. (2011, October 12-13). Talent Development and Long Term Planning. In *International Coaches Training Program*, University of Delaware, DE, USA.

Pankhurst, A. (2011, October 17-18). Talent Development Training. In *USTA Performance Coach Training Program*, Regional Training Centre, College Park, MD, USA.

Pankhurst, A. (2011, October 31). (1) Talent Development & (2) Long Term Planning. In *International Coaches Training Program*, United States Olympic Committee, Colorado Springs, CO, USA.

Pankhurst, A. (2011, November 9). Talented Coach Development. In *RFL Talented Coach Development Programme*, Doncaster, UK.

Pankhurst, A. (2011, November 16). Talented Coach Development. In *RFL Talented Coach Development Programme*, Haydock, UK.

Pankhurst, A. (2011, November 20-28). Working with Parents. In *ITF Worldwide Coaches Conference*, Egypt.

Pankhurst, A. (2012, February 4-7). (1) Planning Athlete Programmes for Long Term Development & (2) Coach Development. In *Coaches Forum*, at the University of the West Indies and Barbados Olympic Committee, Barbados, West Indies.

- Pankhurst, A. (2012, February 11-12). (1) Early Specialisation & (2) Best Practice for Talent Development. In *USTA 10 and under Conference*, Tampa, FL, USA.
- Pankhurst, A. (2012, February 23). (1) Working with Parents & (2) Best Practice in Talent Development. In *PTR International Symposium*, Orlando, FL, USA.
- Pankhurst, A. (2012, June 28-29). (1) Best Practice in Talent Development & (2) Working with Parents. In *PTR UK Conference*, London, UK.
- Pankhurst, A. (2012, October 6-11). (1) Developing 10 u tennis players & (2) Developing 11-17 tennis players. In *PTR China Asia Coaches Conference*, Shanghai, China.
- Pankhurst, A. (2011, October 31). (1) Talent Development & (2) Long Term Planning. In *International Coaches Training Program*, United States Olympic Committee, Colorado Springs, CO, USA.
- Pankhurst, A. (2012, November 17-21). Consultant on *Coach Development Programme*, for Norwegian Tennis Federation, Oslo, Norway.
- Pankhurst, A. (2012, December 7). Best Practice in TID. In *Parent Evening* at Whitecraigs Tennis Club, Glasgow, Scotland,
- Pankhurst, A. (2013, January 31 – February 3). (1) Long Term Development in Tennis & (2) Planning Programmes for Performance Juniors. In *Norwegian Coaches Conference*, Norwegian Tennis Federation, Oslo, Norway.
- Pankhurst, A. (2013, February 15). (1) Working with Parents & (2) 10 and under Player Development. In *PTR 10 and Under Conference*, Hilton Head, SC, USA.
- Pankhurst, A. (2013, May 1-3). (1) Working with Parents & (2) Coaching Skills for Performance Players. In *PTR International Symposium*, Hilton Head, SC, USA.
- Pankhurst, A. (2013, May 18). Talent Identification. In *Rugby Football Union Talent Symposium*, Royal Society, London, UK.
- Pankhurst, A. (2013, June 19- 21). Working with Parents in Talent ID. In *National*

Coaches Conference, USOC, Colorado Springs, CO, USA.

- Pankhurst, A. (2013, August 12-13). (1) Working with Parents & (2) Player Development. In *USTA 10 and under International Conference*, Boca Raton, FL, USA.
- Pankhurst, A. (2013, August 15-16). (1) Planning for Performance Players & (2) Coach Development Pathways. In *USTA High Performance Coaches Programme*, Los Angeles, CA, USA.
- Pankhurst, A. (2013, August 19-20). Best Practice for Player Development for Performance Coaches. In *USTA Player Development programme*, Tulsa, OK, USA.
- Pankhurst, A. (2013, September 19-21). High Performance Coaching. In *Performance Coaches programme* for the Norwegian Tennis Federation, Oslo, Norway.
- Pankhurst, A. (2013, October 6-12). Performance Coaches and Player Development. In *PTR China Asia Coaches Training programme*, Shanghai, China.
- Pankhurst, A. (2013, November 4). Best Practice for Player Development (follow up). In *USTA Player Development Programme*, Tulsa, OK, USA.
- Pankhurst, A. (2013, November 18-21). Talent Development in Tennis. In *The Annual General Meeting of the Norwegian Tennis Federation*, Oslo, Norway.
- Pankhurst, A. (2014, January 31 – February 2). (1) Developing Players while avoiding TID & (2) Planning and Periodisation for Tennis Performance. In *USTA Davis Cup Coaches Conference*, San Diego, CA, USA.
- Pankhurst, A. (2014, February 20-24). Coach Development linked to 10 and under Player Development. In *PTR International Symposium*, Hilton Head, SC, USA.