Challenge and Growth on the Talent Development Pathway

By

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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.

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Dedication

This thesis is dedicated in loving memory of, Bernadette Savage.

Mum, I will be eternally grateful and inspired by your unconditional and limitless belief in me, armour that I carry with me always. You were so excited, proud and encouraging when I started this PhD journey, I just wish you were here to see the grand finale.

For you, Mum.

In times of great challenge, is opportunity to grow.

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Abstract

As successful elite athletes develop they are likely to encounter and overcome various challenges. It has recently been argued that performers benefit from challenges and even need them during development (c.f. Collins & MacNamara, 2012). The aim of this thesis was to have a greater understanding of the role of challenge and the potential beneficial impact on a performers' development. To deepen knowledge in this area, Chapter 4 explored perceived traumas (i.e. memorable challenges) in the development of twenty senior-international performers with a multi-methods, temporal-based design. Results showed perceived traumas were primarily sports-based, recognized from onset of investment, associated with immediately negative but ultimately positive impact, and negotiated through skills that were brought to, rather than generated by, these experiences. The findings provide an interesting contrast to messages in other early trauma-focused research and promote focus on the process and mechanisms of responding to and recovering from traumatic experiences. In line with previous research, a range of skills were identified to facilitate performers' negotiation of trauma. Despite a range of psychological skills identified in research as typically being utilised to cope with and grow from such trauma *how* these skills helped them cope with challenge was yet to be explored. Accordingly, Chapter 5 explored the role of psych-behavioural skills in negotiating developmental trauma through semi-structured interviews. It was subsequently found that psycho-behavioural skills supported a sense of perspective, control, and confidence, all of which contributed to a predominantly constructive rather than illusory growth process. In this way, these findings further our understanding of skills-based development and how they not only support growth. Notably, this Chapter indicates a link between use of psycho-behavioural skills and constructive growth. Building on these findings, Chapter 6 considers a current gap in literature to date of retrospective investigations, by providing a more ecologically valid examination of how performers experienced and

managed challenge. Accordingly, Chapter 6 longitudinally tracked 6 elite performers as they experienced challenge on their development pathway. This investigation identified performers' responses to challenge and associated stages of growth. Additionally, mechanisms which enabled growth and key factors of the role of the psychologist where recognised. This investigation provides key applied implications for practitioners supporting performers to facilitate growth and empower the performer to take the lead- supportive rather than directive. Overall, as outlined in Chapter 7, this thesis provides a unique and in-depth study of the role of trauma/challenge in the development of talent. Critically, it provides distinct applied recommendations to support performers' development and equip them, with the relevant honed skills required to reach their performance potential.

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Glossary & List of Abbreviations

Term/abbreviation	Definition
Trauma	A memorable challenge that was perceived to disrupt a performer's development
Challenge	A task or situation that tests someone's abilities
TID	Talent Identification & Development
TI	Talent Identification
TD	Talent Development
NGB	National Governing Body
PCDEs	Psychological Characteristics of Developing Excellence
PTG	Post Traumatic Growth

Research Programme Outputs

Peer-Review Journal Publications

Savage, J., Collins, D., & Cruickshank, A. (2017). Exploring traumas in the development of talent: what are they, what do they do, and what do they require? *Journal of Applied Sport Psychology*, *29*(1), 101-117.

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Chapter 1: Introduction

1.1. Establishing Context

Talent Identification and Development (TID) has become an increasing area of investment across a variety of domains, e.g. sport, business and academia (Abbott, Button, Pepping, & Collins, 2005). Within the sporting domain, the aim of TID is generally accepted as a process whereby potential talent is recognised and provided with the relevant learning, support and environment to facilitate the realisation of that performance potential (Russell, 1989; Williams & Reilly, 2000). Traditional Talent Identification (TI) programmes have typically relied on physical maturity and singular performances (e.g., trials) as key factors for selection. With growing research in the field, however, perceptions of TID have evolved towards a dynamic and multifaceted process. The primary objective of most, if not all TID programs in sport has been to select performers with the potential to reach the highest level, then place them in a system that is favourable for their long-term development (Vaeyens, Lenoir, Williams, & Philippaerts, 2008). Of specific relevance to the topic of this thesis, however, and on the premise that performers with potential should be carefully nurtured – with sports looking to protect their investment – many TID programs continue to provide support that essentially smoothens or streamlines development (i.e., support that softens, removes or avoids challenges; e.g., New Zealand's Pathway to Podium program, 2013).

Previously, the development of talent was often viewed as a relatively linear process; in short, talented individuals were perceived to develop both steadily and smoothly (Tinning, Kirk, & Evans, 1993). More recently, however, researchers and practitioners alike have argued that many of the problems faced by performers, both during and at the end of their time on talent pathways, are symptomatic of such a trauma-free journey. In line with research on the non-linearity of talent development (e.g., Abbott et al., 2005) and work which started to explore challenges in more detail (e.g., Howells & Fletcher, 2015; Sarkar, Fletcher,

& Brown, 2015), the suggestion that "talent needs trauma" has therefore gained momentum (Collins & MacNamara, 2012). However, as the foundation and implications of this proposal have only lately come under scrutiny, there is a need for work to deepen our understanding of the role of trauma/challenge in elite performers' development pathway.

Building on the proposal that 'talent needs trauma', of course, it is clearly important to carefully define trauma in these instances. As highlighted by Collins, MacNamara, and McCarthy (2016a), an Oxford English Dictionary definition of trauma means literally, "a wound". Of course, while trauma may therefore relate to major damage, it can also relate to more minor harm or impairment; the latter of which would reflect the scale of trauma usually experienced (and clearly preferred) in Talent Development (TD) contexts; even though the emotional impact may be temporarily more severe. Such minor traumas could be events such as failing to meet performance expectations, de-selection, or a change in training group. Therefore, to remain consistent with prior research (e.g., Collins & MacNamara, 2012; Collins et al.; Sarkar et al., 2015), a trauma is defined in this thesis as a memorable challenge that was perceived to disrupt a performer's development (please note that all references to trauma from this point should be read with this definition in mind).

As trauma is defined as a 'memorable challenge', the term challenge is used interchangeably throughout this thesis alongside trauma. For clarity, the operationalisation of challenge in this thesis is aligned to the Oxford English Dictionary definition; a task or situation that tests someone's abilities. Chapter 2 refers to the term challenge and purposefully progressed to trauma as a reflection of the progression in literature. As Chapters 4 and 5 build on recent literature of 'talent needs trauma', the term trauma is predominately utilised. As the thesis progressed to the longitudinal tracking represented in Chapter 6, challenge was utilised as opposed to trauma. This reflected a decision to be consistent with the language utilised by performers' and enhance the accuracy of how results were reported.

1.2. Biographical positioning

Upon commencing this programme of research, I was working towards becoming a Chartered Sport and Exercise Psychologist. My professional ambitions were to work as an applied practitioner supporting athletes along their development pathway within an elite sport environment. In line with my philosophy, my aim was to be a scientist-practitioner whereby my applied practice was founded in research and scientific practice (Lane & Corey, 2006).

During the time of this thesis, I have worked as an applied practitioner within the English Institute of Sport. More specifically, I have been immersed full time in one sport (British Athletics), in which I am responsible for leading the overall psychology programme. This role focuses predominantly on supported athletes funded by the National Governing Body (NGB), from those transitioning onto the programme to experienced multi-medallists. As the psychology programme has become more established, I have been able to transfer projects/principles to the pathway which is typically non-funded junior athletes who have been identified as potential talent. As a full time practitioner based at the National Performance centre, I have been able to become embedded within the programme. As such, I work alongside a multi-disciplinary team and across the NGB system on a daily basis. This role has enabled in situ observations and support across various environments (e.g. training, warm weather camps, holding camps & competitions) which has facilitated an in-depth understanding of athlete specific context (Holder & Winter, 2017). In line with my philosophy, my aim as a practitioner has been to design and deliver a proactive and reactive psychology programme to support athlete needs whilst promoting autonomy. In this way, my aim has been to facilitate development and deployment of skills to support successful negotiation of individual development pathway.

1.3. Aim and Objectives of the Thesis

Reflecting on the need to further understand the role of challenge in the development of talent, alongside the practical relevance for TID programmes supporting performers, the main aim of this thesis was to:

- Explore the role, impact and use of trauma/challenge along the TD pathway.
- Explore the role of psycho-behavioural skills in negotiating developmental Trauma.
- Explore performers' experiences of challenge and growth as they are encountered.

The aims were realised through the following objectives:

1. Identify what traumas occur during the development of talent.
2. Identify the perceived impact of the traumas.
3. Identify what performers require to overcome traumas.
4. Understand the role of psycho-behavioural skills in negotiating developmental trauma.
5. Explore the temporal course of growth.
6. Longitudinally track athletes as they encounter, deal with and grow from challenge.
7. Provide applied recommendations for supporting growth following trauma/challenge.

1.4. Delimitations

Notably, Chapter 6 focuses solely on track and field athletes which reflects access and the sports position in the wider system. Firstly, during conducting this research, my role progressed to leading the psychology programme at British Athletics, which as described previously in this Chapter (1.2), allowed me to be embedded within the system. This provided an excellent opportunity to track athletes in real time longitudinally. Furthermore,

this provided an opportunity to triangulate information by being embedded in the athlete's support system and (NGB). Additionally, track and field is a suitable exemplar of the wider sports system in the U.K.

1.5. Programme of Work

Chapter 2 presents an indicative and critical review of current literature related to the role of challenge in the development of talent. Once the importance of challenge is established, the potentially beneficial role of challenge and how this might work is depicted. As this thesis is underpinned by providing solutions to practical problems and informing applied practice, Chapter 3 outlines my guiding pragmatic philosophy and methodology. Chapter 4 is a multi-methods investigation which explored if and how performers can benefit from trauma, including some consideration of the supporting mechanisms. Chapter 5 employs in-depth, semi-structured qualitative interviews which further investigated how psycho-behavioural skills facilitate performers' successful management of and growth from trauma. Addressing the limitation of previous retrospective investigations in this area to date, Chapter 6 employed longitudinal tracking to provide a more ecologically valid examination of performers' experience and management of challenge during their sporting development. Finally, Chapter 7 is a general discussion which reviews the findings of the thesis and discusses the theoretical and applied applications. Additionally, Chapter 7 considers future research directions, alongside the associated strengths and weaknesses of this thesis.

1.6. Definitions

In order to explore growth through challenge/trauma and associated skills utilised to manage this process, definitions of Post Traumatic Growth (PTG) and Psychological Characteristics of Developing Excellence (PCDEs) operationalised for the purposes of this thesis are now presented. Explicitly outlining the definitions provide a vehicle to critically evaluate relevant research. As such, Tedeschi and Calhoun (2004) defined Post traumatic

Growth as, “a change in people that goes beyond an ability to resist and not be damaged by highly stressful circumstances; it involves a movement beyond pre-trauma levels of adaption.” Subsequently, the individual not only recovers from a trauma but utilises the experience as an opportunity for learning/development. The resulting emotional distress initiates a process of recurrent rumination and attempts to engage in an “interpretative reality” which evolves as the result of ruminative thinking, finding explanations for ‘what happened’ and ‘why’ (Filippe, 1999). As such suggesting that growth occurs as a consequence of what you do. To date, much of the sport psychology literature related to growth has not considered this process, or the concept it is what you do with the experience, rather than a result of the experience that determines growth (cf. Fletcher & Sarkar, 2012; Sarkar et al., 2015).

MacNamara, Button, and Collins (2010a, 2010b) stressed the importance of PCDEs, which are a range of psychological skills deemed critical determinants of development: commitment, focus and distraction control, imagery, realistic performance evaluations, quality practice, goal setting, coping with pressure, planning and organisational skills and self-awareness (Orlick & Partington, 1988). MacNamara and colleagues suggested possession of these skills facilitates performers potential to maximise development opportunities, adapt to setbacks and successfully negotiate the typically turbulent pathway. It is important to clarify if growth is facilitated post hoc or a priori- it would seem better to go in with something and come out with more. Subsequently, challenge/trauma acts as a proving experience to hone and refine skills. Consequently, Chapter 2 considers the role, impact and use of challenge on the development pathway.

Chapter 2: Exploring the Role, Impact and Use of Challenge

2.1. Why is Challenge Important?

Given the pressure and complexity which has been associated with achieving elite success, researchers have explored and identified numerous stressors and demands that successful athletes typically encounter (e.g., Fletcher & Hanton, 2003; Gould, Finch, & Jackson, 1993; McKay, Niven, Lavallee, & White, 2008). Therefore, for successful negotiation of each transition, the demands of the interdependent nature of transition challenges must be linked to the resources available to the athlete (Wylleman & Lavallee, 2004). Resultant perception of the transitional challenge can vary from a potential crisis to a rite of passage, depending on the individual's perception and skills (Pummell, Harwood, & Lavalle, 2008: Sinclair & Orlick, 1993). In this regard, several researchers have found evidence to support a non-linear developmental progression as an important catalyst to the transition progression (Ollis, MacPherson, & Collins, 2006; MacNamara, et al., 2010b). Subsequently, successful elite athletes have been characterized by utilizing a range of psychological qualities, enabling them to withstand the pressures encountered along their pathway (Fletcher & Sarkar, 2012; Gould et al., 2002).

Initial research which sought to investigate psychological attributes of elite athletes, focused on exploring distinct personality characteristics. Morgan (1978, 1980) found that national and Olympic athletes (specifically runners, rowers and wrestlers) had greater positive mental health than less successful athletes. However, subsequent research failed to establish a distinguishable personality type that can differentiate between successful and less successful performers (Basson, 2001). Building on this line of enquiry, succeeding research progressed to focusing on exploring key psychological characteristics of elite athletes as opposed to a distinct personality type. For example, Orlick and Partington (1998) carried out an extensive study of psychological characteristics of Olympic athletes. Commonalities to all participants

included, 'total commitment to pursing excellence' and 'high quality training' (p.129). The participants' training plans demonstrated distinct variables including: daily goal setting, competition stimulus and coping mechanisms with regards distractions. Additionally, Orlick and Partington identified specific mental skills which the athletes employed throughout their career which included: mental imagery, positive thoughts and attentional focus strategies. Gould, Ekland, and Jackson (1992a, 1992b) conducted a similar study with an Olympic Wrestling Team. Gould and colleagues comparatively assessed self-reported descriptions of athlete's best and worst performances. Their findings were similar to that of Orlick and Partington, whereby a variety of psychological skills were employed during their sporting career. Gould and colleagues found a distinction between the psychological skills which Wrestler's reported using during best and worst performances: best performances were associated with positive expectancies, high self-confidence, task orientated focus, high concentration, commitment and heightened arousal and intensity. In contrast, worst performances were associated with; lack of concentration, negative/distracting thoughts, fear of losing, inconsistent pre-competition routine, negative physical feelings and exacerbated or irrelevant arousal states. Furthermore, those Wrestlers who won medals were able to cope with distractions, adhere to their mental and physical preparations in comparison to non-medal winners. Additionally, characteristics such as self-confidence, competitiveness and motivation have become well established qualities typical of elite athlete's (Durand-Bush & Salmela, 2002).

Building on Orlick and Partington's (1988) work identifying characteristics associated with developing excellence; Abbott and Collins (2004), and MacNamara and colleagues (2010a & 2010b), aimed to establish the precise nature of how these characteristics develop and are utilised during athletic development. More specifically, their research explored the use and development of psychological characteristics through career transitions and events. Abbott

and Collins found elite athletes to accredit their positive career transition to their own psychological attributes. The process of development of talent has been segmented into different stages of development (Côté & Hay, 2002), and successful negotiation of these stages may be greater determinants of athletic success than performance accomplishments within each stage (Sinclair & Orlick, 1993). Within sports, career transitions are a complex and reciprocal process, which are intertwined with an athlete's life occurrences (e.g. psychological, psychosocial, academic; Wylleman & Lavallee, 2004). Such findings suggest TD programmes should focus investment on an athlete's capacity to learn and develop rather than their performance accomplishments in a certain age group (MacNamara & Collins, 2011). Therefore, the characteristics that facilitate individual development capacity during transition periods underpin the successful negotiation of the talent development process. Furthermore, factors that shape the athlete's ability to cope with the transition stages on their pathway towards elite level need to be considered as key factors (Abbott & Collins).

Based on the unpredictable nature of sport, coping with stressors or being resilient to adversity (Galli & Vealey, 2008) has been viewed as a pivotal trait for an elite athlete to demonstrate. It is important to note a clear distinction I decided to adopt in this thesis between, coping with stress experienced by performers and experiencing a trauma. This distinction is in line with the difference between the definition of stress and post traumatic growth theory. An athlete's ability to cope with stress refers to having the resources which minimise the chances of their performance being negatively affected by this stress (Kristiansen & Roberts, 2010). As such, an athlete can continue on their current path whilst coping with stress. In contrast, a trauma refers to an event that disrupts the athlete's current trajectory, shaking or shattering current beliefs and subsequently providing an opportunity for growth. Therefore, traumatic events can lead to growth after a crisis (trauma) which may manifest as more significant and observable growth whereas stress might lead to

chronic/gradual growth. This growth phenomenon is described in more detail later in this Chapter (2.2.1).

The notion of creating resilient and mentally tough performers is well documented, (e.g., Bull, Albinson, & Shambrook, 1996; Gibson, 1998; Goldberg, 1998; Loehr, 1995). According to Loehr (1982), mentally tough athletes respond in varying ways that enable them to remain positive and calm in challenging situations. Factors such as resilience and mental toughness would be valuable traits for an athlete to possess. Research has presented several variations in the definitions of mental toughness and resilience; however little attention has been placed on how they are operationalised or developed. Self-regulatory skills (such as self-discipline & self-control) have been shown as a possible result from trauma and correlated to achievement (Collins & MacNamara, 2012). Research by Dienstbier (1989) supported the concept that exposure to and overcoming challenges, facilitates the development of skills involved in the ability to cope with such experiences. Following this logic, Collins and MacNamara (2012) suggested that a degree of challenge and structured trauma should be incorporated into Talent Development (TD) pathways. Indeed, many athletes have reported a 'turning point' in their career that resultantly increased clarity and focus, 'deliberate experience'. In this regard, a study on rugby refereeing found 'deliberate experience' (reflecting effortfully on apparently negative experiences) to be the key factor to facilitate development of expertise (Ollis, et al., 2006). Therefore, ups and downs could be an important part of an athlete's development. In recent studies, researchers seem to have agreed that developmental traumas – or memorable challenges – can play a key role in the realisation of young performers' potential (Howells & Fletcher 2015; Collins et al., 2016a; Sarkar, et al., 2015; Savage, Collins, & Cruickshank, 2017).

2.2. Can Challenge be Beneficial?

Whilst sport psychology literature has only recently begun to directly explore the benefits of adversity and associated growth in sport performers (Howells & Fletcher, 2015), the discrepancy in responses and potential positive outcome from experiencing challenges has been identified. Research enquiries exploring the experiences of athletes coping with injury have identified a number of perceived benefits of experiencing an injury episode, such as, increased mental toughness, renewed perspective on sport, heightened motivation and increased tactical awareness (Bianco, Malo, & Orlick, 1999; Ford & Gordon, 1999; Hurley, Moran, & Guerin, 2007; Tracey, 2003). Although providing insight into perceived benefits of experiencing injury, it was not the aim of the majority of these studies to study post-traumatic growth or the positive consequences of injury. Therefore, the results may not fully reflect the positive benefits experienced by athletes. Nonetheless, some research has been conducted specifically examining the perceived benefits of injury. For example, Udry, Gould, Bridges, and Beck (1997) explored the potential benefits of sustaining an injury in a cohort of elite skiers. Of the 21 athletes interviewed, 20 athletes reported that they developed in a positive way as a result of experiencing a long term injury. Udry and colleagues categorized the perceived positive outcomes into; personal growth, psychological based performance enhancement and physical/technical development. Personal growth benefits included: gaining a sense of perspective; personality development; developing aspects of non-sporting life; and enhancing time management. Psychology-based performance enhancements identified were: increased mental toughness, enhanced motivation and development of expectations. Physical/technical developments reported by athletes included: increased ski technique and enhanced physical fitness. Wadey, Evans, Evans, and Mitchell (2011) asserted that these findings demonstrated the relevance of the concept of positive consequence of experiencing adversity. Furthermore, they suggested this research highlights

that injured athletes were able to return to their competitive sport at a level beyond pre-injury level of functioning. Building on this line of enquiry, Wadey and colleagues examined athletes' responses to coping with injury and the underlying mechanisms that supported perceived benefits from the experience. In addition to supporting the finding of perceived benefits described above identified by Udry and colleagues, Wadey and colleagues reported additional perceived benefits which included; self-disclosure, self-regulation and utilising social support. In short, the athletes reported returning to their competitive sport at a level beyond pre-injury functioning. Despite providing insight into perceived positive benefits of injury, this study failed to explore the whole picture of challenge. Specifically, performers where asked only to reflect on the positive benefits of each stage of injury. As such, performers were encouraged to elicit positive reflections and did not distinguish if the perceived positive perceptions outweighed the negative repercussions of injury. In short, despite positive benefits, did they grow from the setback beyond pre-injury functioning? Furthermore, were the learnings/positive benefits critical to later perceived performance?

Fletcher and Sarkar (2012) conducted a study with 12 Olympic Champions to explore their experiences of withstanding the pressures associated with their sporting careers. They found all of the athletes reported experiencing prolonged periods of time whereby they encountered and withstood pressures. Significantly, Fletcher and Sarkar found all of the athletes to report that, without experiencing their perceived adversities, they would not have achieved the same level of success. Furthermore, findings indicated a range of psychological factors were utilised to protect the potential negative effects associated with stressors encountered. Aside from the need to be able to cope with demands and stressors associated with negotiating the development pathway, could being able to withstand adversity not only be required to survive the pathway but could it also enhance development on the pathway? Critically, this study seemed to assume that challenges identified by athletes *made* rather than

confirmed their eventual status. Furthermore, it failed to identify the specificities of growth relating to the athlete's negotiation of challenges encountered.

In contrast to work that has focused on effective ways to smoothen the development process, Collins & MacNamara (2012) argue that support should be built around the "rocky road to the top". In addition, they suggest that a linear progression to the top can be symptomatic of problems; that is, it may be detrimental for athletes if they do not experience challenges. Rather than minimising stresses, TID programmes should focus on providing the skills to facilitate athlete individual perception of coping ability. Subsequently, Collins and MacNamara (2012) asserted that experiencing a variety of challenges can enhance an athlete's development along their pathway, facilitating performance potential. In line with Collins and MacNamara's proposal, that talent needs trauma, Howells and Fletcher (2015) studied the autobiographies of Olympic swimming champions and reported on the apparently close correlation between life trauma and high sporting success. Similarly, Sarkar and colleagues (2015) reported that adversity-related experiences, including those of a sporting, personal, and political nature, were deemed significant for 10 Olympic champions' development. More specifically, this adversity was associated with greater effort, desire, focused reflection, and learning. On this basis, Sarkar and colleagues advised that performers should be given regular opportunities to handle appropriate and progressively demanding stressors, be encouraged to engage with these challenges, and use debriefs to aid reflection and learning. Overall, studies such as Howells and Fletcher and Sarkar and colleagues suggest that adversity-related experiences can be catalysts or stimuli for later success and may be related to sport or athletes' personal lives.

In some research, it suggested that performers develop positive response patterns for the future *because* of the acute traumatic episodes that they have faced in the past; which, according to some, is most evident when early trauma is paired with early sporting success

(Hardy, Barlow, Evans, et al., 2016; Rees et al., 2016). Hardy and colleagues (2016) published The Great British Medallists study, in which they conducted interviews contrasting the experiences of 16 multiple Olympic or World medallists versus 16 non-medallists. Findings supported the notion that adversity could be an integral contributing factor for achieving sporting success. More specifically, Hardy and colleagues asserted that early non-sport adversity is essential whereas adversity later in an athlete's career can act as a potential development opportunity. In contrast, Collins and colleagues (2016a), compared the developmental experiences of 18 "Super champions" (senior multi-medallist individual sport or multi-cap team performer), 18 "Champions" (senior single medallist or low-cap), and 18 "Almosts" (no senior medal or cap although success as a junior). Overall, Collins and colleagues found that the high, medium, and low achievers were not discriminated by the incidence and types of trauma they had experienced. Instead, these authors found that discriminating factors between the "Super champions", "Champions" and "Almosts" were related to; the level and nature of commitment, reaction to challenge, reflection and reward, and the role of coaches and significant others. Collins and colleagues suggest that effective development from the trauma is often governed by what a performer *brings to* a traumatic experience. Other, more recent studies contrasting high, medium and low achievers have not demonstrated such a clear relationship between trauma and achievement.

Not all previous research has provided a clear mechanism by which trauma may enhance athletic performance. As such, the exact role and operation of trauma is in need of clarification. Akin to ideas on acquiring mental toughness and resilience (Bull, Shambrook, James, & Brooks, 2005; Crust & Clough, 2011; Sarkar & Fletcher, 2014), Collins and MacNamara (2012) more specifically argued that talent needs trauma. To be clear, this work suggested that talented performers need some degree of challenge to *facilitate* the training, use, and refinement of fundamental psycho-behavioural skills and confidence to deploy them,

thereby, facilitating optimal development. Indeed, PTG theory suggests that cognitive and behavioural development can occur when an established set of schemas are challenged by relevant trauma that the individual then proactively deals with (Tedeschi & Calhoun, 2004).

2.2.1. Post Traumatic Growth Theory. People are typically guided by a basic set of assumptions which are disrupted as a result of extremely stressful or traumatic events (Tedeschi, Shakespeare-Finch, Taku, & Calhoun, 2018). Van der Kolk (2006) described the resultant feeling associated with an individual experiencing a traumatic event as though they have "lost their way in the world" (p.278). Tedeschi and colleagues (2018) asserted that, although extreme traumatic events are rare, everyone experiences internally framed negative events which have the capacity of challenging assumptions. Positive effects associated with experiencing and struggling with a traumatic event have been well documented throughout human history as reflected in literature and philosophy (e.g. Kierkegaard, 1983; Nietzsche, 1955). A growing body of research found that some people who have suffered a traumatic event report positive outcomes either, as a direct result of the event or as part of a learning process that occurred as a result of their coping (Park, 1999). For example, researchers found participants reported positive psychological outcomes following coping with a stressful event. These positive outcomes included: an increased appreciation for life; setting of new life priorities; a sense of increased personal strength; identification of possibilities; improved closeness of intimate relationships; or positive spiritual change (Tedeschi, Park, & Calhoun, 1998).

Within the psychology literature various theories have been operationalised to describe the resultant growth from experiencing adversity, including; stress-related growth (SRG; Park, Cohen, & Murch, 1996), posttraumatic growth (PTG; Tedeschi & Calhoun, 1996), transformation coping (Aldwin, 1994) adversarial growth (Linley & Joseph, 2004) and thriving (Carver, 1998). Despite subtle differences at a conceptual level, three main areas of

agreement on the conceptualisation of growth emerged: individuals develop enhanced relationships, individuals develop an altered view of self, and individuals re-evaluate and adjust their life philosophy (Joseph, Murphy, & Regel, 2012). The concept and term, posttraumatic growth, is adopted in this thesis as it is the most popular line of enquiry with regards to positive adaption post trauma in current research (Sarkar et al., 2015). Furthermore, PTG accurately captures the key features of the growth phenomenon. First, growth occurs following a crisis or major trauma rather than typical everyday stresses or hassles. Second, it refers to a veridical outcome rather than an illusion or coping mechanism. Finally, it occurs as a result of a significant threat to or fundamental shattering of deeply held beliefs and assumptions which terms such as, thriving and flourishing do not signify (Tedeschi & Calhoun, 2004). PTG does not negate the associated psychological challenges and distress experienced by individuals experiencing trauma (Linley & Joseph, 2012). Consequently, the occurrence of PTG does not necessarily mean less emotional distress (Tedeschi & Calhoun, 2004). Park and Fenster (2004) recommended that growth be viewed as another component of the overall experience of adjusting to trauma.

Joseph and colleagues (2012) proposed affective-cognitive processing model of PTG whereby there is a curvilinear relationship between the trauma and growth. In this way, growth occurs at an optimal point when there has been sufficient stress to challenge an individual's assumptions yet, not too much that would result in the individual being unable to cognitively process and cope with the trauma related stress. The underlying premise of Joseph and colleagues' model is that following an event stimuli, various event related cognitions instigate cognitive appraisal, which accordingly has a reciprocal relationship with an individual's emotional state and their available coping strategies. Joseph and Linley (2005), propose three potential outcomes resultant from an individual's experience of trauma; 1) *assimilation* whereby the individual returns to their baseline functioning, 2) *negative*

accommodation whereby the individual feels helpless and hopeless leading to distress and 3) *positive accommodation* during which the individual changes their schema in congruence with acquired trauma relation information. Subsequently, the central processes of affective cognitive processing involve an individual maintaining (assimilation) or modifying (accommodating) their pre-trauma assumptions. PTG suggests individuals need to manage the initial distress as a necessary factor in facilitating a degree of constructive cognitive process to occur (Tedeschi & Calhoun, 2004). Practically, the role of the athlete's support network is integral to support and facilitate this process rather than forcing rapid resolution. Rapid resolution prevents the assumptive world being properly tested therefore there is no need for schematic changes or subsequent post-traumatic growth.

2.3. How Might it Work?

It is important to contextualise any work on *how* psycho-behavioural skills help young performers against the most salient positions that have been offered on development-related trauma to date. In this respect, and as summarised by Collins and colleagues (2016b), these positions have reflected a focus on; *life experience*, *attitudes*, or *skills*.

2.3.1. Life experience. Regarding life experience, some prior work has reported that trauma, often serendipitous and in one's personal life (e.g., death of a family member), can be a catalyst for sport-related growth in performers (Howells & Fletcher, 2015), or even a root cause of their later raison d'être as a senior performer (Sarkar, et al., 2015). In line with the proposal that talent needs trauma (Collins & MacNamara, 2012), Howells and Fletcher (2015) studied the autobiographies of Olympic swimming champions and reported on the apparently close correlation between life trauma and high sporting success. The suggestion is that performers develop positive response patterns for the future *because* of the acute traumatic episodes that they have faced in the past; which, according to some, is most evident

when early trauma is paired with early sporting success (Hardy et al., 2016; Rees et al., 2016).

In contrast to the suggestions from work which had used either smaller samples or secondary data (e.g., autobiographies: Howells & Fletcher, 2015; Sarkar et al., 2015; Hardy et al., 2016), Collins and colleagues (2016a) found the "super champions" in their study reported: (a) little major trauma (e.g., self-harm, depression); (b) less trauma than "Almosts"; and (c) traumas that were primarily sport-related. Overall, Collins and colleagues found that the high, medium, and low achievers were not discriminated by the incidence and types of trauma they had experienced. Instead, these authors found that discriminating factors between the "Super champions", "Champions" and "Almosts" were related to the level and nature of commitment, reaction to challenge, reflection and reward, and the role of coaches and significant others. In short, this evidence directly contradicted the notion that trauma, including that unrelated to sport, *causes* effective development. Instead, the alternative view presented by Collins and colleagues was that effective development is often governed by what a performer *brings to* a traumatic experience.

2.3.2. Attitudes. In this respect, others have previously focused on the significance of bringing positive *attitudes* to developmental challenges, including a Growth Mindset (Dweck, 2006) and Grit (Duckworth, Peterson, Matthews, & Kelly, 2007). A focal message from this research suggests that individuals, who possess these attitudes, will be better equipped to experience and subsequently grow from adversity encountered. Grit theory proposes that the achievement of difficult goals/tasks is not solely determined by talent, but rather in concurrence of a sustained and focused application of talent over a period of time (Duckworth et al., 2007). In addition to "grittier" individuals being found to demonstrate higher academic grades, outperform "less-gritty" peers in spelling bee competitions and be less likely to drop out of military training, they were also found to invest more time engaging

in sport related activities (Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2011; Duckworth et al., 2007; Duckworth & Seligman, 2005; Larkin, O'Connor, & Williams, 2016). Indeed, a core message from this research is that those who possess such attitudes will be better prepared to experience and grow from the traumas that they will face.

Credé, Tynan, and Harms (2017) suggested a need for greater understanding on the role of grit and its role in influencing performance. Grit has been found to highly correlate to one of the Big Five personality traits (Goldberg, 1990), specifically conscientiousness. Rimfeld, Kovas, and Dale (2016) suggested grit adds little addition from conscientiousness to the prediction of academic success. In line with these findings, Credé and colleagues propose, that grit may have fallen victim to "jangle fallacy" (Kelley, 1927) whereby the belief that two concepts are different because they have different names.

Conversely, similar strengths and weaknesses are apparent in Dweck's growth mindset work. Growth Mindset fosters the growth of ability over time (Blackwell, Trzesniewski, & Dweck, 2007; Grant & Dweck, 2003) and subsequently tends to show greater achievement across challenging situations (Yeager & Dweck, 2012). Collins and MacNamara (2017), however, highlight the lack of clarity around how a Growth Mindset is developed and deployed in a way that has a positive impact. Despite notable supporting evidence the work of attitude-focused researchers has yet to sufficiently identify and explore the mechanisms that underpin these attitudes. This gap therefore leaves uncertainty as to how such an attitude can be proactively developed to improve performance. In short, attitudes are clearly important but where do they actually come from, how might they operate and how can they be targeted and developed?

2.3.3. Skills. The third strand focuses on the role which psycho-behavioural skills play in, managing and growing from adversity. Recent work has identified that challenges during development- and of course, how these are handled- play a key and positive role in

successful progress (MacNamara et al., 2010b). As identified earlier in this Chapter, PTG theory asserts, enduring challenge is not enough to equate to development or growth, rather there is a need for an adaptive response. Subsequently, it has been proposed that the effective deployment of cognitive skills and strategies is integral to maximise adaption (Van Yperen, 2009). For example, Toering, Elferink-Gemser, Jordet, and Visscher (2009), identified the distinguishability of self-regulatory skills between elite and sub-elite footballers. Further investigation by Toering and colleagues (2011), identified these differences operate through the generation of better practice behaviours. Informed by prior work on the psychological characteristics and skills of successful senior athletes (e.g., goal setting, commitment, concentration; Gould et al., 2002; Orlick & Partington, 1998), a body of work has since explored factors that aid the development of such athletes. Within this, some have focused on specific attributes or skills, such as coping (Hanton, Neil, & Mellalieu, 2008), while others have considered more broad sets, such as mental toughness, resilience, and the PCDEs (Bull et al., 2005; Fletcher & Sarkar, 2012; MacNamara et al., 2010b). MacNamara and colleagues (2010a, b) explored the skills utilised to enhance effective negotiation of the typically challenge filled pathway. MacNamara and colleagues identified a broad range of skills, PCDEs, which athletes utilised and refined as they progressed along their development pathway. The deployment of PCDEs, were found to be affected by individual differences including; age, maturation stage, focus and performance domain. Furthermore, the responsibility of PCDEs appeared to shift over an athlete's development from others to self. Resultantly, the individual deployment variation of PCDEs can be understood from a self-regulation perspective (Karoly, 1993). Learners who are self-regulated acquire specific skills that enable the learning process. These skills include; self-monitoring progression, emotional management, investment in self-improvement and seeking help/advice from others when relevant (Petlichkoff, 2004). Therefore, individuals without self-regulation may lack

responsibility for their own career typically relying on others and attributing failures to maladaptive reasons (MacNamara et al., 2010b). Accordingly, this would suggest that developing and equipping young athletes with the skills to negotiate the pathway would facilitate maximising their potential. In sum, this work has found that those who get to the top and stay there have a range of characteristics and skills that help them to perceive and behave in continually functional ways. This is not to say that other researchers have specifically and explicitly stated that trauma causes the generation of entirely new skills or perspectives; however, a number of studies have suggested that trauma causes enhanced development or future success *without* explicit or detailed reference to the skills that might have already been in the individual's possession before the setback (e.g., Sarkar et al., 2015).

Sarkar and colleagues (2015) reported that adversity-related experiences, including those of a sporting, personal, and political nature, were deemed significant for 10 Olympic champions' development. More specifically, this adversity was associated with greater effort, desire, focused reflection, and learning. On this basis, Sarkar and colleagues advised that performers should be given regular opportunities to handle appropriate and progressively demanding stressors, be encouraged to engage with these challenges, and use debriefs to aid reflection and learning. Similarly, the role of skills (e.g., cognitive processing, self-awareness) was also apparent within Howells and Fletcher's (2016) study on outcomes related to illusory growth versus constructive growth. Interestingly, this latter study also reported that certain skills differentiated constructive growth from illusory growth. For example, constructive growth involved a performer acknowledging their distress (versus concealing distress), finding meaning (versus only seeking meaning), and engaging in cognitive processing (versus cognitive manipulation). Overall, albeit to a noticeably different extent, work to date has shown that psycho-behavioural skills play a crucial role in trauma-related development.

As identified earlier, studies such as, Howells and Fletcher (2016) and Sarkar and colleagues (2015) seemed to suggest that adversity-related experiences can be catalysts or stimuli, for later success and can often be related to athletes' personal lives. Notably, these points are, in contrast or at least a subset, to the main messages in Collins and MacNamara (2012), who proposed that talent *needs* trauma rather than is *caused* by trauma. Furthermore, as previously highlighted, other more recent studies contrasting high, medium and low achievers have not demonstrated such a clear relationship between life trauma and achievement (Collins et al., 2016). In short, the exact role and operation of trauma seems to be in need of clarification.

To be clear, these positions vary in the extent to which they consider that successful development is due to characteristics and skills that are present either *exist before and are grown through* (i.e., talent *needs* trauma) or *emerge after and inevitable following* (i.e., talent is *caused* by trauma) a traumatic experience. The former suggests that, trauma enables an application for focused testing and refinement of psycho-behavioural characteristics and skills; the latter suggests that the genesis of key psycho-behavioural characteristics and skills is from the trauma itself. In this regard, it is notable that Sarkar and Fletcher (2014) recognised the need for future work to consider the temporal course of growth; indeed, the largely causative slant in their study may have come from exploring isolated episodes of adversity. Therefore, in terms of the causative slant of some trauma-based research to date (e.g., Howells & Fletcher, 2015; Sarkar et al., 2015), it seems that more research is needed to explore the extent to which key psychological characteristics and skills are generated *or* tested and possibly developed through trauma.

Collins, MacNamara, and Cruickshank (2018) suggested that some research has lacked applied focus alongside the organisational inertia and has resulted in little change in the talent development landscape. In order to clarify and redirect work within this area,

Collins and colleagues, proposed the Performance-Outcome-Process (POP) continuum. The POP continuum provides a structure of assessing how ideas contribute to the field of talent development. Performance refers to the ultimate aim of talent development, which is typically to develop successful athletes able to perform at the highest level. Outcome was identified as, "the outcome deliverables which will take the athlete there" (p.4) which include, the characteristic and psychological constructs considered integral for the specific performance. Process reflects a pracademic focus, whereby research should be driven to provide applied answers for talent development issues which positively contribute, to the effectiveness of TD. Furthermore, Collins and colleagues, emphasised contributions should include the mechanisms and processes, that underpin an athlete's ability to successful negotiate the talent development pathway. For example, if specific psychological skills are deemed as favourable, how such skills are developed and operationalised is critical for development programmes to be able to apply the research to teach and refine such skills.

2. 4. Research Gaps and Needs

Reflecting the points raised above, further research is required to explore the suggestion that talent needs trauma. The proposal that talent needs trauma (Collins & MacNamara, 2012) has only lately come under scrutiny, with some questionable suggestions being made on the causative role and benefits of non-sport and life trauma in the development of sporting talent (e.g., Hardy et al., 2016; Howells & Fletcher, 2015; Rees et al., 2016; Sarkar et al., 2015). There is a need for additional research to deepen our understanding of what these traumas are, what they can do, and what they require of the performers who face them. This gap in research is addressed by objectives 1, 2, 3 and 4 described in Chapter 1 (page 15). As described above, research has found that those who get to the top and stay there have a range of characteristics and skills that help them to behave and perceive in continually functional ways. In this thesis I describe research in which I

aimed to explore how such skills actually help a performer negotiate the pathway, which is achieved through objective 4. Due to the causative slant of some trauma-based research to date (e.g., Howells & Fletcher, 2015; Sarkar et al., 2015), it appears that more research is needed to explore the extent to which key psychological characteristics and skills are *generated* or *tested and developed* by trauma. In short, as identified in objective 5 of this thesis, what is the detailed timeline of growth around trauma?

To date, research in this area has been limited to retrospective interviews or presented through data gleaned from autobiographies. Regardless of motivation to provide accurate reports, recalling events or activities which took place months or years ago can result in lower accuracy of reports (Côté, Ericsson, & Law, 2005). Indeed, research into memory recall identified longer retention intervals lead to lower accuracy of memory recall unless the information is accessed and rehearsed during the delay (Bahrick, Hall, Goggin, Bahrick, & Berger, 1994; Rubin & Wenzel, 1996). Furthermore, researchers found that memory recall may be subject to reconstruction and inferences (Ross; 1989). During memory recall, participants can rely on their *current* feelings, attitudes and situations to generalise what they think they thought or felt at the time of the event being recalled. Furthermore, significant life events can create vivid personal experiences referred to flashbulb memories (Brown & Kulik, 1977), which can increase the accuracy of reports as opposed to routine events, however, even vivid memories are subject to normal decay over time. Indeed, Conway (1995) found vividness of memories is not a valid indicator of accuracy of recall. So, although autobiographies can offer a rich insight into understanding the author's story, as they are often written by ghost writers the reliability is challenged. Richardson (1992) suggested ghost writers stage a story rather than report it as a lived experience which subsequently questions the assentation's researchers can make from the data. Furthermore, Mason (2006) asserted biographies are specifically created for a particular purpose and certain audiences.

Understanding precisely how challenge can provide positive benefits to performers negotiating their development pathway, is critical for talent development programmes and practitioners supporting athletes along their pathway. In order to start to resolve this debate emanating from research that has analysed snapshot perceptions from retrospective interviews or autobiographies, there is a need for work to take a closer and more ecologically valid look at this important feature if we are to optimally inform practice. As such, this gap in the current literature is addressed through objectives 5, 6 and 7. Accordingly, Chapter 3 considers the underlying decisions taken in designing such investigations.

Chapter 3: Research Philosophy and Methodology

3.1. Introduction

Building from the literature base considered in Chapter 2, this Chapter outlines the philosophical approach and subsequent methodological framework employed to explore the aims and objectives identified in Chapter 1. To develop a robust research design, it is integral for researchers to choose a research paradigm which is congruent with their perspective on ontology, epistemology, and methodology (Mills, Bonner, & Francis, 2006; Denzin & Lincoln, 2005). Ontology refers to the assumptions made about the nature of reality, claims about what exists, what it looks like, what units make up reality and how these units interact with each other (Guba & Lincoln, 1994). In this way, a researcher's ontological position refers how they view the nature of reality. Upon establishing an ontological position, epistemology refers to how the reality can be known to the researcher (Guba & Lincoln, 1994); in other words, how can reality be known. Guided by the ontology and epistemology, a methodology is subsequently established to acquire knowledge (Levitt, Motulsky, Wertz, Morrow, & Ponterotto, 2016).

As a scientist-practitioner aiming to generate practically-meaningful knowledge that could address current gaps in literature (as identified in Chapter 2), this research was underpinned by a pragmatic research philosophy (Giacobbi, Poczwardowski, & Hager, 2005). Accordingly, my pragmatic research philosophy framed the methodological approach and processes taken throughout this thesis. To demonstrate congruence between the selected philosophical approach and research aims, an overview of the pragmatic approach and its' relevance within the development of talent is offered. The subsequent methodologies employed to investigate the research questions in the following Chapters, in line with the overall pragmatic paradigm, are depicted.

3.2. Research Philosophy: A Pragmatic Approach

Over a decade ago, Giacobbi and colleagues (2005) suggested that a pragmatic research philosophy could begin to close the longstanding gap between academic work and applied sport psychology practice. Indeed, the common divisions in ontology, epistemology and methodology between academics and applied practitioners have been well documented in literature (Brustad, 2002; Dewar & Horn, 1992; Krane, 1994; Krane, Andersen, & Strean, 1997). However, in contrast to the top-down organization of other paradigms – where matters of ontology and epistemology dictate the research process – pragmatists are driven by practical questions and methods by which they can be aptly answered (Giacobbi et al., 2005). In short, the methods utilised by pragmatists are dependent on the practically-meaningful aims and objectives of the research. In addition to encouraging quality in the design of research, pragmatism also prioritises a "so what?" principle when it comes to evaluating research (Bryant, 2009, para 49), which again promotes scholars to develop practical solutions to applied research questions that will guide positive change to the way things are done (Peirce, 1984).

In line with this position, pragmatism rejects the tenets of pure positivism (i.e., the notion of a single objective reality that can be measured) and pure constructivism (i.e., reality is constructed by individuals and groups with no research finding closer to the truth than another). Instead, pragmatists are not committed to any specific ontological or epistemological view (Biesta, 2010; Giacobbi et al., 2005; Morgan, 2007). In this way, pragmatists accept that there are multiple realities that are open to empirical inquiry and position themselves towards identifying methods that will provide an appropriate means to generate knowledge on their research questions; so that practical problems can be solved or improved in the "real world" (Creswell & Plano Clark, 2007, pp. 20-28; Dewey, 1925; Rorty, 1999). Therefore, pragmatism allows the researcher to be free of the rigid mental and

practical constraints which are typically imposed by making a "forced choice dichotomy between post-positivism and constructivism'' (Creswell & Plano Clark, 2007, p. 27).

Crucially, however, the philosophy still guides all parts of the research process. More specifically, my decision to adopt a pragmatic stance meant that I selected a relevant applied issue to research, focused on the *process* of experiencing challenge, considered myself a constructor of knowledge and ultimately, aimed to identify tangible applied artifacts rather than universal truths or purely subjective constructions (Denzin & Lincoln, 2008; Giacobbi et al., 2005). In terms of my role as a co-constructor of knowledge I work along the pathway of development from supporting athletes initial TI and brought on funding by the NGB to successful multi-medalists. Prior to my current role, I provided psychology support for developing athletes, typically transitioning from junior to senior level across a wide variety of sports. In short, my roles as an applied practitioner to date, has provided me with opportunity to support athletes at varying pivotal stages of their development pathway.

3.3. Exploring Research Strategies and Methods Employed in TD Research

Given the unpredictable nature of elite sport, successful athletes can only be identified "after the fact" (Côté et al., 2005, p.15). Therefore, to date, research into the development of talent, particularly those studies which have focused on psycho-behavioural and psycho-social factors associated with development, have been weighted towards a retrospective qualitative approach; usually through interview-based or (more recently) autobiography-based methods (e.g., Fletcher & Sarkar, 2012; Howells & Fletcher 2015; Sarkar & Fletcher, 2014). More specifically, this predominant approach has aimed to understand people from their own frames of reference and experiences of their own reality (Corbin & Strauss, 2008). As such, this has allowed researchers to explore in-depth perceptions of athletes' (and relevant others', such as coaches and parents) experiences of negotiating their development pathway.

Despite authentic motivation to provide accurate reports, however, recalling events or activities which took place months or years ago can result in lower accuracy of reports (Côté et al., 2005). Certainly, research into memory recall has identified that longer retention intervals lead to lower levels of accuracy of memory recall unless the information is accessed and rehearsed during the delay (Bahrick, et al., 1994; Rubin & Wenzel, 1996). In addition, and more specifically, concepts such as self-report bias, hind-sight bias and flashbulb memories have been found to negatively impact the accuracy of retrospective accounts. Self-report bias occurs whereby individuals recall past events in line with their current beliefs and expectations of what they think they thought or felt at the time of the event (Conway & Pleydell-Pearce, 2000; Lindsay & Read, 2006; Ross, 1989). Hindsight bias refers to, "the tendency for individuals with outcome knowledge (hindsight) to claim that they would have estimated a probability of occurrence for the reported outcome that is higher than they would have estimated in foresight (without the outcome information)" (Hawkins & Hastie, 1990, p. 311). Research requiring athletes to recall their career may also be subject to flashbulb memories, whereby significant life events can create vivid personal experiences (Brown & Kulik, 1977). Such vivid recall can offer increased accuracy and depth of recall of past events, but also poses a risk of disproportionately focusing on these events rather than a full and accurate representation of the development pathway. Furthermore, even vivid or flashbulb memories have been found not to be a valid indictor of recall accuracy (Conway, 1995). Thus, in relation to talent development research, athletes recalling their development pathway after the fact could view events as more predictable, more positively or negatively, or more disproportionately than they actually were at the time.

While these limitations are relevant to interview-based work, autobiographies would seem to bring even more challenges given their common tendency to “sell” a story and key memories/experiences. Indeed, although autobiographies can offer a rich insight into

understanding the author's story, they are often written by ghost writers which subsequently challenge the reliability. In fact, Richardson (1992) questioned the assertions that researchers can realistically make from data derived from autobiographies, given ghost writers typically stage the story as opposed to reporting it as a lived experience. In contrast, longitudinal qualitative research, allows for rapport to develop with participants in situ, and their narrative to develop over time. Distinctively, longitudinal research can provide in-depth insights into individuals experience and the subsequent interaction of temporal and cultural dimensions of social life (Neale & Flowerdew, 2003; Thomson & Holland, 2003). As such, longitudinal research provides an opportunity to study behaviours and practices when the normal flow and processes of life is disrupted (Venn, Burningham, Christie, & Jackson, 2014). Specifically, providing live insight into whether such behaviours and practices remain consistent or change as a result of disruption.

3.4. Selecting Research Strategies and Methods

Rather than being dominated by the method, pragmatism views the research problem as the most integral concern (Crewell, 2003). In this way, the espoused data collection methods, narratives and analysis are considered to be the most likely factors to provide a deep insight into the research problem (Creswell, 2003; Mackenzie & Knipe, 2006). Reflecting these ideas, pragmatists believe that either observable phenomena or subjective meanings or in fact both, can provide legitimate and acceptable knowledge (Morgan, 2014b).

In line with my underpinning philosophy and considering the aims of this thesis, a multiple methods approach was therefore deemed an appropriate strategy. A multiple methods design involves the deployment of two or more research methods which are conducted rigorously and are a complete project in themselves (Morse, 2003); in contrast to mixed methods studies, which seek to fully integrate the findings from different methods (Bosscher, Shibli, Bottenburg, Knop, & Truyens, 2010; Rieck, Shakespeare-Finch, Morris, &

Newbery, 2005). Multi-method designs therefore, provide different perspectives on the phenomenon under question (Sandelowski, 1995) and provide different data from which results are triangulated to form a more comprehensive picture (Morse, 2003). With regards to my thesis, I felt that utilising a multiple method approach would allow for an in-depth, rich investigation of performers' perceptions of their pathway whilst implementing methods to triangulate and enhance accuracy of recall. Specifically, as my questions related to the number, nature, and mechanisms of challenge in performers' development, both quantitative and qualitative methods were deemed suitable. To clarify, both quantitative and qualitative methods were linked to the same main purpose (i.e., to shed light on challenge during development) but importantly, also complete in themselves (Morse, 2003). In this way, different methods were employed to generate and analyse data, which will now be outlined.

3.4.1. Graphical timeline. Given the complexities of developing talent, Collins, MacNamara, and Cruickshank (2018) therefore questioned the use of a singular methodological approach in seeking rich descriptions of athletic careers. In an attempt to enhance accuracy of recall, some researchers have employed a timeline method. This method involves the performer being guided to map their development pathway by charting individual career stages and salient points on their pathway. This approach has been shown to effectively increase the accuracy and insights of retrospective recall (Drasch & Mattes, 2013). Accordingly, in line with guidance from Collins and colleagues (2016a), each interview conducted in this thesis was framed by a graphic time line to ensure that performers recounted their experiences along their pathway relevant to particular stages of development (cf. Ollis et al., 2006). This approach has been previously shown to increase the accuracy and insights of retrospective recall (Drasch & Mattes, 2013). In addition, this approach provided opportunity to objectively measure the number of challenges encountered, along-with perceived impact of salient markers on performer's timeline. This method has been utilised

across a variety of domains, for example, Ollis and colleagues employed this timeline design to explore the development of expertise within Rugby referees. In this instance the timelines acted as a tool to gain participants perspective on their own personal development. Notably, the timelines were supported with interviews, observations and feedback reports from relevant people. Similarly, MacNamara and colleagues (2010b) utilised a timeline approach in their study exploring the role of PCDEs with elite performers. A two stage research design was selected, in order to gain optimal personal account of developing whilst exploring relevant stages. Subsequently, following the timeline of each performers career was developed, a semi-structured interview was conducted to explore different stages and transitions along the individual pathway. As such, a similar method is employed in Chapter 4 and 5.

3.4.2. Semi structured interviews. Building on from information gathered through graphical timelines, in Chapter 4 and 5, semi-structured interviews allowed for exploration of key stages and points identified on the performer's timeline. Semi structured interviews allowed for each question to be open-ended, subsequently facilitating a variety of responses which were unique to each performer. Interviews are one of the most frequently utilised methods of collecting qualitative data (DiCicco-Bloom & Crabtree, 2006). In-depth individual interviews provide an opportunity for researchers to delve deeply and co-create meaning with interviewees by exploring perceptions of events and experiences (DiCicco-Bloom & Crabtree, 2006). Specifically, with regards to suitability for the aims of my thesis, semi-structured interviews are particularly useful when exploring events which follow a stage-by-stage, temporal sequence from which the researcher seeks to uncover the participant's view of each of these sequential points (Culver, Gilbert, & Sparkes, 2012). Furthermore, semi-structured interviews are an effective method of examining previously unexplored topics and constructs (Creswell, 2003).

Accordingly, specific interview guides were constructed with probes and prompts, used to elicit detailed perceptions of the performer's experiences identified on their plotted timeline (as described in 3.4.1.). Specific probes and prompts were employed to clarify and expand on relevant points. As such, participants in this thesis were guided to explore and reflect on the areas that were my main interest, whilst allowing for flexibility of coverage and the ability to go into novel areas (Culver et al., 2012; Smith, 2008). Importantly, these interview guides facilitated exploring "the what" (e.g., what was the challenge) as well as "the how" (e.g., how the performer dealt with it) along their individual development pathway (Sparkes & Smith, 2009).

3.4.3. Longitudinal tracking. Chapter 4 and 5 focused on retrospective methods to gain a full picture on the role, impact and use of trauma/challenge, and the role of psycho-behavioural skills when negotiating development trauma. Building on from the findings of Chapter 4 and 5, and given the current gap in research of tracking performers as they encounter and deal with challenge in real time, longitudinal tracking research seemed to be an imperative lens to explore within this thesis. As such, Chapter 6 details a longitudinal investigation on how performers encountered, managed and grew from challenge. Longitudinal research is driven by a desire to understand what, how and why change happens (Holland, Thomson, & Henderson, 2015). Neale and Flowerdew (2003) described qualitative longitudinal research as being able to provide a close up 'shot' of peoples' lives, with a clear focus on plot, story line and any defining or defining moments. A significant advantage of qualitative longitudinal research is the nuanced understanding of phenomena which evolves through time (Carduff, Murray, & Kendall, 2015); of particular interest when understanding how performers negotiate a typically challenge filled pathway.

3.5. Trustworthiness

To date there has been much debate in research about the most appropriate terms (e.g., rigor, validity, reliability, trustworthiness) for assessing the quality of qualitative research (Sparkes & Smith, 2009). Some researchers have asserted that reliability and validity solely concerns quantitative research, which is unrelated or not pertinent to qualitative inquiry as it is aligned with a positivist view (Rolfe, 2006). In recent years, qualitative researchers have therefore moved away from what Sparkes (1998, 2002) described as the parallel perspective in relation to validity/trustworthiness in qualitative research. More specifically, this parallel perspective was largely influenced by Lincoln and Guba (1985), who outlined ways in which qualitative researchers could support the argument that their inquiry's findings were worth paying attention to. They proposed a parallel criteria to the benchmarks of assessing quantitative research that included *credibility, dependability, confirmability, and transferability*. From the perspective of ascertaining *credibility* (which corresponds to internal validity), Lincoln and Guba suggested this is achieved through establishing a match between the realties reported by respondents and the realities reported by the evaluator. *Dependability* (relates to reliability) referred to the stability of data over time and under different conditions. *Confirmability* (objectivity) referred to the congruence between two or more independent researchers about the data's accuracy, meaning and relevance: this approach subsequently ensuring that the data accurately represented the information provided by participants and the resultant interpretations of the data were not invented by the lead researcher (Polit & Beck, 2012). Finally, Lincoln and Guba referred to *transferability* (external validity) as the potential for extrapolation whereby findings can be generalized or transferred to other settings.

In direct contrast to these ideas, and notably, Sparkes and Smith (2009) opposed the development and use of unvarying, universal standards for assessing the quality of qualitative

research. Instead, they suggested that following such criteria would, in principle, suggest that different studies which use all of the techniques outlines by Lincoln and Guba (1985) to achieve trustworthiness must be judged as good if not perfect. A criteriological view, which judges all forms of qualitative research with a pre-established notion of trustworthiness, can therefore be problematic. As Sparkes and Smith pointed out, if a researcher utilising autoethnography as their chosen method of inquiry employed Lincoln and Guba's criteria to judge the quality of their research, the only possible outcome would be that it would be classified as bad research. That is, given that autoethnographers pursue different ways of understanding a phenomenon by writing from the heart as well as the head (Sparkes, 2007).

Furthering the critique of the Lincoln and Guba's parallel perspective, Sparkes (1998) also previously noted the following issues: 1) the lack of rationale underpinning why specific techniques where chosen over others; 2) varying meanings assigned to different techniques across studies; 3) some techniques employed to achieve trustworthiness were not appropriate in relation to the qualitative research; 4) the parallel perspective creates philosophical contradictions; and 5) Lincoln and Guba themselves began to change their position (Lincoln and Guba wanted to establish a rigid rating process to judge each qualitative study in a similar manner but accepted a world of multiple realities). In line with this, Sparkes and Smith (2009) asserted there should be an acceptance of multiple realities and that no set of rigid methods or techniques alone can judge the trustworthy from non-trustworthy. Furthermore, they suggested that research quality should be assessed by markers according to the study's specific context and philosophical orientation. In similar fashion, Smith and Hodkinson (2009, p. 35) recommended that judging the quality of social sciences should be more akin to judgements of quality of music, painting, literature, and so on, which depend on time- and place-contingent lists of characteristics that "connect to reality". In this regard, Barone and Eisner (2012) point out that judgement of quality of work in art is not based on

universal standards; rather art critics seek achievement related to criteria which is appropriate for each specific piece of work. Crucially, researchers (Sparkes, 2002; Sparkes & Smith, 2009) stressed this does not mean that 'anything goes' when assessing the quality of qualitative research.

Overall, Sparkes and Smith (2009) proposed characterizing traits as a more relevant method of assessing judgement of quality. In this way, the characterising traits of a particular approach to an inquiry are discussed and noted in line with the way researcher has conducted the particular inquiry at that moment. Subsequently, the criteria employed to judge a piece of research is changeable and dependent on context and purpose (Sparkes 2015). As such, in teach of my studies in this thesis, I have suggested characterising traits that point to the quality of the work undertaken. Significantly, these not only point to aspects of academic rigor (or the 'internal quality') but also, given my pragmatic philosophy, aspects of applied relevance and impact (or the 'external quality'). Furthermore, in line with Collingridge and Gantt 's (2008) suggestion of alternate understanding of generalisation specific to qualitative research, transferability generalisation (Tracy, 2010) was identified as most relevant for this thesis. In contrast to Lincoln and Guba's (1985) conceptualisation of transferability regarding trustworthy interpretations of reality, transferability is understood as being underpinned by the epistemological assumption that knowledge is constructed and subjective whereby multiple realities exist. Furthermore, it refers to when a person or group seeks to adopt something which has been identified by the research. Given the aim of contributing to applied research and practices within talent development programmes, transferability would reinforce the research quality.

3.6. Summary

Reflecting on the focus of my research (i.e., to explore the role of challenge in a performer's development pathway), this Chapter identified the suitability of a pragmatic

philosophy to meet the objectives set. This decision was underpinned by my aim to generate meaningful practical knowledge which can be applied to the development of performers along with addressing some current gaps in literature in this field. More specifically still, in order to explore the aims of this thesis, a multiple methods approach was considered the most appropriate strategy for investigation across the full thesis. Finally, in line with what has been presented in this Chapter with regards to optimising the quality of research, I have identified that my approach and findings will be best assessed against characterising traits that are relevant to each individual element of the research (Sparkes & Smith, 2009), which are depicted in each empirical Chapter. As part of this, by viewing myself as a scientist-practitioner who works from a pragmatic philosophy, the quality of this research and its potential for generalisability is particularly represented by the relevance and contribution of my findings to applied practice. Accordingly, Chapter 4 explores traumas in the development of talent of elite performers; specifically, what they are, what they do and what they require to overcome them.

Chapter 4: Exploring Traumas in the Development of Talent: What Are They, What Do They Do, and What Do They Require?

4.1. Introduction

Previous Chapters have identified the non-linearity of talent development (e.g., Abbott, et al., 2005), work that has started to explore challenges in more detail (e.g., Howells & Fletcher, 2015; Sarkar et al., 2015) and the subsequent suggestion that "talent needs trauma" (Collins & MacNamara, 2012). However, as the foundation and implications of this proposal have only lately come under scrutiny – with some questionable suggestions (both theoretically and practically) being made on the causative role and benefits of non-sport and life trauma in the development of sporting talent (e.g., Howells & Fletcher, 2015; Rees et al., 2016; Sarkar et al., 2015) – there is a need for work to deepen our understanding of what these traumas are, what they can do, and what they require of the performers who face them.

Therefore, reflecting the points raised in Chapter 2, the goal of this Chapter was to further explore the suggestion that talent needs trauma; or, more specifically, memorable challenges that disrupt a performer's perceived development (Collins & MacNamara, 2012). Against this main goal, I had three specific aims and objectives which were identified in Chapter 1. These were to explore (a) the perceived number and impact of memorable challenges in performers who had made it to the top level of their sport, (b) the nature of these challenges, and (c) the mechanisms that helped in handling and recovering from challenges. As such, in line with objectives 1, 2 , 3 and 5, identified in Chapter 1 (page 15), my aims were developed to generate results on the number and nature of perceived challenges (for comparison with prior research; e.g., Howells & Fletcher, 2015; Sarkar et al., 2014) as well as *how* these challenges exerted their influence by considering what participants brought into them and what they left with (to extend beyond prior research; e.g., Howells & Fletcher, 2015; Sarkar et al., 2014). To achieve this, I heeded Sarkar and

colleagues (2014) recommendation that continued work on trauma should consider the temporal course of growth through multi-methods research.

4.2. Method

4.2.1 Research Design and Methods. In line with the pragmatic approach described in Chapter 3, this Chapter was aided by my own experiences of leading, assisting, and performing in elite sport talent pathways. With regards to this Chapter, I consequently identified a pertinent applied issue to research, concerned with the process by which performers experienced trauma, recognised myself as a co-constructor of knowledge, and ultimately sought to identify tangible applied artefacts rather than generalized truths or purely subjective constructions (Denzin & Lincoln, 2008; Giacobbi et al., 2005).

Pragmatism also promotes communication across different paradigms so that the most useful knowledge is generated (cf. Giacobbi et al., 2005; Sparkes, 2015). Against this view – and following Sarkar et al.'s (2014) recommendation for continued research on trauma – I considered that the aims of my research would be best addressed by a multiple methods design. Specifically, as my questions related to the number, nature, and mechanisms of traumas in performers' development, both semi- quantitative and qualitative methods were deemed suitable. To clarify, both semi-quantitative and qualitative methods were linked to the same main purpose (i.e., to shed light on trauma during development) but complete projects in themselves (Morse, 2003); an approach that is distinct to multiple methods research. This provided a different level of data which allowed results to be triangulated forming a comprehensive picture.

4.2.2. Participants. Twenty elite performers were purposively recruited from a UK High Performance Centre (HiPC) consisting of 11 female and 9 male athletes aged between 20 and 29 years old (M = 23.23; SD = 2.64). Performers were considered elite as they were currently competing at senior international level and on a funding program overseen by their

relevant sport's national governing body. Participants were also recruited on the grounds that they had medalled at senior international level, had achieved this level in the last two years, and had previously been on a formal development pathway for at least six years (i.e., a pathway managed by their sport's national governing body and in which they had been actively competitive). Their recent arrival at senior international level was intended to support accurate recall and counter issues that might have arisen in retrospective interviews with older performers. The criterion that participants had been on a pathway for at least six years was to increase the chances that they had gone through various stages and phases of development. As trauma can benefit performers across sport in general (rather than in specific types of sport; Collins & MacNamara, 2011; Collins et al., 2016; Sarkar et al., 2015), the sample was also deliberately taken from different domains (athletics = 10; downhill mountain biking = 2; archery = 1; equestrian = 1; hockey = 2; judo = 1; football = 1; lacrosse = 1). The weighting towards athletics reflected greater access to this sport; these athletes did, however, compete in a host of different events (long distance running; steeplechase; 1500m; 800m; 100m; high jump).

4.2.3. Procedure. Ethical approval was obtained from the institutional ethics committee and informed consent gained from each participant prior to their interview. The participant information sheet is presented in Appendix A.1., and informed consent form presented in appendix A.2. To aid consistency, a semi-structured guide (see appendix A.3. for interview guide) with open-ended questions and relevant follow-up probes and prompts was developed. This guide was informed by relevant literature on talent development and conducted on the base of a retrospective tracking protocol that has been previously used to elicit specific details on personal experience (Cruickshank, Collins, & Minten, 2013). More specifically, and in line with the guidance in Ollis and colleagues (2006), it was decided that each interview would be usefully framed by asking participants to firstly plot their perceived

performance level (Y-axis), starting from first involvement on their sport's pathway all the way to the present day (X-axis). As stated in Chapter 3, this approach has been previously shown to increase the accuracy and insights of retrospective recall (Drasch & Mattes, 2013).

The timelines were all gridded, made to the same scale, and participants decided on their highest level of perceived performance level on this scale; as such, the ceiling of perceived level was relative to each participant. As well as their perceived performance level, participants were also asked to mark important events on their plotted line as well as key phases and stages in their development. For example, participants marked phases and stages in relation to aspects such as a change in coach, joining a new training group or moving up a competitive level. As well as providing information on the number of perceived traumas faced, this approach also allowed for later measurement on the comparative impact of each trauma (see Data Analysis section).

Once this procedure was completed, qualitative data were collected through subsequent discussion of the participant's unique timeline. More specifically, to elicit detailed perceptions on the nature and impact of the marked experience, questions were used to explore each identified phase, stage, and the experience itself (e.g., what occurred here? What happened before the trauma?), and probes and prompts used to clarify and explore relevant points (e.g., How did this experience impact your development? How did this impact on your perceived performance level? How soon after the trauma was your performance affected?). To clarify therefore, the interview guide was constructed to work around each individual's timeline and experience. Indeed, as retrospective interviews can be limited by recall and hindsight biases, I acknowledged this interaction by asking participants to carefully think through specific, chronologically-ordered phases and events in their development rather than sourcing broad reflections on unstructured experiences. It should also be noted that, in contrast to comments made earlier, retrospective perceptions are not *necessarily* less accurate

than real-time perceptions. Exploring "lived" rather than "live" experience can have many advantages; such as eliciting perceptions which have been critically reflected on over time and given meaning against the individual's refined view of both themselves and their history.

Prior to interviewing the 20 main participants, this full procedure was reviewed by my research supervisors and piloted with five participants who met the inclusion criteria applied to the main participants (hockey = 2; badminton = 2; lacrosse = 1). The ages of participants in the pilot study ranged from 22 to 26 years old (M = 23.4; SD = 1.67). Following the pilot work, the only change required was to the instructions for drawing perceived performance timelines. More specifically, it was clear that there was a need to reinforce that this timeline should depict perceived performance level (i.e., the highest level of performance of which they thought themselves capable) rather than solely competitive results (i.e., the performance and outcomes that they actually delivered). Beyond this, all interviews were conducted as described in the preceding paragraph by myself. These lasted between 40 and 60 minutes (M = 54.20) and were audio recorded for later transcription and analyses.

4.2.4. Data Analyses. Reflecting my multiple methods approach, data analyses were split into two parts.

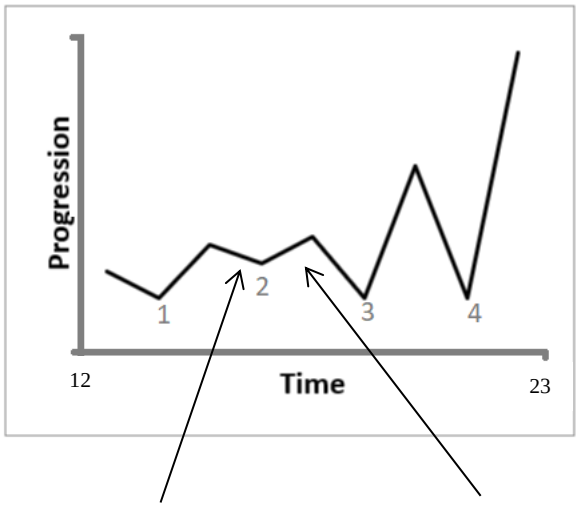
4.2.4.1. Quantitative analysis. First, a quantitative analysis was undertaken to (a) calculate the number of memorable traumas reported by participants during their development, (b) calculate the frequency of different types of trauma, and (c) calculate the impact of these traumas on performance level. To address the latter, each grid on the graph was taken as 1 unit. The impact of each trauma was then calculated by (a) taking the vertical distance between the point where the trauma occurred and where the following decrease or increase in perceived performance level

reached its lowest or highest point, and (b) working out the percentage change in perceived performance level against the level at the time the trauma occurred. So, if a

trauma was followed by a drop of 1 unit from a perceived potential of 5 units, then this had a magnitude of 20% (i.e., 1/5 ×100 = 20%). An example of a perceived drop is shown on Figure 4.1.

If a trauma was followed by an immediate decrease in perceived performance level, I also calculated the "rebound" after the lowest point had been reached; or, more specifically, the percentage increase in perceived performance level from the lowest point after a trauma to the highest immediate point that followed. So, if the lowest point reached after a trauma was at 8 units and the highest subsequent point in the rebound was 10 units then this was calculated as having a magnitude of 25%. (i.e., 10/8 ×100 = 125%; thus a 25% increase on their prior perceived performance level). An example of a perceived rebound is shown in Figure 4.1.

Perceived performance level timelines from a track and field athlete. This timeline illustrates the performer's *perceived performance progression along their career. The first point illustrates when they first started in their event. As this timeline was drawn by a currently active athlete, the last point was their current perceived performance level at the time of drawing this timeline.*



A 'drop' in perceived performance

A 'rebound' in perceived performance

Setbacks described by performer:

1- Illness (nutrition/training volume)
2- Injury
3- Unexpected competitive loss
4- Significant injury

By calculating relative percentages, data were therefore relative to each participant and normalized to allow for comparison across participants. As I was not concerned with the time that it took participants to recover from traumas, no such calculations were made in this respect. To confirm, all of the final traumas recorded on each participant's timeline were perceived as "complete" (i.e., the full drop and rebound was perceived to have been experienced); therefore, no athletes were in the midst of a trauma during their interview.

4.2.4.2. Qualitative analysis. On completing the quantitative analysis, an entirely separate inductive content analysis was then conducted on the qualitative data to identify factors that were perceived to have helped the participants handle and recover from traumas. To be clear, these data consisted of quotes that related to each participant's experience of the reported traumas on their timeline. As such, any data on other aspects of development that were not related to trauma were not included in the analysis. Following the procedure in Côté, Salmela, Baria, and Russell (1993), the data were read and re-read several times, raw data units were transformed into thematic hierarchies by creating tags (e.g., "use of motivation to recover from first competition setback"; "management of social support after missed selection for World Championships"), grouping similar tags into sub-themes, and then organizing these sub-themes into a distinct framework of higher order themes. For the qualitative data analysis, transparency was aided by use of qualitative analysis software (QSR NVIVO 9).

4.2.5. Trustworthiness. As trust and rapport shape the process and outcomes of interviews (Sparkes & Smith, 2009; Chapter 3), these features were enhanced by my (a) full time role in the centre where the participants trained, performed, or were supported; (b) knowledge of each participant's career, and (c) awareness of the traumas of elite sport as an experienced practitioner. For the qualitative analysis, transparency was aided by use of qualitative software (QSR NVIVO 9). For example, conceptual memos were recorded to log

the rationale behind the interpretation and give a stimulus for discussion in the research team (Davis & Meyer, 2009). A journal was also kept to reflect on the research process and how any biases were interacting with the evaluation and categorization of data (Patton, 2002). To support a recursive process, constant comparison was also employed to evaluate, modify, and reinforce the developing findings (Corbin & Strauss, 2008). My interpretation was also challenged by presenting samples of meaning units and the themes to which they had been coded to my supervision team (or *critical friends*; Faulkner & Sparkes, 1999). Where alternative coding was suggested, discussion took place until agreement was reached. Finally, member checks were conducted over email and telephone so that participants could confirm the accuracy of their timeline and consider the accuracy, balance, fairness, and respectfulness of the quotes used in this Chapter (Sparkes & Smith, 2009). Recognising that "member checking cannot deliver objective knowledge" (Smith & McGannon, 2017, p. 4), and in line with my pragmatic philosophy, this process is not undertaken to "ensure rigor" (Smith & McGannon, 2017, p. 7) but to check whether the quotes captured the participants' own experiences as they had intended during the interview itself. No changes were made as a result of this process.

4.3. Results

The aims of this investigation was to explore (a) the perceived number and impact of memorable traumas faced by a sample of senior international athletes in their development, (b) the nature of these traumas, and (c) mechanisms that helped in handling and recovering from these traumas. Before considering the main results, it is notable that the progression graphs drawn by all participants were unsurprisingly non-linear. Additionally, while the perceived stages of development were similar to stages outlined by Côté (1999), Figure 4.1 shows two examples of the unique nature of each journey. Further, all participants sampled a range of sports before investing in one and, on average, started to participate in their main

sport at 9.6 years old. As such, no-one specialized early; although the sports that the sample participated in may have contributed to this finding. I will now return to consider the results in relation to the main aims.

4.3.1. The number and perceived impact of memorable traumas. Table 4.1 details the distribution of memorable traumas experienced by participants, the average size of the perceived drop in performance level immediately after each trauma, and the average magnitude of the consequent rebound.

Table 4.1

Distribution of Challenges and Average Magnitude of Perceived Drops and Rebounds in Perceived Performance Level.

	Challenge				
Measure	1	2	3	4	5
Number of athletes experienced perceived challenge	20	20	11	5	2
Average magnitude of perceived drop	12.3%	14.2%	11.4%	16.3%	26.0%
Average magnitude of perceived rebound	25.9%	27.3%	31.1%	34.8%	26.9%

Note: The average magnitude of perceived drop represents the decrease in performance level reported by the participants after a challenge, as measured against their potential immediately before the challenge occurred. The average magnitude of the perceived rebound represents the percentage increase in potential from the lowest point after a challenge to the highest immediate point that followed.

Notably, every participant reported that all memorable traumas were followed by an instant drop in perceived performance level (i.e., nobody stated that a memorable trauma was followed by the immediate maintenance of, or a positive difference to their potential). Apart from one trauma for one participant, all also reported later rebounds in perceived performance level that exceeded the magnitude of each initial drop.

While the average magnitude of the drops in perceived performance level were relatively consistent over traumas 1 to 4, the fifth trauma had the largest negative impact and preceded a similar size of rebound. In short, the size of the rebound was similar to the size of the setback, therefore suggesting less growth from this trauma as compared to traumas 1 to 4. In this way, later traumas may have provided more of a test and confirmation of skills established as opposed to another challenge to test then grow. Clearly, this suggestion must be treated cautiously given that it is based on two participants. Perhaps more robust, the average magnitude of each rebound increased over traumas 1 to 4; suggesting an improvement in trauma-relevant skills and confidence, as well as learning effects. Finally, the average age at the time of the first memorable trauma was 16 years old, aligning with sport investment. The average age of the second trauma was 19.5 years old, but incidence ranged from 16 to 25 years old.

4.3.2. The nature of memorable traumas. Table 4.2 illustrates the nature of the memorable traumas that were reported and their frequency across all participants. Almost all perceived traumas were sport-based, with the rest attributed to illness (all illness-related traumas were reported as perceived trauma 1 or 2 by these participants). In contrast to some of the literature reported in Chapter 2, no personal life events were reported as traumas.

Table 4.2

Nature of Perceived Challenges.

Reason for perceived challenge	Frequency challenge reported
Sport related	93.1%
Injury	36.2%
Missed selection	17.2%
Poor Performance	15.5%
Balancing sport with exams/work	6.9%
Settling into new team	5.2%
Technical changes	3.4%
Post-Olympic 'blues'	3.4%
Difficulty with coach relationship	3.4%
Pressure to maintain world ranking	1.7%
Transferring event	1.7%
Illness related	6.9%
Anaemia (lack of nutrition strategy for training)	1.7%
Illness-flu/virus (exam & comp season)	5.2%

4.3.3. Supporting mechanisms. When asked to reflect on factors that facilitated recovery from perceived traumas, all participants were able to identify a number of supporting mechanisms. These mechanisms were derived from the qualitative part of this Chapter and are shown in Table 4.3.

Table 4.3

Mechanisms Perceived to Support Rebounds after Challenges

Umbrella theme	Higher order theme	Lower order theme
Psychological characteristics	Motivation	Motivated to reach potential Desire to progress Motivated to prove others wrong Motivated to maintain work ethic Desire to succeed
	Self-belief	Confident in overall ability Confident despite challenges Confident to challenge self Maintained confidence despite doubts from others Confident to pursue higher performance demands
	Focus	Focus on global goal despite distractions Ability to manage variables and focus on task
	Protective attributions	Internally attribute successful performances Externally attribute unsuccessful performances
	Reflection and evaluation	Objective performance evaluations Highlighting process factors to develop Evaluation based on relevance to global goal
	Self-awareness	Awareness of strengths and weaknesses Performance based decisions
Social support	Identifying and using social support	Identify need for social support Identify positive and negative social support environments
	Management of social support	Control influence of social support Use of social support when needed
Learning factors	Applying learning from personal experience	Review experiences as development opportunities Apply learned techniques or skills Recognize and proactively approach potential problems Using previous challenge and recovery experience
	Applying learning from peer experience	Reflect on peer experience Learn from peers and vicarious experience

Specifically, these mechanisms were *psychological characteristics*, *social support*, and *learning factors*. I now describe each area and how they helped athletes to rebound from traumas.

4.3.3.1. Psychological characteristics. All athletes highlighted *motivation* as a key factor for stimulating and driving recovery from trauma. Notably, motivation was mentioned by all participants when recovering from their first memorable trauma; as per the following participant who had experienced a sustained period of underperformance:

> I stagnated in terms of my results at national level competitions and I did not manage anything internationally. So, I guess I caught a bit of a reality check. I wanted to be an international athlete, I wanted to show that. (1500m runner)

Notably, this motivation was present before the trauma occurred, with this event providing a significant "reality check" rather than any new skills. Similarly, *self-belief* was consistently identified as a factor in helping participants to handle memorable traumas:

> I think just the fact that I hadn't been chosen [for the national squad] made me think I know that I'm better than that. I'm better than you think and know I can perform better. So, it was a challenge. (Hockey player)

Once again, this event and the steps that followed were managed through the self-belief that the performer brought into this "proving experience". Participants also commonly referred to an increased *focus* on a specific goal post memorable trauma; thus, taking a previous skill but emphasizing it in light of its' recognized importance: "After coming back from that injury I felt I switched on more. I knew I needed to make each training session and each rep count" (Track & field athlete). As implied here, focus after a trauma often had general (i.e., make each session count) and specific (i.e., make each rep count) elements. Indeed, the ability to be clear and channel attention onto the most significant factors was referenced by many:

> After that performance I knew I just had to focus on me and the line, not get absorbed into someone else's race as I have done before. Just be confident, focus on me and what I was about to do. Get out and get in a good position. (100m sprinter)

As another key psychological characteristic, participants noted how *self-awareness* of their strengths and weaknesses helped them to handle and then recover from traumas:

> There were girls I was better than who were beating me in cross country; for me it didn't matter. Cross-country wasn't my biggest strength and I knew when it came to track season I would be ahead . . . . That's where it mattered. (Long distance runner)

Participants also reported a tendency for *protective attributions*. Indeed, by crediting success to internal, stable, and controllable factors and failure to external, transient, and uncontrollable factors, this helped to maintain self-esteem and motivation:

> I tried to balance full-time studies with training very hard for the Commonwealths. I was run down, got very ill and kept trying to train through it, and I went to the commonwealth's completely unprepared . . . . I had taken on too much, so then when Olympic year came I took a sabbatical to focus on training. (Steeplechase runner)

As a crucial qualification, this self-protective style of attribution was perceived as beneficial but at certain times and under certain conditions; a point which further stresses the merits of being able to select and deploy the best pre-existing skills for each trauma. Indeed, deeper and more frank appraisals were also indicated as important; something that was characteristic of the *reflection and evaluation* subtheme. One participant gave a particularly clear example of the value of accurate and measured introspection on "the why" of a trauma:

> I had it in my head I wasn't as fit as the year before and wouldn't be able to run three races in three days. So, I didn't really sprint for the line like I should have, I ended up getting dipped basically. It was well within my ability to make it, it was really just a confidence thing. I knew what I needed to do next time. (800m runner)

As described in this quote, the connection between inappropriate self-handicapping and a frustrating result was recalled as a key moment. Importantly, there also appeared to be a clear learning outcome from this episode in that the athlete reflected on why they failed to execute their race plan and then adjusted their approach so that this trauma would be less likely to re-occur, something that I pick up when discussing learning factors later.

4.3.3.2. Social support. As well as core psychological characteristics, participants also all described the value of *identifying and using social support*. Notably, nobody reported any particular parental pressure to partake or invest in their sport. In fact, parents were

perceived to have played a key supportive role, as did particular coaches. For example, such support during early traumas was regularly mentioned; including parents sacrificing their time and driving the athlete to training or competition and coaches going above and beyond their role to support development. For example, one participant outlined the support they received in relation to the trauma of leaving school:

> I felt pressure to get a job and pay my way. That's when I applied for a scholarship to go and ride in a team, which I got . . . . From then on I had trials and kept getting selected . . . . My parents were supportive and seemed happy with my decisions. I think it was because I was doing something I really wanted to do. (Mountain biker)

Coaches were also used to help participants' cope with trauma, often via their understanding the participant's needs and maintaining a sense of calm and confidence:

> My coach would always seem calm, even when I messed up. He just knew to give me time to myself after selection and we'd talk about it the next day. He kept confident I could make it, we'd just figure out what I needed to do. (Football)

As suggested, this trauma was managed by the coach's mutual understanding of how best to support the participant. Indeed, the value of coherence in participants' networks (cf. Martindale, Collins, & Daubney, 2005) – and using this coherence in a proactive manner – was stressed in all interviews.

Finally, as well as identifying and using social support, it was also recognized that this support had to be managed. Indeed, represented by the theme *management of social support*, participants described the importance of knowing when to use social support; especially when their current schedule required sustained energy and focus (e.g., during a period of technical refinement). For example, one participant described adjusting their relationship with friends who were (and would continue to be) a major support in helping to switch off from sport:

> After that [memorable trauma] I made the decision not to be going out partying with my friends. I wanted to concentrate on training and knew I couldn't do both. I made sure I still saw my friends but just in different circumstances. (1500m runner)

Once again, this supporting mechanism was present before the trauma was experienced but subsequently refined so that it could be used in a different and more conducive way.

4.3.3.3. Learning factors. Distinct from the aforementioned skills and attitudes, participants also noted the value of drawing on prior actual or vicarious experience to rebound from memorable traumas. Indeed, *applying learning from personal experience* was continually referred to from discussions of the second trauma onwards (as indicated by many preceding quotes). Specifically, effective rebounds were characterized by the ability to frame traumas against prior experiences, thus providing a "big picture" and re-igniting a desire for excellence:

> So, I guess [my previous] challenges have helped me mature in terms of helping me deal with challenges [that have followed later]. I put things into perspective and figured out exactly what I needed to do and be focusing on. (Distance runner)

As suggested by this quote, being able to rationalize traumas with a broadened view helped participants to adapt and optimize the efficiency of their development. There additionally seemed to be a large element of learned resourcefulness (Rosenbaum, 1990) when dealing with traumas, as particularly enabled through *applying learning from peer experience*:

> When I was 17, I didn't perform well but there was one other archer on our squad who won individual gold in Cyprus on a junior European Cup. This made me realize well if he can do it why can't I? (Archer)

In short, if one had not experienced a trauma, or a particular type of trauma, before then the meaning and lessons on how to respond effectively could often be taken from others. Once again, this mechanism was taken into – rather than caused by – the trauma faced.

4.4. Discussion

The purpose of this Chapter was to deepen understanding on the role of trauma during the development of successful senior performers. In line with objectives 1, 2, 3 and 5 indicated in Chapter 1 (page 15) aimed to research perceptions of (a) the number and impact of perceived memorable traumas, (b) the nature of the traumas, and (c) mechanisms that helped with handling and recovery. By exploring the temporal course of growth using multi-methods (cf. Sarkar et al., 2015), this research has supported Collins and MacNamara's (2012) proposal that talent needs trauma and, perhaps more importantly, added depth to the description and explanation of how trauma might impact development.

Firstly, and critically, no two pathways were the same; each participant reported a unique development journey, stressing the importance of individualisation. Furthermore, the mechanisms and application of skill is individualised, with no specific skill utilised by performers for specific traumas. It was notable that memorable traumas were not reported by participants until 7 years after starting their chosen sport; around 16 years old on average (cf. Rees et al., 2016). Perhaps accounting for why traumas were not reported earlier, it is telling that the first perceived trauma was faced in the initial phases of investment. As investment usually requires higher levels of time and commitment (Côté, 1999), it may be that traumas at this point had a more significant impact than those faced before; especially as performers tend to expect to progress gradually and smoothly (cf. Henriksen & Mortensen, 2014). In short, traumas at earlier ages may not have been perceived as memorable due to lower levels of personal investment and less worry (or awareness) over what this trauma may have meant for the present or future. Alternatively, they were insufficiently memorable because they lacked impact on the focus of my investigation; namely, sport performance.

Regarding the impact of traumas, it was notable that perceived performance level after these events was almost always greater than it was before. Positive rebounds also

increased with each trauma, except for those who reported five memorable events. Although a definitive and generalisable lesson from this point is clearly not possible, this trend from trauma 1 to 4 suggests that the rebound mechanisms (i.e., psychological characteristics, social support, learning factors) may have been increasingly enhanced over each trauma. Accounting for the marginal last rebound for the two participants who reported a fifth trauma (illness and difficulty with a coach relationship), this might reflect the use of mechanisms that had already been added to, reinforced, or honed several times, *or* a situation that offered little new learning. This last trauma may have thereby been more of a proving experience than chance to grow: perhaps all potential growth had been achieved by that point? In terms of the nature of the memorable traumas, almost all were of a sporting nature with a small number related to illness. Contrary to previous work (Fletcher & Sarkar, 2012; Howells & Fletcher, 2015), there was a distinct lack of life or non-sport trauma reported; a finding more in line with the primarily sporting challenges reported in Sarkar and colleagues (2015) and by Collins, and colleagues (2016a). While it is both impossible and illogical to separate the "person" from the "performer," it is telling that the present Chapter's use of primary data acquired for research purposes – as per Collins and colleagues (2016a) and Sarkar and colleagues – elicited notably different findings to research that has acquired secondary data from publicly consumed autobiographies (Howells & Fletcher, 2015). Accordingly, life and non-sport trauma may clearly have an impact on the individual but the extent to which these are directly linked to development in sport and one's sporting identity may be questionable.

In terms of the mechanisms for handling and rebounding from traumas, these results support prior work on the role of PCDEs (e.g., MacNamara et al., 2010a). Indeed, numerous characteristics found in this Chapter overlap with those reported in this area of research to date (e.g., motivation; self-belief; focus, social support, etc.). In line with constructs that reflect a constellation of attributes (Collins et al., 2018; cf. resilience; Sarkar & Fletcher,

2014) these findings point to the significance of having a variety of skills and attitudes that are then combined and deployed at appropriate times; what might be thought of as the skills which underpin the attribute. Of specific note, motivation seemed to be particularly useful for early traumas; perhaps due to it being a strong driver for investing in a sport. Indeed, when performers start to devote more time and energy into their sport, it seems logical to suggest that they would be particularly motivated to overcome early traumas.

Regarding social support, this mechanism has been well-reported in prior work (e.g., Galli & Vealey, 2008; Gould et al., 2002; Rees & Hardy, 2000). While this Chapter did not intend to delve into all of the different *types* of social support used by performers, the results did suggest that this feature provided benefits when coping with and rebounding from a trauma. Indeed, Morgan and Giacobbi (2006) have already noted that athletes' use of social support and relationships can be valuable for dealing with challenges and adversity. Pertinently, the findings in this Chapter also highlighted the role of autonomy in managing social support. Autonomy and control have previously been linked to individuals' decisions to make relevant sacrifices leading to higher success rates (Fazey & Fazey, 2001). As such, it is not just the availability and use of social support that seems to help negotiate traumas but also how it is proactively managed so that performers get what they want *when*, *where*, and *how* they want it. I return to this finding at the end of the thesis.

As the final mechanism, further evidence has been found for the key role of learning in response to memorable traumas. Specifically, I found that participants did not only use psychological characteristics and others to get through traumas but also relied on basing their response on personal or others' experience. Closely integrated with reflection and evaluation (or the process by which accurate and meaningful lessons were formed), this finding suggests that, while learning can clearly be stimulated *after* a challenge (Sarkar et al., 2015), it is the learning or skills that athletes bring *into* the challenge that also seems crucial. Indeed,

principles of posttraumatic growth suggest that individuals need to manage any initial distress before constructive cognitive processes can occur (i.e., changes in thinking which lead to enhanced functioning; Calhoun, Tedeschi, & Tedeschi, 1999). As such, PCDEs or the like may influence both this initial appraisal and the post event ratiocination (Lazerus, 2006).

Beyond the core results, two other particularly significant and distinguishing findings must be mentioned. Firstly, participants did not report that they had to use or learn anything particularly new when coping with their memorable traumas (e.g., a new skill or source of support). Rather, their accounts suggest that they used and refined what they already had or did (e.g., increased their focus in each training session; managed existing social support). As such, while traumas were perceived to have caused drops in perceived performance level, they certainly did not appear to be the *cause* of the consequent rebound. As suggested throughout the Results and Discussion so far, it was the tools that the participant brought *to* the traumas that seemed to be most important in how traumas were negotiated. Second, in *no* case was the successful negotiation of a trauma attributed solely to new information or support provided by other people. Indeed, solutions to drops in potential appeared to be chiefly self-driven.

4.4.1. Applied implications. Considering the applied implications of these findings, causative relationships were clearly not identified through the design employed. However, based on the descriptions provided by participants and prior work (Collins & MacNamara, 2012; Sarkar et al., 2015), it does seem realistic to support the contention that talent *does* benefit from certain types of trauma during development. These findings also suggest that such experiences are not the source of developing entirely new skills, attitudes, and learning but rather, more of a proving experience where already present (but not necessarily high-level) skills, attitudes, and learning are tested and refined. Thereby, trauma can offer a chance to add to, hone, or reinforce one's abilities and apply perspective to development.

Building on prior advice (e.g., Collins & MacNamara, 2012; Crust & Clough, 2011; Sarkar et al., 2015), it therefore seems important that performers are encouraged to deal with traumas that they experience head on. The athlete's support network will of course be integral for this, especially for avoiding rapid resolution (when appropriate). Indeed, rapid resolution may prevent an athlete's assumptions being sufficiently tested, thereby limiting or nullifying any schematic change or later post traumatic growth that could contribute to long-term success (Tedeschi & Calhoun, 2004). Certainly, self-regulated learners can acquire core skills to support current and future learning, such as self-monitoring, emotional management, investing in self-improvement and seeking help from others (Petlichkoff, 2004). In contrast, individuals without these skills may ultimately take limited responsibility, typically relying on others and attributing failures to maladaptive reasons (MacNamara et al., 2010b).

Moreover, the results further support the assertion that athletes should be challenged regularly to aid growth and avoid stagnation (Bull et al., 2005; Collins & MacNamara, 2012; Crust & Clough, 2011; Sarkar et al., 2015). To be clear, I am not suggesting that memorable traumas are forced by program leaders; indeed, the memorability of a trauma is clearly a matter of personal interpretation. Rather, it seems reasonable to promote, in accordance with prior work (Collins & MacNamara; Crust & Clough, 2011; Galli & Reel, 2012; Sarkar et al., 2015), the inclusion of appropriately structured and managed trauma (or challenge) in talent programs. Specifically, trauma that (a) elicits a challenge rather than a threat state (Kassam, Koslov, & Mendes, 2009), (b) are given to athletes with sufficient skills, attitudes, and prior learning to take it on and benefit, (c) are delivered in a supportive environment, and (d) which elicit outcomes that can all be framed with a developmental lens. Indeed, deliberate experience has already been identified as an effective way to aid the development of expertise (cf. Durand-Bush & Salmela, 2001; Ollis et al., 2006). As an example of structured trauma, athletes may be intentionally promoted to a level or squad that will be difficult for them to

handle on a technical and tactical level (i.e., being exposed on some level is almost guaranteed). Crucially, however, this challenge is provided to athletes who have proactively developed a base of psychological skills that will help them to cope with the challenge (e.g., focus; self-belief). Additionally, program leaders and staff will help these athletes to prepare for the challenge (e.g., developing performance goals and plans) and then focus on their learning around the performance-specific goals and plans in the review process. Indeed, the provision of appropriate support from program leaders and staff will be integral to maximizing growth from such structured trauma. Critically, support should be individualised throughout the pathway to tailor for each performer's typically unique route. For example, skills may be learned and refined at different rates, an athlete's perception of the magnitude of a trauma will vary, as will their response and any subsequently required support to work through the trauma (Collins & MacNamara, 2012; Collins, MacNamara, & McCarthy, 2016).

Further, the results stress the need to proactively and intentionally develop supporting mechanisms *in advance* of young athletes' inevitable challenges. This point extends Collins and MacNamara's (2015) and Sarkar and colleagues (2015) advice on the need to provide more opportunities to take on, engage with, and debrief traumas. Indeed, as well as providing regular traumas and facilitating learning *post hoc*, findings point to the importance of ensuring that athletes have the appropriate skills, attitudes, prior learning, and confidence *a priori*. So, rather than placing performers into "sink or swim" situations (please note that I do not suggest that Sarkar et al. advocate this), these findings illustrate that floats and armbands also need to brought to the pool. Indeed, while research has found that many performers benefit from adversity, the results, anecdotal evidence, and common sense suggest that those who do not have sufficient "up-front skills" will be less likely to reach their potential and more likely to withdraw from sport. As such, talent appears to *need* trauma rather than be caused by it (cf. Howells & Fletcher, 2015).

4.4.2. Limitations. Of course, this Chapter was not without limitations. For example, as data was collected retrospectively (and as identified in Chapter 3), there is a risk of interaction from hindsight and self-preservation biases, as well as issues with recall accuracy. Furthermore, the design also did not allow to draw concrete conclusions on any causative relationship between the mechanisms reported by participants and their ultimate development and success; neither did it allow us to disprove suggestions in other work that implies causative relationships between trauma and progress (e.g., Howells & Fletcher, 2015).

4.4.3. Summary. To summarize, these findings suggest that practitioners should: avoid (or at least be highly sceptical of) making *performance*-based decisions (e.g., selection; provision of additional support) on the basis that an athlete has faced non-sport or life traumas; help performers to proactively develop psychological characteristics of developing excellence and social support that can be *brought* to traumatic experiences (MacNamara et al., 2010a, 2010b); use trauma as a "skill-proving" rather than "skill-causing" experience; be mindful that rapid resolution might lead to sub-optimal growth from trauma; support post-trauma learning; and, finally, proactively structure and manage appropriate trauma in TD programs. While some of these recommendations are consistent with other studies in this developing area, it should be noted that many are also in notable contrast to the suggested causative role and benefits of non-sport or life trauma (e.g., Howells & Fletcher, 2015; Rees et al., 2016; Sarkar et al., 2015).

In conclusion, this Chapter provided further evidence that traumas, or memorable challenges that disrupt a performer's development, play an important part in the development of talent. Specifically, these findings support the proposal that talent needs rather than is caused by trauma; with this trauma primarily being of a sporting nature and negotiated with a host of skills that are brought to the experience. Indeed, traumas seem to be more of a

proving experience than a means to learn entirely new skills or approaches, or to simply be resilient. This Chapter stimulates continued research on the processes and mechanisms that shape performers' interpretations of, and responses to traumas; including further exploration to exactly how skills are in fact useful. Accordingly, the next Chapter explores how psycho-behavioural skills help performers negotiate challenge. More specifically, the next Chapter explores the nature and impact of trauma in more personalised detail, in order to clarify the nature and mechanism of the effect.

Chapter 5: Perspective, Control, and Confidence: The Role of Psycho-Behavioural Skills in Negotiating Developmental Trauma

5.1. Introduction

Chapter 4 explored; what traumas performers encountered, the performers perceived impact of the trauma, and what the traumas required of the performers who face them. As described in Chapter 4, this work has found that growth after a traumatic episode is often supported by *pre-existing* psycho-behavioural skills that help performers to prepare for, cope with, and learn from the experience (see Collins et al., 2016b; MacNamara, et al., 2010a, 2010b). More specifically, Chapter 4 found that trauma-related growth was facilitated by the performers' use of psychological skills, social support, and learning factors. The psychological skills identified included; *motivation*, *self-belief*, *focus*, *protective attributions*, *reflection and evaluation*, and *self-awareness*; social support included *identifying and using social support* and *management of social support*; and learning factors included *applying learning from previous experience* and *applying learning from peer experience*. In this way, the findings in Chapter 4 reinforced the suggestion that trauma provides a proving experience for performers, where *current* skills can be deployed and refined, rather than the cause of acquiring *entirely new* skills or perspectives. This is not to say that other researchers have specifically and explicitly stated that trauma causes the generation of entirely new skills or perspectives; however, a number of studies have suggested that trauma causes enhanced development or future success *without* explicit or detailed reference to the skills that might have already been in the individual's possession before the setback (e.g., Sarkar et al., 2015).

Although Chapter 4 has provided evidence on *what* has helped performers to achieve post-traumatic growth, further investigation is needed to understand *how* psycho-behavioural skills actually help performers to negotiate traumatic events. For example, research has identified that performers to use social support (Seery, 2011) to help negotiate challenge but

has yet to explore how psycho-behavioural skills are used to address each step (i.e., in what way, at what time and for what purpose). More specifically, if growth after a trauma is based on an individual managing their distress before proactively reconciling their pre-trauma beliefs against information and outcomes related to the trauma (Calhoun, et al., 1999; Joseph, et al., 2012; Tedeschi & Calhoun, 2004), then it is important to explore the extent to which psycho-behavioural skills support this process. Put simply, practitioners currently have a breadth of empirical evidence on *what* psycho-behavioural can help performers to negotiate trauma; however, we do not have sufficient evidence on *how* they are in fact useful; which inevitably limits potential to provide optimal, evidence-based support across contexts. Accordingly, in line with objectives 4 and 5 stated in Chapter 1 (page15), the aim of this Chapter was to explore the means by which psycho-behavioural skills may actually facilitate the negotiation of and growth from trauma, or memorable challenges, during the development of successful senior performers. It was anticipated that the findings would further understanding of a skills-based approach to talent development plus, inform the continued evolution of talent development programmes.

5.2. Method

5.2.1. Research strategy. In terms of the specific research strategy, it was decided that a qualitative approach would be appropriate for exploring how psycho-behavioural skills might help performers to negotiate traumatic events (Denzin & Lincoln, 2008). In line with my pragmatic philosophy, qualitative research was used to develop a useful map of the world rather than a correct one and shed light on the details of particular contexts or events; in this case, the traumatic experiences faced by performers during their development (Denzin & Lincoln, 2008; Strean, 1998).

5.2.2. Participants. A convenience sample of six high level athletes (three male and three female) were recruited from a high performance centre in the UK, all aged between 24

and 28 years old (*M* = 25.66; *SD* = 1.63). The sports represented by this group were different events in athletics (long distance, middle distance, 1500m, and high jump) plus equestrian. To be clear, these sports were not intentionally chosen but reflected the sports of the athletes sampled. Whilst the athletes where recruited through my place of work, it is important to note that the majority of events recalled did not occur before the athletes became part of the high performance centre and were known by myself. More relevant in relation to this Chapter's purposes, the same inclusion criteria were applied as in Chapter 4. All of these athletes were currently competing at senior international level in their sports, were on a funding programme within their sport's national governing body, had previously achieved a senior international medal in the last two years, and had been on a development pathway before reaching senior level for between six and 12 years. As such, it was assumed that this group would have encountered a number of memorable challenges on their way to becoming high-level senior performers (as was subsequently confirmed through the data collection and analysis procedures). Additionally, and in line with principles of idiographic research, the sample size was appropriate in allowing for intensive analysis of each case and a locatable voice within the Chapter's results section (Robinson, 2014). Indeed, the sample reflected my aim to explore specific applied examples in detail rather than generate generalizable truths.

5.2.3. Procedure. To support recall and provide a frame for discussion, and as in Chapter 4, each participant was asked to firstly plot their perceived performance timeline on a chart (to ensure consistency, these charts were drawn onto gridded paper and made to the same scale). Specifically, participants were asked to plot their perceived level of performance, starting from first involvement in their sport up to the present day, with each individual deciding on their lowest and highest levels of perceived performance. Participants were then prompted to highlight any particularly memorable challenges throughout their development (cf. Cruickshank et al., 2013; Ollis, et al., 2006; Savage, et al.; 2017). Once the

timeline was completed, participants were encouraged to review the overall picture and make any relevant amendments before further exploration. From this point, discussion then revolved around the reported challenges using a semi-structured interview guide (see appendix A.6. for interview guide), with prompts and probes used to tease out specific information related to the skills deployed and their perceived effects. For clarity, this interview guide was constructed to work around individual timelines with questions used to explore and elicit detailed perceptions of each marked experience (e.g., what occurred here? What happened before this experience?). Subsequently, specific probes and prompts were employed to clarify and expand on relevant points (e.g., why did you react that way? Did anything not help your response? What did X do that was helpful?).

This entire procedure had been developed and described in Chapter 4. It was further refined through a pilot study conducted with two performers (one hockey and one badminton player) whose background and profile matched those who participated in this Chapter (*M* age = 24.5; *SD* = 0.7). Overall, only minor adjustments were made to the data collection process as a result of the pilot study. For example, additional time was built in to reflect over the timeline before beginning the semi-structured interview (so that participants had sufficient opportunity to check and challenge their perceptions). Furthermore, all graphs were drawn in pencil with erasers provided to ensure clarity when making amendments. All interviews with these main participants were conducted by me, lasted between 90 and 120 minutes, and were recorded for transcription and analyses. Ethical approval was obtained from the institutional ethics committee and informed consent gained from each participant prior to their interview. The participant information sheet and informed consent form are presented in Appendix A.4. and A.5., respectively.

5.2.4. Data analysis. After all interviews had been transcribed, an inductive content analysis was conducted using relevant software (QSR NVIVO 10). In line with

recommendations in Côté, and colleagues (1993), all transcripts were read and re-read to optimise familiarity before raw data units (i.e., direct quotes on how psycho-behavioural skills helped to negotiate identified memorable challenges) and were assigned descriptive tags (e.g., "use of failure to meet performance expectations to confirm long-term purpose", "use of injury to refine training approach in line with goals"). Similar tags were then grouped together into sub-themes which were then categorized into higher order themes that encapsulated the full data set.

5.2.5. Trustworthiness. Regarding the analysis process, efforts were also made to recognise and manage assumptions and biases. The underpinnings to these methods have already been presented in Chapter 3. Furthermore, similar methods utilised to established trustworthiness in Chapter 4 were employed in this Chapter. Specifically, conceptual memos and a reflective journal logged throughout the data analysis process. My rationale for individual interpretation of data was logged as a conceptual memo which provided discussion points within my supervision team (Davis & Meyer, 2009). As with Chapter 4, the use of a reflective journal was employed to manage how potential biases were influencing the analysis (Patton, 2002). The process of developing themes was subject to comparison to ensure all themes were thoroughly assessed, modified (where relevant) and reinforced (Corbin & Strauss, 2008). Additionally, my supervisory team acted as critical friends by reviewing, challenging, and suggesting refinements to the tags and themes (Faulkner & Sparkes, 1999). The consequent adjustments were primarily related to the labelling rather than the grouping of themes. To check the accuracy, balance, fairness, and respectfulness of quotes presented in this Chapter (NB. not the developed themes and overall results: cf. Smith & McGannon, 2017), member checks were finally conducted with all participants (Sparkes & Smith, 2009). This process did not lead to any changes.

5.3. Results

Against the recent promotion of a skills-based approach to the development of talent in sport, the aim of this Chapter was to explore *how* psycho-behavioural skills might precisely help performers to negotiate memorable challenges during their journeys to senior success. Firstly, it is important to note that a range of traumatic events were encountered by the participants along their development pathway, including underperformance, injury, missed selection and coaching challenges (NB. no major life events were self-reported). It is also important to confirm that psycho-behavioural skills were once again implicated in the process of negotiating these memorable challenges. Specifically, participants in this Chapter referred to the use of a number of previously identified psycho-behavioural skills, including: focus and distraction control, realistic performance evaluation, planning and organisation, self-awareness, self-regulation, goal setting and self-reinforcement, and creating and using support networks (MacNamara, et al., 2010a, 2010b; Savage et al., 2017). All of these skills are conveyed within the quotes presented below. More significantly in relation to the focus of this Chapter, however, these skills were found to have supported *perspective in the response to trauma*, *control of the response to trauma*, and *belief in the response to trauma*. In other words, these are *how* psycho-behavioural skills helped; not just *what* the skills were. More specifically, the performers' psycho-behavioural skills helped them to frame the trauma against the bigger picture, take responsibility for their response, and have confidence in their ability to recover and grow. Table 5.1 displays the higher order and sub themes identified.

Table 5.1

How psycho-behavioural skills supported growth from trauma.

Higher order themes	Sub themes
Supported Perspective in the Response to Trauma	Clarify & confirm their purpose Check & confirm enjoyment in their sport Accept the inevitability of future challenges
Supported Control of the Response to Trauma	Take personal responsibility Adjusting their macro-level approach Adjusting their micro-level approach
Supported Belief in the Response to Trauma	Retain belief in achieving their goal Retain belief in overcoming future trauma

The following sections now describe these higher order themes and their sub-themes through illustrative quotes.

5.3.1. Supported perspective in the response to trauma. Representing the first developed theme, participants described how psycho-behavioural skills helped them to gain and then use perspective when reacting to traumatic events. More specifically, participants reported that their skills had helped them to *clarify and confirm their purpose*. As an example, one participant described how their skills in reflection, using social support, and focus and distraction control helped them to reaffirm their purpose after missing an Olympic Games due to injury:

> At the time, missing out on Beijing was the biggest thing ever, because I was pretty certain that I was going to go that year. I had no motivation to do anything else, my [university] course suffered; but by talking to people about what happened I realised I still wanted to be a professional athlete . . . I started to focus on cross-training and rehabbing properly. (1500m athlete)

Similarly, another participant described their response to underperforming at their first major event: in the practice rounds s/he achieved what would have been first place scores; however, s/he then failed to achieve any score in the competition:

> It was a toys out of the pram situation. It was a big shock; my first big failure. I talked with my competitors and realised they compete regularly against each other of a similar level. I sort of realised I needed to be in these bigger competitions to become professional. I needed to get out of my small club and compete with the big boys… I sat down with my coach and we agreed a plan for the next year, we even discussed I may need to leave join a new group for specialist coaching (High jump athlete)

As illustrated in this quote, self-awareness and planning skills helped this participant to gain clarity and confirm their ultimate purpose during this memorable setback. Similarly, another participant reported how their ability to learn from their peers and self-reflect helped them to clarify and confirm their purpose when, after a largely setback-free junior career, they faced a major early setback at senior international level.

> I'd [reached senior] international competition without really having to work very hard for it. But then I didn't manage to do anything internationally that year, so I caught a bit of a reality check. I saw my competitors approach things really professionally and started to think if I could do that. I started thinking I'm going to be a successful international athlete.' (Long distance athlete)

As well as using their psycho-behavioural skills to clarify and confirm their purpose, participants also noted how these skills helped them to *check and confirm enjoyment in their sport*. Indeed, all participants reported the significance of maintaining enjoyment in response to traumatic experiences; in effect, working as an emotion-focused coping strategy. For example, one interviewee described how realistic evaluation against their core values, plus

some focus and distraction control, helped them to respond to missing selection for a major international competition:

> The negative emotions of missing such a big selection made me question [myself]: "Is it was worth it? Why do I do this?" It helped me realise I still enjoyed aspects of it even when one part was going wrong. It has always been important for me to enjoy what I do . . . . [In fact] the day to day enjoyment of training was still there, which I think is quite weird . . . [as] my other friends hated going training. My coach was good at supporting this, he knew I preferred to train with people for my session, so he always tried to arrange someone to train with me.' (1500m athlete)

Similarly, another participant noted how self-regulation, focus and distraction control, and quality practice helped them to overcome a memorable performance dip after the Olympics; with their performance at these Games hindered by an injury sustained 4 weeks prior:

> [I was experiencing] a bit of disengagement because 2013 wasn't as exciting as 2012. And [there was] a little bit of self-preservation because I had put absolutely everything into 2012 and had got a bit hurt [i.e., by not performing as well as they would have liked given their injury]. Although, I did always keep enjoying the process of training [during the period of the performance dip] so I focused on that. I kept up my training diary training as I enjoyed filling it out and seeing progress.' (1500m athlete)

As conveyed, the skills used here by the performer appeared to help them compartmentalise their lack of excitement to compete and maintain a positive approach by focusing on where else enjoyment could come from. This approach was also apparent in others, with a fellow participant recounting their experience of missing selection for the Beijing Olympic Games, after achieving the qualifying time, due to injury:

> [In spite of my training partners going to the Games], I kept training right through until the end of season break. I still enjoyed training and hitting those targets, I perhaps didn't approach it very professionally, but I didn't really know how to because I kind of didn't have to do that [i.e., respond to that type of setback] before. (Middle distance athlete)

As well as pointing to the use of focus, self-regulation, and goal setting skills to maintain a positive approach during a period of notable disappointment, it is interesting to note that a gap in this participant's skills apparently limited the scope of their response and therefore the probable return of their investment in this training period (i.e., skills that would have helped to support a more professional approach). In short, the trauma did not seem to *create* any new skills but, provided an opportunity to deploy and refine those that were already present.

Beyond using psycho-behavioural skills to check and confirm enjoyment, participants also reported that such skills helped to *accept the inevitability of future challenges*. Perhaps unsurprisingly, accounts relating to this feature typically occurred later in the pathway and after multiple trauma related experiences. Indeed, this theme was generated from data that related to participants' experiences of their third or later memorable challenge. For example, an athlete who had faced several injuries described developing awareness of occurrence and how to rehab appropriately: "things will never change, they will always be difficult, but I understand more why things happen and how to deal with them and what to do" (Athletics, distance athlete). As implied, the use of realistic evaluation and self-awareness appeared to be important elements of this performer's acceptance of future injury-related setbacks and therefore perspective on their continued development. Following a particularly disappointing performance at a key event, another performer noted how they also used realistic evaluations and self-awareness to hold a more balanced perspective on their performance as well as the unpredictability of sport:

> I think I just learned more about the sport and getting to see that anything can happen. I think I understood the sport more, started to appreciate [it] and not ignore my good performances; and using the right mental tools to the get most out of it all.'
>
> (Equestrian athlete)

5.3.2. Supported control of the response to trauma. As well as supporting perspective in their response to traumatic events, participants also reported that psycho-behavioural skills helped them to acquire *control of the response to trauma*. Within this theme, the interviewees described how such skills helped them to *take personal responsibility*. Indeed, participants reported how reflection that focused first and foremost on themselves – rather others or the surrounding circumstances – often helped to maintain control during challenging times (instead of focusing on external factors, whether these factors had actually played a greater role in their traumatic experience or not). In the following case, one performer recounted a memorable underperformance at their first event in a higher level of competition:

> I was training really hard but my first race at that level didn't go well and that was stressing me out. It was a mixture of over-training, the course, not performing as well as I wanted, but it was probably because I was over-training. So yeah we just changed how I trained, I learnt more about my body, what I can and can't take.'
>
> (Middle distance athlete)

As well as self-focused reflection, taking personal responsibility was also often achieved via skills related to goal setting using coaching support. Indeed, knowing how to manage coach interactions was echoed by many. For example, one participant reporting using self-focused reflection (and then planning) to identify behaviours that were hindering an effective coach-athlete relationship and then gain better control over this area:

> I was just terrible at keeping in touch [when I was training in a different country]. I treated him awful when we were out there, without a word of thank you for what he'd done before for me [i.e., in terms of developing training programmes]. Yeah it was terrible. I realised that when I came back after my injury and changed to having a lot of contact with him. (Long distance athlete)

Further conveying the role of psycho-behavioural skills in promoting personal responsibility, participants reported how the use of initial skills then helped with the later deployment of others. For example, one performer described how they now used self-focused reflection to set up appropriate goal setting and focus and distraction control after memorable challenges:

> When something goes wrong [now], instead of panicking, I'm like ok I am having a problem, why am I having a problem? Are there any factors? Am I tired or anything? And if it's not happening I just go and do something else, instead of worrying myself about it and getting stressed and anxious because then it is just going to get worse. (Equestrian athlete)

As well as aiding personal responsibility, another reported value of psycho-behavioural skills to performers was their role in *adjusting their macro-level approach*. For clarity, this refers to the performer's overall approach to training and competing and therefore equated to performers making a significant change. Indeed, based on information gained through the trauma, performers revealed how certain skills helped them to consider and adapt the main pillars of their approach and environment so that they remained on track for their long-term goals. For example, after missing selection as part of a team for a World Championship, one performer used realistic evaluations, goal setting, and planning to forge a new route toward their ultimate aspirations:

> The team didn't get selected [for the World Championship] and I wasn't selected for an individual either. I just thought that if the team comes first and I can't have any

> individual training then why should I stay with the team? [Reflecting on the situation] made me realise the team wasn't good enough and I needed to work as an individual. That was the only way I was going to get up to the standard because I didn't feel like my team members were going to push themselves. (Equestrian athlete)

Similarly, after underperforming at major international events, others recounted how they had identified that their current training environment was not conducive for optimal development. Again, through reflection, self-awareness, and planning, these performers reported adaptation and sustained control of their development:

> So, it was very much for me [about] . . . the opportunity to train, to train professionally. So, I went to America on a scholarship. I was going out there to be a professional athlete for 3 years and see if I could get a contract or funding to make myself a pro athlete on my return in 3 years' time. (Long distance athlete)

Likewise, another participant described how they had responded to not meeting a qualifying standard for a major international event; this time noting the use of self-regulation as an important precursor for the deployment of other skills (e.g., goal setting and planning):

> It was like a kick in the stomach not to be selected. I took a few days to let off some steam as I didn't need to focus on getting qualifying times . . . . It was a bit of a wake-up call, I want to be professional, so everything has to be more professional.' (Middle distance athlete)

As well as significant changes around the performer's place of training and overall focus (i.e., their macro-level approach), participants also discussed *adjusting their micro-level approach*. For clarity, this refers to more specific, smaller scale aspects of the performer's approach to training and competing and therefore equated to performers making more subtle changes. More specifically, performers revealed that psycho-behavioural skills helped them to adjust more specific aspects of their approach and environment. For example, participants

described how such skills helped to adjust their training focus; as in the following case where realistic evaluation and planning enabled a positive response to a long-term performance plateau (which was also associated with a macro-level coaching change):

> I kept thinking I'm going to fail; I did last year; I did the year before. I didn't recognise it [and] you kind of get into a downward spiral. My coach [subsequently] kicking me out of the group made me think I need to decide realistically what I need to do. Either quit or make a massive change. So, I ended up getting a new coach; he was really positive which was refreshing. I approached training in a different way: I focused on other aspects of training rather than just PBs.' (High jump athlete)

As a further example of micro-level adaptation, one performer who had underperformed at a major championship described their reflection and goal setting around preparation for and execution of races:

> I went to the Europeans and thought 'what if I was first Brit? That would be awesome'. And I wasn't [in the end]; I was third Brit. I just thought I'll just have a decent performance and that's it. I didn't think about winning. [So, after reflecting] I decided I needed to focus on attacking races more and not cap myself. I raced a hell of a lot of races. I now think there is no point in being there if you're not going to give your best race.' (1500m athlete)

Further in relation to competition, another performer reported on the use of self-awareness and planning skills to manage nerves and setbacks between competition rounds; as developed through performing below expectations in an opening round of a major competition:

> I can just get back on and I can get over this. And even if I can't get over it I have tried hard and maybe I take a different route round the problem . . . . There is always a different way around the problem.' (Equestrian athlete)

A similar impact of skills was also recognised in training, with another performer describing how they used reflection, goal setting, self-regulation, and social support networks to adapt after repeated injuries:

> It was massively frustrating to get injured again; I was pissed off to say the least. But it was the kick I needed to realise I wasn't training smart, I was doing secret training and not being honest with my coach. But [after adapting my approach] I would just say let's go for food and speak for an hour . . . I [also] started cross-training with athletes who had been injured too so I kind of learned how to get over an injury and things. I was a bit more aware of how people trained when injured. (1500m athlete)

Indeed, a number of other participants described injury experiences, with one describing how skills such as self-regulation and self-awareness helped them to adjust their future training:

> I definitely reacted differently, because I had been through it before; it wasn't as big a shock, so I wasn't like "this is the worst thing ever". So, I already knew how to cope with it. So yeah, we just changed how I trained, I learnt more about my body, what I can and can't take. (Middle distance athlete)

5.3.3. Supported belief in the response to trauma. As the final higher order theme, participants referred to how psycho-behavioural skills *supported belief in the response trauma*. Making up part of this theme, participants described how such skills helped them to *retain belief in achieving their goal*. For example, performers commonly noted how realistic evaluations and self-reinforcement protected their confidence for reaching longer-term objectives; as reported by one participant who underperformed at a major international competition: "I probably wasn't giving the best physical representation of myself and I told myself, you're better than that; you're better than that" (Long distance athlete). Similarly, another performer shared their response to a missed selection as a result of injury before an Olympic Games: "it wasn't that it was my last chance at an Olympics and that was it. I still

had more Games and Worlds within me" (Middle distance runner). The function of realistic evaluation and self-reinforcement was once again evident in another performer's account, whereby these skills helped them to retain belief in achieving their ultimate goals:

> I just learned more about the sport and that anything can happen. Seeing that you had beat someone one year and [then] watching them go and . . . beat everybody [else] gives you that belief that it can happen. It was suddenly realising that I had beaten any one of them on a different day.' (1500m athlete)

As a final example, participants also frequently highlighted the use of skills to retain belief in relation to injuries; especially those that prevented participation in major events. Indeed, one performer conveyed the use of focus and self-regulation skills to maintain belief in achieving their goals in such a situation:

> Coming back from an injury in early outdoor season meant I didn't run well at trials, but I still had a consistent belief in my ability to win races. From talking with a sport psychologist, I reflected on my races and realised I was inconsistent, in my approach, my plan, my thought processes. I started to rationalise the aims and results of my performances in relation to where I should be in the season taking into consideration if I had any niggles, was coming back from injury and what kind of shape I was in. I was able to win races, I proved that I just need to work on consistently performing. (Middle distance athlete)

As well as retaining belief in achieving their goals, participants also described how their psycho-behavioural skills helped them to, *retain belief in overcoming future traumas*. For instance, one participant noted the role played by goal setting, focus, and self-reinforcement skills when responding to a poor performance in the opening round of a major international competition:

> I was just so focused on qualification at the start rather than the performance. After my first round I just though right it's done now, what do I need to focus on and do in my next round. I treated them as separate performances. My next rounds were really good, and I managed to climb back up the rankings. I think that [memorable challenge] showed me that even if I thought the end of the world was happening I would always get through it; that I had to stick by my goals and what I was thinking. (Equestrian athlete)

Similar to the other higher order themes, it was evident from the analysis that belief in one's ability to overcome challenges was typically refined and enhanced as more challenges were faced. Indeed, performers with experience of multiple traumas noted benefits from the accumulated deployment of psycho-behavioural skills. For example, the following athlete had experienced several setbacks related to their fear of failure in competition but, through realistic evaluation, self-reinforcement, and focus skills, retained belief in their ability to overcome more traumas:

> I think what I had in that period was the realisation that I used to think it was really embarrassing if you aim really high and fail when people have high expectations of you. But once you've done that a few times you think "ok, it's happened now, the worst didn't happen, so why not just aim really high? It doesn't matter if you fail." (1500m athlete)

5.4. Discussion

While prior work has generated evidence on *what* has helped performers to achieve post-traumatic growth (i.e., specific psycho-behavioural skills), a notable shortcoming has been the limited explanation on *how* these skills actually help to achieve this outcome. Via retrospective interviews with high level senior international performers, in line with objectives 4 and 5 stated in Chapter 1, (page 15) this Chapter addressed a gap in knowledge,

furthered insights provided in Chapter 4 and found that the deployment of relevant psycho-behavioural skills supported *perspective in the response to trauma*, *control of the response to trauma*, and *belief in the response to trauma*. In other words, the participants' psycho-behavioural skills helped them to frame the trauma against the bigger picture, assume responsibility for their response, and have confidence in their ability to recover and grow.

As an important validation against the mainstream literature, the mechanisms reported in this Chapter (i.e., perspective, control, and confidence) are consistent with the principles of post-traumatic growth. Indeed, it has earlier been established that growth after a trauma is based on an individual managing their distress before proactively reconciling their pre-trauma beliefs against the information and outcomes related to the trauma (see Calhoun et al., 1999; Joseph et al., 2012; Tedeschi & Calhoun, 2004); or similarly, from sport-specific work, focusing on why a distressing feeling was experienced (rather than the feeling itself) from a position of self-distance rather than self-immersion (Sarkar & Fletcher, 2015). Clearly, the perspective, control, and confidence facilitated by psycho-behavioural skills aligns with these ideas – as they do with need for the growth process to be performer- rather than other-led – and substantiate findings on *how* such skills actually help to achieve post-traumatic growth.

Perhaps more significantly, results also suggest that higher levels of these psycho-behavioural skills might encourage *constructive* growth over *illusory* growth after a traumatic event (cf. Howells & Fletcher, 2016). More specifically, constructive growth has been earlier characterized by the ability to endure distress, find meaning (rather than just seek meaning), engage in cognitive processing (rather than cognitive manipulation), undertake philosophical change, and adapt one's behaviours (Howells & Fletcher, 2016); all of which were conveyed in the collected data. Indeed, all interviewees in this Chapter typically described an emotional response to their traumatic experience before proactively evaluating and modifying their pre-trauma beliefs or approaches; leading to relatively immediate consequences (at least

when compared to descriptions of illusory growth) that were beneficial in the long-term (e.g., deciding to change their training centre or coach). In contrast to this constructive growth, no participant described the type of enduring avoidance, denial, wishful thinking, self-consolidation, or self-deception that has been characterized as illusory growth. Notably participants did not detail illusory growth as initial coping strategies or significant attempts to maintain normality; rather illusory growth was mentioned briefly and seemed to be transient to constructive growth. Instead, performers in this Chapter reported an initial emotional response that was then followed by a line of internal reason-finding, goal setting, planning, and reassurance.

As such, these findings – alongside messages in prior work – would suggest that the presence of more aspects of illusory growth (e.g., denial, self-deception) reflect a gap in the performer's psycho-behavioural skills or limitations in their deployment of, or confidence in these skills rather than a normal or necessary feature of post-traumatic growth that requires significant time to overcome (cf. Collins et al., 2016a, 2016b; Kassam, et al., 2009). Indeed, Howells and Fletcher (2016, p. 183) have suggested that "temporality is significant in that those who exhibit constructive growth experience some aspects of illusory growth in the past" and that "the passing of time and possibly retirement from sport, and associated distancing from events and broadening of experiences, can facilitate the realization of constructive growth". The message that post-traumatic growth takes time is, of course, entirely appropriate. However, the findings from this Chapter challenge the extent of this time. More specifically, results suggest that the time taken for constructive growth might occur on a significantly shorter scale, at least for the levels of trauma usually referred to in the literature cited earlier. Accordingly, and on the basis of complimentary evidence, I would be far more inclined to conclude that constructive growth might operate more as a function of a performer's possession, deployment, and confidence in their psycho-behavioural skills;

from which the perspective, control, and belief required for post-traumatic growth can be achieved (Calhoun et al., 1999; Joseph et al., 2012; Tedeschi & Calhoun, 2004). Notably, Howells and Fletcher (2016, p. 183) also highlighted that the primary differentiators between illusory and constructive growth were, respectively, "the manipulation versus the processing of cognitions, and the associated integration into a pre-existing schema (i.e., assimilation) versus the shattered and reformation of schema (i.e., accommodation)"; in other words, different *skills*, or *skills* that are used in a *different* way.

5.4.1. Applied implications. Turning to the implications of these findings, I would stress the need for applied psychologists and talent development leaders to emphasise skills within their trauma-related work; indeed, to focus on the development of these skills as an essential component of development-focused support. My results suggest that psych-behavioural skills can help performers to achieve perspective, control, and confidence in their response to memorable setbacks and ultimately, it appears, a greater chance for constructive than illusory growth (i.e., growth that carries the greatest long-term benefits). In this manner, I support calls for a proactive approach to the development of performers' psycho-behavioural skills (Collins et al., 2016a, 2016b; Savage et al., 2017) but also strongly encourage practitioners to avoid an inappropriate reliance on time (including waiting until the performer has retired), for optimal constructive growth to occur (cf. Howells & Fletcher, 2016). Of course, such an outcome cannot be rushed. However, if talent pathways and performers are to maximise the conversion of potential, it does need to be achieved as *efficiently* as possible. As such, I would suggest that the proactive development of psycho-behavioural skills (i.e., that done in anticipation of inevitable and regular setbacks) offers a logical approach for enhancing the speed and level to which post-traumatic growth can be independently and repeatedly achieved. Additionally, given that some reactive work will still be inevitable, there are also some important considerations for applied psychologists and

coaches. In particular, practitioners can facilitate the progression to constructive growth through several "skills-promoting" methods; such as prompting the athlete to identify, reflect upon, and draw upon the skills that they have previously utilised to overcome past adversity.

Furthermore, practitioners can guide or sign-post performers towards the relevant skills in a manner which supports performer-led growth as opposed to rapid resolution. For example, 'Performer A' underperforms at the national championships. Performer A holds value in this championship as a marker of their progress and status within their home nation. Performer A continues to ruminate negatively about their performance and the practitioner has not noted any signs of constructive growth. To promote authentic constructive growth as opposed to rapid resolution, the practitioner sign posts Performer A to a specific skill which can facilitate perspective. In this instance, through guided questioning on long-term goals ('what is your long-term career goal?' 'Will this get in the way of you achieving your overall career goals?'), the practitioner provides an opportunity for Performer A to employ their skill of reflection. Engagement in the skill of reflection prompts Performer A to, clarify and confirm their purpose related to success at international level as opposed to solely national level. Resultantly, Performer A gains perspective on the actual impact of this underperformance (whilst still can be disappointing/upsetting) on their long-term goal.

Critically, as in Chapter 4, no two pathways were the same; the experience of a similar setback across participants (e.g. underperformance) was individualised. Thus, the skill deployed and how it helped, was also individualised. For example, in response to an injury, one performer utilised self-regulation, which facilitated belief in achieving their goals, whilst another performer utilised reflection, social support and focus and distraction control, which supported perspective. Consequently, support should be individualised to each performer's psycho-behavioural skills and how those skills facilitate growth at each challenge (Collins & MacNamara, 2012; Collins, et al., 2016a & b; Savage et al., 2017).

On a theoretical level, and beyond emphasis on the role of skills in constructive growth, further evidence has been presented to support the idea that post-traumatic growth relies on skills that performers *bring to* – rather than generate from – the traumatic experience. As per previous findings (e.g., Savage et al., 2017, Chapter 4), traumas do not seem to cause a new skill to emerge but rather, provide an opportunity to deploy, test, and refine an evolving skillset. Furthermore, ideas on the cumulative effects of negotiating trauma have also been reinforced, whereby prior episodes of successful coping can be harnessed for future episodes; including an acceptance of the inevitability of these episodes (Chapter 4). Indeed, the experience of traumas early in one's development was viewed as an advantage by all; not in the sense that future traumas were perceived as less impactful or less of a threat but rather that performers' felt better equipped to cope with and learn from them.

5.4.2. Strengths and limitations. Of course, these implications need to be considered against the strengths and limitations of the research undertaken. Regarding the latter, the perceptions acquired from participants might have been affected by recall issues plus hindsight and, perhaps shaped by pre-existing relationships with the first author, self-presentational biases (Patton, 2002). Regarding this latter point, however, it is important to note that the majority of events recalled by participants occurred before they were part of the high performance centre and knew me. The relatively small number of participants also has to be acknowledged; however, as my focus was on *how* psycho-behavioural skills can help performers to achieve post-traumatic growth – and therefore one that required us to explore specific examples in detail – I would consider this approach to be appropriate and also a useful precursor to future studies that aim to explore the value of such skills in broader contexts. In addition, I also ask the reader to consider some other characterizing traits that support the quality of this research (Sparkes & Smith, 2009). In particular, and beyond the approaches used to optimize the trustworthiness of data and interpretation, methodological

coherence was aided by framing the Chapter's purposes, participant recruitment, methods, analysis and interpretation within my pragmatic philosophy. In this vein, I also ask the reader to evaluate the relevance and potential impact of findings to practice-oriented theory and consultancy (Giacobbi et al., 2005). To reiterate, my findings have added another dimension to empirical evidence by highlighting *how* psycho-behavioural skills are perceived to help with post-traumatic growth; thus, moving beyond recent recognition of *what* skills are perceived to be important (Collins et al., 2016a; MacNamara et al., 2010, Savage et al., 2017). Secondly, and in contrast to Howells and Fletcher (2016), results also promote a more skills-weighted than time-weighted approach to supporting constructive growth.

5.4.3. Next steps. In terms of continued research, the findings in this Chapter all point to the positive effects of psycho-behavioural skills in negotiating trauma (as per the Chapter's purposes). Of course, however, it has been established that some of these skills can also have negative or dual effects when inappropriately deployed (e.g., Hill, MacNamara, & Collins; 2015). Indeed, Howells and Fletcher (2016) have identified that skills related to cognitive manipulation and derogation of adversity were associated with illusory rather than constructive growth in their sample. As such, future research should consider how psycho-behavioural skills can help or hinder the negotiation of trauma by also exploring phases where athletes have struggled or failed to develop after a notable setback. As well as broadening focus, it is also important that future research continues to evolve on a design level. For example, as the bulk of trauma-related research to date has been retrospective in nature, real-time longitudinal tracking would likely allow for a significant advance on both a theoretical and applied level; especially when multi-stakeholder perspectives and additional sources of data are included (e.g., that related to performance and well-being measures). To optimally inform practice, such an approach should be harnessed within a longitudinal based inquiry that tracks the ups and downs of development, how these can be prepared for, and

how they are reacted to in real time. Reflecting these concerns, the next Chapter explores the experience of elite performers as they encountered and overcame trauma. This approach was specifically employed to provide a more ecologically valid examination.

Chapter 6: Longitudinal tracking elite athletes as they experience challenge

6.1. Introduction

Through retrospectively exploring performers development pathway, Chapters 4 and 5 identified *what* performers utilised to overcome challenges and *how* these mechanisms where successfully applied. Chapter 4, found trauma related growth in elite performers to be facilitated by their use of psychological characteristics, social support and learning factors. Interestingly, in contrast to previous research indicating early life related trauma to be indicative of later sporting success, Chapter 4 (and Chapter 5) did not find any support for this claim. Furthermore, a cumulative learning effect across the development pathway was identified Chapter 4, suggesting that trauma provided an opportunity to prove/hone skills the athlete already possessed. Therefore, Chapter 4 suggested that trauma and challenge related experiences can act as a proving experience for athletes to refine and develop their current skills. Chapter 5 explored how psycho-behavioural skills helped a group of senior internal performers cope with and grow from adversity related experiences on their development pathway. It was identified that psycho-behavioural skills support a sense of perspective, control, and confidence, which contributed to a mainly constructive rather than illusory growth process. Chapter 5 suggested that constructive growth is more evident in performers who effectively utilised relevant psycho-behavioural skills when negotiating challenges along their pathway.

Whilst Chapter 4 and 5 drew out commonalties and similarities experienced by performers when negotiating setbacks, it is also important to emphasise that the development pathway itself, was still unique to each performer. In short, performers faced varying challenges at different times, and utilised similar psycho-behavioural skills; *however*, the use of a skill was determined by the athlete's selection and application in their unique context, as opposed to matching a 'general skill' to the 'general challenge'. Consequently, how psych-

behavioural skills help to promote growth seem to be similar in terms of the outcomes delivered (i.e., perspective, control and confidence), but which of these outcomes are experienced in a given growth experience, and the skills used to achieve them, will be individualised to the athlete.

Although recent research has identified the vital role that psycho-behavioural skills play in the successful negotiation of the development pathway, the retrospective methodologies employed in these studies' present limitations. As outlined in Chapter 2, associated limitations such as memory recall and hindsight bias can negative impact the accuracy of data collected. Consequentially, this Chapter aimed to provide a richer and more ecologically valid examination of the experience of trauma during sporting development. More specifically, and in line with the objectives 5, 6 and 7 outlined in Chapter 1 (page 15), the purposes of the research conducted in this Chapter, was to: (a) explore elite performers' experiences of facing memorable challenges using longitudinal tracking; (b) to identify mechanisms that enabled growth in these experiences; and (c) to explore the role and impact of a supporting psychologist during these experiences. By exploring the experience of challenge in a longitudinal fashion, my aim was to optimally inform applied practice and the application of support in talent development programmes. As indicated in Chapter 1, challenge is utilised in this Chapter as opposed to trauma to reflect language used by performers.

6.2. Method

6.2.1. Research design. In line with a pragmatic philosophy detailed in Chapter 3, I identified a pertinent applied issue to explore (i.e., elite performers' experiences of facing memorable challenges in real time) and selected the most appropriate design to aptly answer the research question. Subsequently, a longitudinal qualitative approach tracking athletes' experiences through applied sport psychology support, was selected as an appropriate

research strategy. The purpose of the consultations was to provide performance psychology support to performers. Consultations were conducted mostly face to face, with some skype and telephone sessions due to related travel. The regularity of consultation was dependent on individual need but overall, a consistent approach of contact was employed. It is important to emphasise that all of the performers were professional athletes who were competing at senior international level at the time of this research. Subsequently, psychology support provided was reflective of this. In terms of the rationale for the research methods employed in this Chapter, qualitative research was chosen as the most appropriate strategy given its aim of the researchers trying to make sense of social phenomena and the associated meanings people bring to them (Denzin & Lincoln, 2000). Furthermore, as Bonanno (2012) asserted, "qualitative studies provide a valuable source of new ideas and information, especially in populations that have not yet benefited from systematic study" (p. 755). More specifically still, an Interpretative Phenomenological Analysis (IPA; Smith and Osborn, 2008) was employed as it offers an in-depth examination which can subsequently inform practitioner practice. IPA is based on the assumption that the researcher is trying to understand the complexity and meaning of the performer's story (Smith, 2003). IPA allowed for exploration of the performer's personal, lived experiences and their individual perception of reality. A two-part interpretation process with hermeneutic influences was implemented, whereby the performer tries to make sense of their world whilst the researcher makes sense of the performer making sense of their world (Smith & Osborn, 2008). As IPA is idiographic in its commitment to analyse each case in detail, an in-depth and comprehensive analysis was applied to each case. Smith (2011) proposed that IPA studies should "not only presenting both shared themes but also pointing to the particular way in which these themes play out for individuals" (p. 10). The objective was to draw out the commonalities and similarities

experienced by elite athletes when dealing with challenge. As such, the results are not represented as a case study of support delivered but rather, the stages athletes went through.

6.2.2. Participants. Due to the intensity of activity for each case, IPA studies are typically conducted with relatively small sample sizes (Smith, 2011). Subsequently, six participants were purposefully recruited from a group of elite athletes receiving consultancy from myself. Participants were aged between 23 and 35 years old (M = 26.5; SD = 5.08) at the beginning of the research. As this was a purposeful sample with athletes I worked with from an applied perspective, they were recruited in the sport I worked, Athletics. As such, it is important to note that all psychology support provided was sought out independently by each performer. Whilst all participants were from the same sport, they all represented varying events covering sprints, jump, throws and endurance events. A similar inclusion criterion was applied as in Chapter 4 and 5. All of the athletes recruited were at the time and for the duration of the research: competing at senior international level in their events; on a funding programme within their sport's national governing body; previously achieved a senior international success within the last two years; and had been on a development pathway before reaching senior level for a minimum of six years.

6.2.3. Procedure. Ethical approval was obtained from the institutional ethics committee and informed consent gained from each participant prior to the beginning of the research. As such, the information sheet is presented in Appendix A.7., and informed consent form in Appendix A.8. As all participants where current client's, specific measures were taken to ensure recruitment was voluntary and could withdraw at any time. The aims of the research were explained and what involvement would entail. Crucially, it was expressed there would be no difference in the psychology consultancy support they would receive if they chose not to take part. In line with my research philosophy, strategy, and design; observations, case notes and semi-structured interviews were selected as an appropriate

method to capture data that were representative of performer's experiences of challenge whilst negotiating their development pathway. All the data collection was included and conducted within normal consultancy sessions with each of the participants.

6.2.3.1. Consultation phase. *Consultation notes*- Regular consultations took place between each performer and I for the duration of the research. Consultation notes were recorded during each session and further reviewed post-session. Notes included a summary of the session (plus any progress from the previous session and future actions), how the performer presented, specific quotes from the performer which articulated their current thoughts/feelings and practitioner reflections.

6.2.3.2 Review phase. *Semi-structured interviews* were conducted with each performer as they emerged from their personal challenge. Interviews were conducted with an interview guide, presented in Appendix A.9., which were individualised to reflect each performer's experiences and pathway; also ensuring that key issues were consistently explored with each performer (Patton, 1990). For clarity, the interview guide was constructed to work around individual athlete experiences of challenges, to check perceptions of psychologist and explore detailed reflections on their experiences. The interview began with firstly the performer being asked to recall each of the marked experiences (e.g., what happened here? How did you respond at the time?). Secondly, the performer was asked to review and check my interpretation of events (through review of summary consultation notes). Any points of ambiguity were discussed until a consensus was reached on the meaning and interpretation of specific points. This in some cases led to more detail being added to further describe actions or responses. Furthermore, specific probes and prompts were employed to clarify and expand on relevant points (e.g., what are your reflections on the experience now? Where there any specific outcomes? Why do you think you responded that way? What was helpful from the sport psychologist?). The interviews were conducted 3 to 6

months after the performer resolved the challenge and implemented relevant changes. This time gap was purposeful to allow for changes to be embedded and refined. Furthermore, distance from the challenge offered an additional angle of perspective. The interview lasted between 30 and 45 minutes and focused on the performer's reflections on their experience. For performers who experienced more than one challenge, each challenge was dealt with individually.

6.2.4. Data analysis. Smith and Osborn's (2008) IPA recommendations were adapted to analyse the data. Consequently, an inductive approach was employed to analyse each performer's consultation notes, summary and interview transcript. This approach allowed for categories and themes to emerge from the data. More specifically, the initial stage began by undertaking a within case analysis, whereby the first author began by reading and re-reading the consultation and case notes before returning to make notes to document what appeared to be interesting and significant with regards to the participant's perceptions, emotions, and planned actions moving forward from the session (Smith & Osborn). From here, I generated tentative themes, which reflected shared concepts or meaning. To retain connection with the primary source material, these themes were documented with participant quotations and continually reviewed (in line with the iterative nature of IPA). This full process was repeated for the data acquired from the semi-structured interviews. The product of this initial stage was represented in Table 6.1. Building on the initial stage of the 'within case analysis', the next stage involved cross-case analysis which integrated the themes from all participants' experiences. More specifically, the emergent themes and clusters of ideas identified in the first stage were examined across participants to allow for similar ideas and themes to be grouped together forming higher order themes. The product of this stage is presented in the main themes presented in the results narrative.

6.2.5. Trustworthiness. The underpinnings of methods employed to recognise and manage assumptions and biases in the analysis process have been presented in Chapter 3. In particular for this Chapter, guidelines from Smith (2011) were adhered to in order to assure quality specific for IPA studies. This Chapter had a clear *focus* exploring how performers experienced challenges, as opposed to a broad reconnaissance and ensured a *strong data* from high quality recording of data through observations, case notes and interviews. In this way, I utilised conceptual memos to log the rationale behind my interpretation, which provided stimulus for discussion with participants and in the research team (Davis & Meyer, 2009). Throughout the process I also kept a reflective journal as part of my case notes, paying close attention to how any biases were influencing my interpretation and analysis (Patton, 2002). When analysing data, I utilised constant comparison to assess, modify, and reinforce the developing themes (Corbin & Strauss, 2008). Throughout the process, I read the raw data and discussed the emerging concepts and themes to confirm interpretation and coding (Smith & Osborn, 2008). Additionally, and as in described in Chapters 4 and 5, my supervisory team acted as critical friends by reviewing, challenging, and suggesting refinements to the tags and themes (Faulkner & Sparkes, 1999). Furthermore, to test the accuracy, balance, fairness, and respectfulness of quotes presented in this Chapter (NB. not the developed themes and overall results: cf. Smith & McGannon, 2017), member checks were finally conducted with all participants (Sparkes & Smith, 2009). In order to be *rigorous* with the data I adhered to the recommendation of sample size and in line with Smith's (2011) recommendations, ensured extracts from half of the participants were provided as evidence in the results section. In this manner, *elaboration of each theme* was provided, with an *interpretative* and not just descriptive supportive commentary provided through engaging in double hermeneutic (Smith 2004). Through *convergence and divergence* data is reported from all performers and patterns and similarities across performers illustrated.

6.3. Results

The aim of this investigation, was to provide a more ecologically valid examination of performers' experience of challenge. More specifically as identified in the introduction, the purpose of this Chapter was to: (a) explore elite performers' experiences of facing memorable challenges using longitudinal tracking; (b) to identify mechanisms that enabled growth in these experiences; and (c) to explore the role and impact of a supporting psychologist during these experiences. Furthermore, by exploring trauma in this way, my aim was to inform optimally applied practice and the application of support in talent development programmes. As the objective was to draw out commonalities and similarities experienced by elite athletes experiencing trauma, the results are represented in the stages (summarised in table 6) athletes went through as opposed to case study format. The presenting issues fell into the following areas: injury; missed selection; challenges with professional relationships; and being unhappy with their current environment. It is interesting to note that during or after each challenge, all performers described the challenge as 'needing to happen'. Each challenge resulted in several positive refinements, which included external (e.g. situational, support team, approach) and internal (e.g. self-development) changes. Performers also reflected that, 'things were better' after the challenge than they were before it took place.

As the objective was to draw out the commonalities and similarities experienced by performers when dealing with challenge, the results are presented in two parts. First, Table 6.1 reflects the within-case analysis and the phases which performers went through when experiencing and responding to challenge. Each phase represents the specific narrative the performer presented, with the length of each phase being individual. For example, three psychology interactions could have been focused on supporting the athlete's emotional response to challenge. In contrast, another performer displayed two narratives (e.g., response & reflection) in the same phase. Second, the themes in the main narrative represent findings

from the cross-case analysis; response and growth stages, role of psycho-behavioural skills and the role of psychologist. Quotations were drawn out from the raw data to outline performers' experience of the emergent concepts and themes. For clarity, macro changes refer to significant change/adjustment for the performer, for example, change in training environment, new coach or group or change to funding. In contrast, micro level changes refer to minor change/adjustment, for example, refined training approach, adjusted operations within support team or refined skills.

Table 6.1

Within case representation of performers experience of trauma.

Athlete	Challenge	*Phase 1*	*Phase 2*	*Phase 3*	*Phase 4*	*Post*
1	Unhappy with coach	***Athlete perceptions/emotions:*** Current environment not conducive to reaching goals. Feeing flat, frustrated and lost. ***Psych observations and input:*** Athlete looked visibly tired & stressed. Provided sounding board & facilitated reflection against previous situations/solutions and future needs. ***Athlete response / action:*** Relieved to discuss concerns. Felt tried to make it work. Considering macro change. Taking time to reflect on needs V environment.	***Athlete perceptions/emotions:*** Discussion provided relief. In control of situation. Macro change needed. Nervous but excited re: possible change. ***Psych observations and input:*** Athlete composed/relaxed. Reflected on future needs & sounding board for exploring potential changes. ***Athlete response / action:*** Decide to explore possible options of alternate environment. Athlete led discussions with relevant people.	***Athlete perceptions/emotions:*** Macro change finalised. Relieved & excited. Nervous but confident re: difficult conversations. ***Psych observations and input:*** Athlete energetic & excited. Checked/challenged decision making process. Reflected on how athlete managed previous career transitions/environment changes. ***Athlete response / action:*** Athlete to inform relevant people of decision. Physically transition of macro change.	***Athlete perceptions/emotions:*** Happier & excited about future. Reaffirmed belief in goals. Increased motivation to maximise new environment. Enjoying it again. ***Psych observations and input:*** Seems much happier & heighted belief. Realistic preparation of new environment challenges. Reflected on key learnings. ***Athlete response / action:*** Accepting of future challenges. Take responsibility for environment success.	***Reflection on experience:*** Challenge was important. Progressed as a result. Enhanced confidence & belief in self. ***Reflection on outcomes:*** Refined understanding of individual needs. Reaffirming willingness to do what it takes. Enhanced acting on instincts. Trust self-more. Increased responsibility. ***Reflection on psych support:*** Objective person important. Relief shared problem. Trusted them. Didn't tell me what to do. Helped figure out for myself. Understood me & cared.
1	Injury	***Athlete perceptions/emotions:*** Frustrated & struggling to remain positive. Questioning aspects of plan. Focus on long-term goals, doesn't want to rush back ***Psych observations and input:*** Provided sounding board & facilitated reflection against previous situations/solutions & needs. Rationalised emotions. ***Athlete response / action:*** Athlete rationalised emotion. Identified relevant action points to resolve.	***Athlete perceptions/emotions:*** Taking control positive. Needs to be more demanding & vocal. Focused on long-term goals. ***Psych observations and input:*** Prompted reflection on experiences of taking control/leading situation. Anything that wasn't helpful? ***Athlete response / action:*** Take control of management. Directed input from relevant people. Reaffirmed individual approach.	***Athlete perceptions/emotions:*** Empowered by taking lead. Increased confidence in plan. Belief in achieving goals. ***Psych observations and input:*** Facilitated reflection on potential obstacles & strategy. Reflected on key learnings. ***Athlete response / action:*** Proactively manage plan & respond to setbacks. Maintain taking lead.		***Reflection on experience:*** Worrying at time. Helped enhance taken lead. Approach is better now. Always believed I would reach goals. ***Reflection on outcomes:*** More relaxed when took control. Refined understanding of self. Team understood me better. Individualised approach more. More directive. ***Reflection on psych support:***

		Revised season goals/expectations.	Refine/communicate revised goals/expectations.			Felt supported & understood. Give me confidence to act. Didn't tell me what to do. Helped me figure it out.
2	Under-performance	***Athlete perceptions/emotions:*** Frustrated & angry. Not representative of ability. Needs not met. ***Psych observations and input:*** Athlete's demeanour quite angry. Provided sounding board & facilitated reflection against previous situations/solutions and future needs. Explored perceptions & reflections of actions. ***Athlete response / action:*** Increase awareness of own actions. Take responsibility for creating optimal environment.	***Athlete perceptions/emotions:*** Rigid pre-comp routine causes problems when not flexed. Wants to take more control. ***Psych observations and input:*** Slightly frustrated but quieter more reflective demeanour. Explored needs, possible plans & key roles. Reflected historical experiences of flexible approach. Reflected on key learnings. ***Athlete response / action:*** Refine pre-comp routine with relevant people. Proactively communicate needs & refined plan. Monitor, reflect/refine.	***Athlete perceptions/emotions:*** Flexible in pre-comp routine. Increased awareness & responsibility of actions. Enhanced proactive approach In control & reaffirmed belief. ***Psych observations and input:*** More relaxed & clarity of route to goals. Check/refine approach. Identify key learnings. Explore dealing with future challenges. ***Athlete response / action:*** Athlete identified potential challenges & proactive plan. Continue development and refine comp approach. Communicate needs to relevant people.		***Reflection on experience:*** Realised anger misplaced. Needed to happen. Progressed more as result. ***Reflection on outcomes****:* More open & self-aware. Enhanced approach, utilise support better. Confident can perform despite setbacks. ***Reflection on psych support:*** Important they didn't tell me what to do. Helped me get there myself. Could be very open. Understood me as a person. Objective person helpful. Realised how I overcome other things.
2	Organisational challenges	***Athlete perceptions/emotions:*** Feel angry, stressed & frustrated with others. Impact on route to goals. Negatively affecting enjoyment. Wanting to handle logically. ***Psych observations and input:*** Athlete frustrated and visibly upset. Provided sounding board & facilitated reflection against previous situations/solutions and future needs. Check/challenged perceptions. ***Athlete response / action:*** Proactively speak to relevant people. Gather relevant information.	***Athlete perceptions/emotions:*** Angry but vindicated with outcome. Reaffirmed taking control & act. Happy with management of emotions. Enhanced motivation to achieve goals. ***Psych observations and input:*** Seems happier & renewed confidence. Reflected on management of situation. Explored management of reoccurrence. Reflected on key learnings. ***Athlete response / action:*** Ready for future challenges.			***Reflection on experience:*** Hard time but I knew I was right. Realised how much grit I had. Feel have more authority. ***Reflection on outcomes:*** Confident in dealing with challenge. Increased management of emotional response. Reaffirmed to trust my gut. Strengthened belief in myself. ***Reflection on psych support:*** Talking it through helpful. Listened & helped me work out for myself. Individualised to my style.

		Conscious of managing own emotions.	Will act sooner if reoccurs. Development of self-regulation.			
3	Coach/athlete r'ship	***Athlete perceptions/emotions:*** Feels angry & stressed. Potential performance blocker. Negative affect on enjoyment. ***Psych observations and input:*** Appeared stressed & flustered. Provided sounding board & facilitated reflection against previous situations/solutions and future needs. ***Athlete response / action:*** Relived to discuss problem. Maintains belief in ability. Requested/led meeting to address concerns. Athlete to led refining new strategy.	***Athlete perceptions/emotions:*** 1st meeting w/ coach was a start. Frustrated with self - 'too nice'. Afraid of hurting feelings. Situation not yet resolved. ***Psych observations and input:*** Flustered & annoyed with self. Sounding board & reflected on consequences of method (too nice). Facilitated reflection against previous situations/solutions ***Athlete response / action:*** Clarity of actions. Refined communicate strategy.	***Athlete perceptions/emotions:*** Clear & agreed plan/strategy. Confident in plan. Increase in openness & directedness. Took control. ***Psych observations and input:*** Appears assertive & confident. Reflected on skills utilised. Check/challenged process. Explored on-going management. ***Athlete response / action:*** Continually refine strategy long-term. Maintain responsibility. Led strategy.	***Athlete perceptions/emotions:*** Strategy relaxed & flexible. Happens automatically. Doesn't depend on others. Confident to act in situ. ***Psych observations and input:*** More relaxed & confident. Reviewed skills athlete utilised. Check/challenged. Reflected key learnings. Explored management of future challenges. ***Athlete response / action:*** Full responsibility for 'making it work'. Monitor & proactive with challenges.	***Reflection on experience:*** Uncomfortable but r'ships much better. Things better after. Key learning experience. Important to led it. ***Reflection on outcomes:*** Refined communication & competition approach. More relaxed about potential challenges. Confidence in dealing with challenges. ***Reflection on psych support:*** Someone to help rationalise. Confidence to take control myself and lead. Deal with it in my style.
3	Injury	***Athlete perceptions/emotions:*** Worried/uncertain decision. Concerned impact on long-term goal. ***Psych observations and input:*** Stressed & jumping between thoughts. Provided sounding board & facilitated reflection against previous situations/solutions and future needs. Explored potential decisions. ***Athlete response / action:*** Sought information from relevant people. Reassessed need & decision.	***Athlete perceptions/emotions:*** Decision made. Relieved but slightly anxious. ***Psych observations and input:*** Visibly anxious, more clarity than stage 1. Rationalised emotional response. Checked/challenge decision making process. Re-evaluated season goals/expectations. Reflection against previous similar situation. ***Athlete response / action:*** Confident & took responsibility for decision. Revised goals/expectations with relevant people.	***Athlete perceptions/emotions:*** Action of decision done. Confident right decision. Motivated to long-term goals. ***Psych observations and input:*** Appears relaxed & positive. Monitor progression. Encouraged athlete to utilise skills identified as useful in similar situation. ***Athlete response / action:*** Following agreed plan. Identify any risks or challenges. Responsible for overall communication.	***Athlete perceptions/emotions:*** Feeling coming out other side. Refreshed & ready to exceed previous performance. ***Psych observations and input:*** Reflected on skills utilised. Explored dealing with future similar challenges. Reflected on key learnings. ***Athlete response / action:*** Athlete proactive to avoid reoccurrence. Increase in directive requests of support. Tailoring short term goals.	***Reflection on experience:*** Not nice but needed addressed. Learned a lot about self. Even more purposeful after challenge. ***Reflection on outcomes:*** More Proactive approach. Greater awareness of limitations. Trust self-more. Enhanced communication & taking control. ***Reflection on psych support:*** Like holding a mirror up. Good listener & cared. Helped understand thoughts. Could say it how it was. Trusted weren't trying to influence decision. Understood me.

4	Uncertainty about competing	***Athlete perceptions/emotions:*** Unsure & frustrated. Lost enjoyment & worrying about long-term impact. ***Psych observations and input:*** Looks tired, upset & restless. Provided sounding board & support. Facilitated reflection against previous situations/solutions and future needs. Explored purpose. ***Athlete response / action:*** Relief discussing problem. Identified potential risks. Confident in ability if resolved. Planned action to resolve issue.	***Athlete perceptions/emotions:*** More in control of challenge. Unsure & worried about decision impact. Questioning who to trust. ***Psych observations and input:*** Increase in confident & controlled demeanour. Nervous of decision outcome. Reflective listening & check/challenge possible decision making. Reflected against previous situations. ***Athlete response / action:*** Clarity of decision-making process, motivations & belief. Confident perform in spite of. Include relevant people.	***Athlete perceptions/emotions:*** Happy & motivated following outcome. Enjoyment levels increased. Feels in control. ***Psych observations and input:*** Assertive and more directive. Facilitated reflection on actions taken & key learnings Explored coping with future challenges. ***Athlete response / action:*** Refined support team & approach. Increased confidence dealing with future challenges.		***Reflection on experience:*** Overwhelming at time but needed to be addressed. Prompted positive changes. Reaffirmed drive towards goals. Motivation more than ever. ***Reflection on outcomes:*** Reminded me to take control. Willing to make sacrifices. Up to me to make fix it. ***Reflection on psych support:*** Helped make sense of situations & feelings. Didn't tell me what to do. Helped me figure it out myself. Able to be fully honest. Understood me.
4	Transition of coach & environment	***Athlete perceptions/emotions:*** Frustrated & not feeling pushed enough. Current environment not meeting perceived needs. Change might be needed. ***Psych observations and input:*** Seems agitated & stuck. Sounding board &facilitated reflection against previous situations/solutions and future needs. Explored impact of potential changes. ***Athlete response / action:*** Athlete confirmed purpose. Sought relevant information to enhance decision making. Reflected & revised needs.	***Athlete perceptions/emotions:*** Decided macro change needed. Exploring various options. Excited but nervous. ***Psych observations and input:*** Nervous but excited. Sounding board for options. Check/challenged rationale. Reflected on previous similar situation. Explored useful 'next steps' for athlete to lead. ***Athlete response / action:*** Investigate possible changes. Include/inform relevant people. Make ultimate decision.	***Athlete perceptions/emotions:*** Relieved decision made. Confident & in control. Enhanced focus & belief. Revised needs & approach. ***Psych observations and input:*** Sounding board & reflected skills utilised. Reflected on previous macro changes. Explored possible future challenges. Reflected on key learnings. ***Athlete response / action:*** Proactively plan/manage macro change. Communicate with relevant people. Refined support team.	***Athlete perceptions/emotions:*** Settled & excited for future. Increased self-belief. Clarity of route to goals. Aware of challenges ahead. ***Psych observations and input:*** Assertive, happy & talkative. Clear on needs & route. Reflective skills utilised. Reflection on potential risks/challenges. ***Athlete response / action:*** Identified potential future challenges & how would cope. Strategy to maximise macro change. Enhanced proactive communication.	***Reflection on experience:*** Belief helped make change. Best thing to happen. Needed to go through it. Things better after change. ***Reflection on outcomes:*** Reaffirmed need to be positively challenged. Helped mature approach. Took responsibility for own success and failure. Reaffirmed willingness to do whatever it takes & adapt. ***Reflection on psych support:*** Listening & questioning helped make decision. Felt in control of decision. Wouldn't work if tried to force decision. Support through transition was helpful. Felt cared about helping me.

5	Managing performance expectations	***Athlete perceptions/emotions:*** Anxious & worried. Wants career longevity. Affecting training. ***Psych observations and input:*** Visibly emotional. Sounding board, explored/rationalised concerns. Facilitated reflection against previous situations/solutions and future needs. ***Athlete response / action:*** Relief from discussion. Identified need to refine process & approach.	***Athlete perceptions/emotions:*** Made micro level changes. Positive progress but inconsistent. ***Psych observations and input:*** Facilitated reflection against progress v inconsistent. Revised approach. ***Athlete response / action:*** Developed strategy with coach. Identified individual needs. Proactively prevent.	***Athlete perceptions/emotions:*** More in control. Acknowledge potential reoccurrence. Plan in place to prevent. ***Psych observations and input:*** More relaxed & accepting of challenge. Facilitated reflection of skills utilised to manage & key learnings. ***Athlete response / action:*** Revised plan to manage/avoid. Enhanced communication. Implement/develop plan.		***Reflection on experience:*** Needed to happen to improve things. Can perform despite. Confident to deal with challenges. ***Reflection on outcomes:*** Reminded to focus on basics. Increased responsibility & understanding of self. More proactive & vocal. ***Reflection on psych support:*** Really understood me. Helped me makes sense of it. Let me be in control. Consistent contact. Felt they cared.
6	Selection pressures	***Athlete perceptions/emotions:*** Stressed & afraid of potential outcome. Frustrated with self. Not reflective of ability. ***Psych observations and input:*** Nervous & outcome focused. Provided sounding board & facilitated reflection against previous situations/solutions and future needs. Explored self-belief. ***Athlete response / action:*** Identified too many non-relevant opinions. Refined racing strategy. Shifted focus.	***Athlete perceptions/emotions:*** More in control. Revised race approach. Performance improving, still nervous. Filtered opinions/input. ***Psych observations and input:*** Happier & more relaxed. Clarity on approach. Explored/refined approach. Facilitated reflection on skills utilised. ***Athlete response / action:*** Led & refined race approach. Refined focus. Led relevant support.	***Athlete perceptions/emotions:*** Relieved, enhanced focus & belief in long-term goal. Racing feels easy/natural again. Able to cope with challenge. ***Psych observations and input:*** Visibly happy & determined. Facilitated reflection on skills utilised. Explored potential reoccurrence. ***Athlete response / action:*** Refine/develop approach. Manage inputs. Clearer understanding of self.		***Reflection on experience:*** Hard at time but good thing. Better athlete for it. Increase assertiveness & ability to adapt. ***Reflection on outcomes:*** Increased psychological awareness. Better understanding of self. Get basics right is really key. More confident dealing with setbacks. ***Reflection on psych support:*** Helped understand problem. Helped explore & identify individualised strategy. Refined mental approach. Felt in control.

6.3.1. Response and growth process. Data revealed that performers progressed through a series of phases in each challenge. General phases identified were categorised into four stages: *response; reflection; recovery; and growth.* The rate at which performers experienced the four general stages was individualised; therefore, whilst one athlete experienced response and reflection in the same phase, another went through each of the stages in a separate, consecutive but distinct process. I will now describe the nature of these four stages with illustrative quotes provided throughout. As per the recommendations for IPA, each theme is supported by quotes from at least 3 of the six participants.

6.3.1.1 Response. The initial response phase was typically dominated by individual emotional response to the specific challenge. Typical emotions described in this phase were frustration, stress and worry. Notably, performers also reported a drop in levels of enjoyment which they found made negotiating the challenge harder.

> I not even enjoying training now; I just don't have the same buzz for it. I'm just going through the motions a bit which worries me. I'm not recovering right either, I just feel really stressed.

Performers voiced 'worry' about the potential impact of the challenge on their long-term goal if not resolved. Additionally, all reported to have tried various solutions to resolve the challenge but to little effect; as illustrated in the following quote.

> I just don't see how this situation can work. I've tried loads to fix it (not letting it get to me, speaking to him about it) but it hasn't really changed.

Similarly, all the performers tried to self-manage the situation and confided in minimal people, with some confiding in no-one except the psychologist. Furthermore, in this initial stage performers who *did* confide in others reported just discussing brief detail. It is also interesting to note that those people they did confide in at this stage tended to be out of the sport system. In the following case, one performer partially confided in their parents but

chose to refrain from sharing in their sport environment to try and sustain a level of focus on their training objectives.

> Well my parent's kind of knew I wasn't happy in the current situation. But when I got to training I just tried to make the best of it and get on with it. If I talked to my group it would bring it to training, I just wanted to keep things moving forward and not make it a reason not to train the best I could in that situation.

6.3.1.2 Reflection. In the reflection stage, performers' emotional response typically reduced. The reflection stage shifted from, coping with/making sense of the emotional response and feelings, to exploring the situation with a problem-solving approach. It is important to note the context of worry expressed by performers regarding the potential long-term impact on achieving their goals. Through checking meaning, performers identified the feeling of worry to be associated with their current challenge disrupting their route to achieving their goals. This clarification avoided this feeling of worry being mistaken for worry related to the performer's ability or belief they would reach their goals. Consequently, instead of affecting their belief, it formed part of their motivation to seek alternate input/methods to resolve the challenge, thus removing a potential performance blocker. Furthermore, performers' description of feeling they were struggling with resolving the challenge led to seeking out alternate methods and/or input to assist in resolution. As illustrated in the following quote, the process of self-management to seek out assistance from relevant people led to performers describing an openness/flexibility and willingness to explore options.

> I have been trying to manage it myself, it's not working. I can't let it carry on and affect what I want to achieve this year, I'm not being arrogant, but I should be a priority. So, I'm willing to try whatever it takes and hopefully we can sort it out, if not we just need to make a bigger decision.

Interestingly, performers' initial response in the reflection stage was a feeling of relief after psychology support in the response phase.

> I just feel so much more relieved now, it really helped to talk it all through and realise that what I was feeling was a normal reaction. Just talking out loud with someone helped me make sense of my own thoughts. I see things a bit clearer now.

Furthermore, the performer reflected on the challenge and assessing if their individual future needs could be met. This involved reflecting on how the situation, as it stood, was impacting on their route to achieving their goals. Additionally, performers identified in what way their needs where unfulfilled and reflected on why previously tried solutions may have been ineffective. This performer identified that, despite raising their concerns with (their coach), sustainable revisions were not made to satisfy their need to have full confidence in their plan.

> I need to have full confidence in my plan. If X is never there how can they properly monitor and tailor it. I just don't feel I'm a priority and I'm not putting all this effort in to do things in half measures. I tried to speak to X about it and there is always excuses or a short term burst of effort.

6.3.1.3 Recovery. The recovery phase involved the performer taking a form of action to recover from and progress onwards from the challenge. Subsequently, this stage was associated with initial steps of change/refinement being implemented. Action taken ranged from a micro (e.g., refining race approach) to macro level change (e.g., relocate in order to utilise a particular training environment). It is interesting to note, that all performers described renewed motivation and clarity of purpose at this stage. One performer described, feeling a renewed sense of motivation to reach their potential as the change they made met their need to be challenged.

> I know I am going to get the best out of myself here. It's definitely challenging and I'm out of my comfort zone, but it just makes me want to push myself all the time. This is where I need to be to be the best.

Through exploring individual future needs, the negative impact of the current situation on supporting those needs, performers explored potential alternate solutions that had not previously been tried. For example, one described their current environment as not challenging them in the way they needed to reach their goals. Subsequently, the performer asserted moving to an alternate environment and coaching set up that was more suitable.

> I've tried making the best of it and approach it really professionally. But the fact of the matter is I'm not getting pushed. I want to be around competitive people who challenge me and a coach who makes me a priority.

In contrary to the response stage, the recovery stage was associated with a return, or even increased levels of enjoyment. One performer, who stressed the importance of enjoyment which they felt was missing in the response stage, identified regaining enjoyment.

> I'm definitely enjoying it again which is a massive relief as it's really important for me to enjoy what I'm doing.

Furthermore, performers all referred to 'taking control'. Through the process of implementing or refining their modus operandi, performers felt a renowned sense of accountability; an ownership over the outcome of their route to the top. For example, following a macro level change, one performer described taking control ensuring their needs were being met. In this case, the performer reflected proactively on managing their own limitations to ensure they make relevant decisions and demands.

> I'm definitely going to stay on top of this; it's up to me to take control. For this move to go well I need to make sure I am getting what I need. At the end of the day it's my

career so I'm not going to get caught up in worrying about offending or assuming they know best.

6.3.1.4 Growth. The growth stage involved the performer having implemented and reflected on a change/refinement as a result of the challenge. Performers typically reported feeling happier and more relaxed at this stage. Changes had been embedded by this stage and, rather than assuming any changes made were 'the silver bullet' answer, performers realistically reflected on the need to constantly refine/develop changes.

I know it's not going to be perfect. But the difference is I know what to do to ensure it doesn't get like it did before.

Furthermore, performers referred to a refinement in understanding of their specific needs in order to maintain development towards long-term goals, which resulted in an increased trust in self. Resultantly, all performers referred to trusting their own instincts or 'gut feelings' more and having confidence to act upon them.

I'm just much clearer on what's right for me. I would definitely act as soon as I feel something isn't right. It's so important to trust your gut.

Additionally, performers referred to the experiences as a positive and at times critical contributor to their development.

At the time if didn't feel good and it felt really negative. However, if that didn't happen I really don't think I would have made some of the critical decisions and changes I did. Without those changes no way would I have been a World Champion.

6.3.2. Role of psycho-behavioural skills. In order to negotiate the challenges they faced, performers referred to utilising various psycho-behavioural skills throughout the four stages from response to growth. Specifically, participants in this Chapter referred to the use of a number of psycho-behavioural skills, which have been previously identified in the literature and within the findings in Chapter 4. These psycho-behavioural skills included:

motivation; self-belief; focus and distraction control; realistic performance evaluation; reflection; planning and organisation; self-awareness, self-regulation; goal setting and self-reinforcement; and creating and using support networks (MacNamara et al., 2010a, 2010b; Savage et al., 2017). In line with findings in Chapter 5, these skills supported the performers' control, perspective and confidence to enable progression through a challenge in order to recover and grow. Performers referred to using their focus on their long-term goal to enable them to make difficult decisions, particularly those that affected or involved other people. The below quote, describes how an athlete focused on their long-term goal when having to tell their long-term coach they no longer wished to work with them.

> It was difficult because we didn't fall out, he has been there for a long time and I didn't want to upset him. Without being arrogant I was his main athlete, I knew it would hit him hard. But I just kept reminding myself, I want to be World Champion.

As the below quote illustrates, performers described engaging in and refining social support networks which they deemed as useful.

> As much as he was my friend and I wanted to see him do well, the situation just wasn't good for me. I needed to around people I could trust and didn't have their own agenda.

Additionally, as the quote below illustrates athletes described utilising self-belief to control and manage their response to challenges.

> The thing is even though I got knocked in that selection it didn't shake my belief. I wasn't confident in my times that season but I totally believed I could not be selected but I would be on the podium [in the future] - I just needed to sort out a few things with training.

Additionally, performers regularly utilised psycho-behavioural skills simultaneous in order to manage their response. The quote below, illustrated a performer utilising goal setting targets in order to help regulate their emotional response and control their response to a challenge.

> I was really aware that I could just go through training because I wasn't happy in the environment. So, I made a conscious effort to turn up every day and perform. I really had to focus session targets to make the most out of every session rather than getting absorbed in being pissed off.

Alongside the relevant changes/refinements implemented as a result of the challenge, performers described the importance of process in utilising self-awareness, to enable them to be comfortable to take control and use initiative to resolve future challenges.

> I am more comfortable to take control and challenge things. I'm much more involved in my plan and making sure the relevant people have input. It's really important that I speak up when things aren't right and take the lead to sort it out.

Performers also recognised their awareness and preparedness for future challenges, which provided them with perspective. In one case, the performer felt they were now in a suitable environment to facilitate achieving their goals; however, they were not under the illusion it was the answer alone. The performer identified the need for on-going management of environment to ensure it effectiveness.

> Things have definitely changed for the better, my set up is now world class. But it's not going to be easy, I have to stay on it. I just need keep an eye on my environment now to make sure it's right for me.

Performers who went through the phases quicker, were able to make sense of and manage their emotional response (self-regulate) earlier than those who moved through the stages slower. It is also interesting to note that the scenarios whereby performers moved through the phases quicker, required only micro level changes. For example, one performer

described how they utilised self-regulation/self-awareness to help them recover and grow from challenge. This quote below indicates that, although developing and refining their competition approach, they did not rely on rigidity of the approach to perform. Moreover, they referred to being more flexible and adaptive allowing them to have a situation specific approach conducive of a successful performance.

> It wasn't the new approach that was the solution; it was how I managed it if you know what I mean. So obviously the new approach was needed but I'm much more relaxed with the approach and can always find a way to perform even if I don't have that.

As the below quote illustrates, a performer when through the recovery and growth stage in the same phase.

> I'm back on track now with a much better plan. I'm not going to leave it for someone else to sort now, I'm going to take the lead on it now going forward. It has taught me that I need to be manager of myself so to speak.

Similarly, an athlete went through the response and reflection stage within the same phase.

> I'm just so annoyed and angry. I don't think I can trust any of them….If I call them now I know I'll lose my cool. I've acted really emotionally before and then it turns back on me. I need to handle this logically, so they know they've messed up.

In contrast, performers who made macro changes in response to their challenge moved through all four stages distinctly as opposed to more than one stage at a time. Those who went through micro level changes, went through the stages quicker and at times progressed through two stages in one phase.

6.3.3. Role of psychologist. Key elements of the support that performers identified as helpful were; acting as a sounding board/reflective listening and supporting the process of exploring the problem, whilst facilitating the performer to lead management of the challenge. A point consistently highlighted by all performers was having someone to speak to that they

felt was objective and not trying to 'tell me what to do.' Specific characteristics and approaches identified by performers as helpful included: being trustworthy; felt they cared; approachable; maintaining confidentiality; objectivity; individualised support; consistency of support; and being supportive not directive. They following quote illustrates the importance of individualised support.

> I felt like you really understood me and didn't judge me at all. You helped me figure out how to sort it out in my own way.

Performers also reported finding value in consistent support from a psychologist. Support did not need to be at the forefront, but performers referred to appreciating efforts made to be kept in the loop and 'there when needed'.

> It felt like you were there throughout the process without it being obvious if that makes sense. There if I needed it but didn't force it. It was good not to have to re-explain things as you always seemed to be in the loop.

Additionally, performers identified an importance of having a consistent relationship despite of performance outcomes.

> When things are good people want to be part of your team, they try and attach themselves to success. You've always been consistent with your support whether it's going well or I'm hitting a problem.

Having someone who is truly objective, was particularly pertinent for all performers to provide a platform of non-judgemental and objective support. This is particularly relevant in terms of, how a psychologist is viewed in an elite sport with regard influence over funding or selection decision.

> It felt like most people have an agenda, whether it's because they are trying to make me a decision which will be good for them. It was good to have that objective person

> who I didn't feel was trying to influence the outcome but how you explain it of working to help with the process of my decision really fitted with me.

As the performer progressed through the stages, the relationship between practitioner and performer developed, allowing for check/challenge of decision-making process, particularly in the reflection and growth stages. The rationale and process of check/challenge was explained and explicitly agreed with each performer. As the following quote illustrates, performers reflected on this as a useful process. Furthermore, as this performer alluded to, the importance of establishing a trusted and safe environment to explore this process is critical.

> I felt like you helped me work it out and almost played devil's advocate; it helped me look at it from all angles. I think because I knew there was no agenda other than helping me make the best decision I could be really honest with that.

In order to facilitate this, the role of the psychologist was to assist the athlete to reflect on their skills which could be utilised to negotiate the challenge.

> It helps to rationalise my concerns and realise that I am able to sort it. Going back over my things I have overcome before just reminds me of what I did that worked and what I need to do now. It helps just to remind myself of all those steps I took to sort it.

6.4. Discussion

The purpose of this Chapter, was to extend previous findings in Chapters 4 and 5. With a notable shortcoming of previous being retrospective, my aim was to provide a more ecologically valid examination of the experience of traumas for elite performers during their development. More specifically, as outlined in Chapter 1 objectives 5, 6 and 7 (page 15), the purposes of this Chapter was to: (a) explore elite performers' experiences of encountering memorable challenges along their development pathway through longitudinal tracking; (b)

identify the mechanisms that enable growth through these experiences; and (c) explore the role and impact of supporting psychologist throughout these experiences. In line with overall thesis aims and philosophy, the aim was to provide information that will optimally inform applied practice and how support is applied in talent development programmes. This Chapter has addressed a gap in our knowledge and furthered insights provided in Chapters 4 and 5. Additionally this Chapter, has identified the temporal course of growth and the specific stages performers experience when encountering and growing from a trauma/challenge related experience. Furthermore, it reinforces the role of psycho-behavioural skills and the reciprocal process of refinement through challenge. Critically, this Chapter identifies key applied recommendations and how the role of the psychologist can support this process.

As an important validation against mainstream literature, the mechanisms reported with regard to the temporal course of growth and resultant stages identified are consistent with principles of post-traumatic growth. More specifically, performers experienced growth over several stages with the rate of time in each stage being individualised. The response stage and resultant emotional reaction supports the notion that the trauma was significant to challenge their pre-trauma based assumptions. Additionally, in line with intrusive rumination the reflection stage leads to deliberate rumination, which Tedeschi and Calhoun (2004) have associated with greater growth. In line with a reciprocal process of the performer's emotional state and their coping strategies led to positive accommodation; whereby the performer revised their beliefs, made decisions/actions in line with those beliefs in order to *recover* from the trauma. Following implementing their recovery strategy, performers' growth stage represented a level of functioning deemed higher than that of pre-trauma experience. In this way, in line with findings in Chapter 4 and 5, all performers referred to the challenges as having a positive and often a critical impact on their subsequent success. Similarly, findings represented only sport related traumas. This is not to say that performers did not experience

personal challenges, but in this Chapter, none were significant enough for an athlete to report it as a trauma. Typically, the growth experienced which was key to shaping the athlete's successes, seemed to be sport related. That is not to say in other instances significant non-sporting events could cause a growth within a performer's sporting performances. However, I would suggest this is not the 'norm' and certainly not the case within this cohort.

In line with findings in Chapter 5, performers focused on why the distressing feeling was being experiences as opposed to focusing on the feeling itself. This allowed for a position of self-distance to be established as opposed to self-immersion (Sarkar & Fletcher, 2015). Aligned with the concept of why they distressing feeling was happening, the role of psycho-behavioural skills also identified in Chapter 4 and how these skills can actually help growth identified in Chapter 5, were reinforced in these studies findings. Performer's utilised specific psycho-behavioural skills which provided perspective, control and confidence which aided growth. The performers' ability to endure emotional distress, find meaning in their experienced, engage in cognitive processing, philosophy refinement and adapt their behaviour is indicative of constructive growth (Howells & Fletcher, 2016). The restructuring reported by performers were permanent transformations, which evolved and showed no sign of regression to previous beliefs. Interestingly, as in Chapter 5, no evidence was found for behaviours typical of illusory growth: avoidance; denial; wishful thinking; self-consolidation; or self-deception.

As another important question from the data, I considered carefully the extent to which skills were present in advance of, or as consequence of the trauma. As the performers were experienced athletes who had been on their development pathway for at least 6 years, they already possess the skills associated with success. Therefore, in line with Chapters 4 and 5, the challenges act as an opportunity to refine their skills as opposed to causing new skills. In comparison, Howells and Fletcher's study (2016) of adversarial growth in Olympic

Swimmers, identified that a performer's response of continuing training as usual and not confiding in others as a symptom of denial and consequential illusory growth. Conversely, in this Chapter, performers who reported continuation in their training regime despite awareness it was problematic, did not describe denial but rather, a rationale of maintaining a form of progression towards their goals. Furthermore, several performers explained their reasoning for not confiding in training partners or people within the immediate environment, as a method of control to avoid the challenge affecting potential maintaining of training progression. Performers used this time to consolidate and plan how to approach their challenge in a different manner and reported to have confided in support system outside of immediate sport environment. This allowed the performer to maintain control, whilst allowing for cognitive appraisal and subsequent reformation of schema. These findings would suggest, that the employment of psycho-behavioural skills facilitated constructive growth as opposed to illusory growth. Furthermore, caution should be applied to assumptions drawn from continuation of training and not confiding in training partners is a symptom of denial. Moreover, it could be a method of maintaining control and progression towards their goal, whilst formulating revised cognitions as described by performers in this Chapter.

6.4.1. Applied implications. With regards to the role of the psychologist, each performer stressed the importance of them taking personal responsibility/control for negotiating the challenge and making all relevant decisions. Additionally, performers stressed the importance of 'not being told what to do' by others and the support being *supportive* rather than *directive*. In line with PTG, a directive approach by a psychologist or relevant support staff could result in rapid resolution whereby the performers may not be severely tested; thus, growth may not occur (Calhoun & Tedeschi, 1999). Furthermore, taking responsibility of negotiating the challenge promotes an internal locus of control which

has been associated with positive perception of growth (Maercker, 1999; Park, et al., 1996), in addition to facilitating constructive cognitive reactions (Fletcher & Sarkar, 2012). Performers in this Chapter described a tenacity to find resolute in their challenge, despite having to deal with unpleasant or challenge consequences (e.g., have difficult conversations, terminate working relationships), and to be driven from their belief in their ability to achieve their goals. Furthermore, all performers reported using their pre-existing skills to keep a perspective on their long-term goal. This enabled them to identify the challenge as a potential performance blocker that needed to be resolved. Maintaining long-term perspective, facilitated a willingness to make significant short-term sacrifices (e.g., miss major competition). It has been argued that sport psychology interventions typically place more emphasis on intervention content, than on the processes of relationship-building and intervention delivery. Subsequently, there is a need to better understand the mechanisms of action or mechanisms of change (Gardner & Moore, 2012; Poczwardowski et al., 1998). This Chapter reinforces the vital role an authentic relationship between practitioner and athlete has on making valid contribution to a performer's development. Some researchers have suggested that sport psychology literature tends to place a greater emphasis an intervention content that the processes of relationship building (Gardner & Moore, 2012; Poczwardowski et al.,1998). Certainly, in this Chapter the performers stressed the importance of the specific approach they found helpful from the psychologist. Overall characteristics of the psychologist which performers expressed as favourable (trustworthy, felt they cared, approachable, maintain confidentiality and objectivity) are supported by and align with previous literature as associated with positive consultancy relationships (Anderson, Miles, Robinson & Mahoney, 2004; Lubker, Visek, Geer, & Watson, 2008; Sharp & Hodge 2011, 2014). This chapter supports previous literature emphasising the importance of the practitioner-performer relationship. Tod and Anderson (2005, p.309) stated that "the sport

psychologist is the primary consulting tool and the practitioner-athlete relationship is the main intervention".

Furthermore, this Chapter recommended additional and specific key guidelines for psychologists supporting elite performers as they encounter, cope with and respond to challenge. Reflective listening, allows the performer to 'reflective ponder' which, in turn, facilitates the process of finding meaning in their challenge (Stockton, Hunt, & Joseph, 2011). In initial stages of high emotional response, practitioners can help rationalise and normalise the performer's response, which supports focus on making sense of the challenge. Providing consistent support facilitates the continuous cycle of processing and subsequent affective-cognitive processing (Joseph et al., 2012). By helping the performer recall previous examples of how they coped with challenges, practitioners support refined application of relevant skills. Practitioners can monitor and reflect which stage of growth a performer, to inform their approach and practice. As demonstrated by the individual variation of experience, responses and rate of progression through the four stages of growth, it is imperative that practitioners individualise support as personality, social and psychological factors will influence the speed and depth of processing (Joseph & Williams, 2005).

6.4.2. Strengths and limitations. As with all research, this Chapter is not without limitations. Due to the nature of the research methods applied in this Chapter, the sample size was purposefully small and limited within one sport. Notwithstanding, this Chapter uniquely contributes to the area by longitudinally tracking elite performers as they negotiated unplanned challenges. This Chapter provides a unique lens, on how performers negotiate challenge and the subsequent stages they go through in order to experience growth beyond pre-trauma functioning. Furthermore, it depicts key considerations for applied practitioners supporting performers to facilitate growth in the face of adversity.

6.4.3. Summary. This Chapter identifies the temporal course of growth experienced by elite performers' as they encounter trauma along their pathway. Four distinct stages of growth were identified, with time at each stage being individualised to the athlete. Furthermore, it reaffirms the application of, and role psycho-behavioural skills play in assisting athletes to negotiate trauma in order to experience growth. The resounding reflections that trauma resulted in positive change, which was needed and improved athletes' route to the top, reinforces the need for systems supporting elite athletes to be skilled at facilitating growth. Furthermore, this Chapter has identified the potentially key role of the sport psychology practitioner in facilitating growth, which provides subsequent applied implications for practitioners. The positive and almost required outcomes of growth following trauma, lends support to the interesting debate on the need for talent development programmes to introduce structured trauma. This process would need to be supported by the development of relevant psycho-behavioural skills before an individualised structured trauma protocol was introduced. Accordingly, the next Chapter considers the theoretical and applied implications of the findings of Chapters 4, 5 and 6.

Chapter 7: General Discussion

7.1. Introduction

Based on an expanding literature base, researchers seem to have reached consensus on a number of talent development principles. Most fundamentally, the development of talent is considered to be highly individualised, non-linear, influenced by a host of intrapersonal and interpersonal, and system level factors (Abbott, et al., 2005; MacNamara, et al., 2010a, 2010b; Vaeyens et al., 2008). Reflecting the pressure and complexity associated with achieving an elite performance level, successful elite athletes have been characterised by applying a range of psychological characteristics which enable them to withstand the pressures and challenges typically encountered along their developmental pathway (Fletcher & Sarkar, 2012; Gould, et al., 2002). As an applied practitioner working within the field of elite sport, it is critical for me to understand how best to facilitate and support athletes' ability to successfully negotiate their development pathway. Recognising the need to deepen understanding of the role of challenge in developing talent, the main aims of this thesis as identified in Chapter 1, were;

- Explore the role, impact and use of trauma/challenge along the TD pathway.
- Explore the role of psycho-behavioural skills in negotiating developmental Trauma.
- Explore performers' experiences of challenge and growth as they are encountered.

Given the aim of this thesis to provide practical solutions to an applied research question (Peirce, 1984) this research is underpinned by a pragmatic philosophy. As such, a multiple methods approach was deemed most appropriate to explore the thesis aims. Accordingly, the results of this approach are summarised in this Chapter.

7.2. Implications for Literature

In line with previous research (Abbott et al., 2005; Collins et al., 2016a; Howells & Fletcher, 2015; MacNamara, 2010b; Sarkar et al., 2015) Chapters 4, 5 & 6 identified non-linear progression and individualised development pathways for each performer. As outlined in Chapter 1, this thesis aimed to resolve the debate of whether growth occurs as; a result of experiencing trauma/challenge or how it is responded to by the performer. Against the causative role of trauma identified in life experience studies (e.g., Howells & Fletcher, 2015; Rees et al., 2016), this thesis found no major life events reported by performers. For clarity, that is not to say major life events do not happen to performers or involve growth; rather, they are not necessary to develop positive patterns for the future. Notably, as described in Chapter 4, the magnitude of rebound post trauma increased sequentially; suggesting an improvement in trauma-relevant skills and confidence, as well as learning effects. In this way, this thesis supports the notion that growth or development of key psycho-behavioural characteristics and skills does not emerge as an inevitable outcome of trauma. Rather, trauma acts as a *proving* experience for performers to test/hone their pre-existing psycho-behavioural characteristics and skills. In addition to supporting Collins and MacNamara's (2012) proposal that talent needs trauma, Chapter 4 added depth to the description and explanation of how trauma might impact development.

As outlined in Chapter 1, objective 3 of this thesis was to firstly explore the mechanisms performers employed to overcome trauma. After careful consideration of the current literature and subsequent gaps, in line with objective 4, another important question was how these mechanisms supported growth. To date, research (e.g., MacNamara et al., 2010a, 2010b; Howells & Fletcher 2015) had addressed what skills helped and not how these skills helped. Uniquely, Chapter 5 identified that the skills utilised by performers were found to support *perspective in the response to trauma*, *control of the response to trauma*, and *belief*

in the response to trauma. In this way, performers' psycho-behavioural skills helped them to frame the trauma against the bigger picture, take responsibility for their response, and have confidence in their ability to recover and grow from the trauma. Building on Howells and Fletcher's (2016) study of illusory and constructive growth which attributed early response stages with illusory growth and constructive growth emerging over time. In contrast, Chapter 5 found psycho-behavioural skills to support constructive as opposed to illusory growth even in early stages. Consequently, by possessing and refining relevant psycho-behavioural skills can enhance constructive growth and minimise time, if any, of illusory growth.

Building on the findings in Chapters 4 and 5, Chapter 6 aimed to address the gap in research outlined in Chapter 1, in line with objective 6. Chapter 6 uniquely explored a more in-depth, ecologically valid look at how performers managed challenge. Distinctly, and in line with objective 7 identified in Chapter 1, Chapter 6 identified 4 temporal stages of growth which performers progressed through in individual phases. By identifying the stage of growth a performer is in, this can provide the athlete's support team with critical information to tailor support relevant to the athlete and stage in the process. Previous retrospective research failed to identify the specificities of growth; Chapter 6 uniquely recognises specific growth related to each challenge, and even stage of challenge. In line with PTG theory of the repressive impact of rapid resolution on potential growth, Chapter 6 clearly asserts the *supportive* as opposed to *directive* role of a sport psychologist. Such guidelines are relevant TD programmes and performers wider support team. Chapter 6 contributes to literature guiding sport psychology practice in supporting elite performers. Key aspects of the role of a supporting psychologist included: acting as a sounding board/reflective listening, objective point of view, and supporting the process of any decision making rather than 'tell me what to do.' Performers identified specific characteristics and approaches they found helpful: being trustworthy; felt they cared; being approachable; being able to maintain confidentiality;

maintaining objectivity; providing individualised support; consistency of support. Performers felt in a safe environment, which allowed for effective check/challenge relationship with psychologist.

7.3. Implication for Practice

Given this thesis' underpinning pragmatic philosophy, which aims to provide practical solutions to real problems in the talent development field, the contribution of the overall findings is now presented in the format of POP continuum (depicted in Chapter 2) proposed by Collins and colleagues (2018).

Performance The ultimate goal of this thesis was to contribute to the field of TD from both a theoretical and applied standpoint. This thesis explored performers' development pathway, with specific examination of their experience of trauma or challenge. Chapter 4 supported the previous finding that elite success is associated with a 'rocky road to the top', consequently emphasising the importance for TD programmes to effectively prepare performers to negotiate a typically individualised and non-linear pathway. Furthermore, the learning effect identified in Chapter 4, coupled with reports in Chapter 5 and 6 that performers said the setbacks were 'needed' and led to refinements/change. The resultant refinements/changes were perceived to have advanced their performance level and future potential, supporting the claim that 'talent needs trauma.' Subsequently, TD programmes should not only equip performers in early stages of their development with the skills associated with effective development of talent, but also provide opportunity for performers to test/refine their skills. Given the clear finding that traumas acted as a proving experience for performers to test and refine their skills, suggests the talent development programmes firstly need to provide an environment to develop associated skills, for example, PCDEs (MacNamara et al., 2010a, 2010b). Secondly, once these skills are developed they need to be tested. This may be a natural occurrence, but to ensure all performers have the opportunity to

test and refine their skills, structured trauma should be considered (Collins & MacNamara, 2012). The concept of using the ups and downs of the development pathway as opportunities for critical reflection, learning and subsequent application has been supported by several researchers (Crust & Clough, 2011; Martindale et al., 2005). If encountering trauma is left to chance, performers could miss the opportunity to adequately refine skills needed to negotiate their pathway. Inability to cope with the demands of the development pathway could result in early drop out. Therefore, by appropriately developing athletes, TD programmes could increase retention and reduce likelihood of losing potential talent/almosts. Reflecting this idea, Collins and MacNamara (2012, p. 3) suggested that structured trauma is 'not only desirable but essential to high-level performance.' This would be highly individualised and within an environment equipped to support the process of growth. Furthermore, this thesis stresses the important role of support staff in facilitating an environment of growth. Additionally, Chapter 6 identifies some key principles for practitioners supporting performers' development to facilitate the process of growth through trauma.

Outcome With regard to the debate on whether life experience, attitude or skills support the ability to deal with challenge, this thesis identified the integral role of psycho-behavioural skills. Additionally, Chapter 5 identified *how* psycho-behavioural skills enable performers to deal with and grow from challenges. To reiterate, these findings have added another dimension to empirical evidence by highlighting *how* psycho-behavioural skills are perceived to help with post-traumatic growth; thus, moving beyond recent recognition of *what* skills are perceived to be important (Collins et al., 2016a; MacNamara et al., 2010a, 2010b; Savage et al., 2017). Secondly, and in contrast to Howells and Fletcher (2016), results also promote a more skills-weighted than time-weighted approach to supporting constructive growth. The importance of understanding how these skills support the mechanism of growth is integral to informing how TD facilitate the development and

deployment of psycho-behavioural skills. Furthermore, this thesis indicates that psycho-behavioural skills facilitate more constructive growth. Illusory growth stages may be more prevalent with performers lacking or, still developing the appropriate skills to support growth. Therefore, as performers refine their skills the growth process will be associated with more constructive growth.

Process As suggested earlier, TD programmes should facilitate the development of appropriate skillsets, which equip performers to negotiate their development pathway in order to achieve performance potential. Given the on-going refinement of skills and non-static pathway of performers, this should be considered as a consistent part of TD programmes. In this way, the process of supporting and developing performers' ability to deal with challenge does not end, rather it continually evolves in line with individual responses. Within this process I would suggest there are 2 phases, with the first phase being a finite teaching phase. This would involve performers going through a 'taught phase' of learning about relevant skills (e.g., PCDEs) and how these are operationalised. Once this phase is complete, the performers would enter the on-going test/refine phase, which would continue in some form throughout their career. Readiness for the test/refine phase should be individualised, with attention taken to ensure each performer has adequately achieved the level of understanding required to test/refine their skills. Given the typical non-linear nature of development pathway in sport, individuals would likely encounter organic situations to test their skills. However, for those performers who either do not experience any testing opportunities, it is integral they have the opportunity early in their development to ensure appropriate time is given to hone their skills. Subsequently, TD programmes can introduce structured trauma, whereby situations are created to provide an opportunity to test performers. Despite the origins being artificial, the trauma needs to have real challenges and real consequences. For example, a last-minute change of schedule, being given minimum kit, or not getting selected

for a game. Despite being artificial, the real consequences will allow the athlete to go through the full process and experience the test of skills first hand, rather than just scenario based. As opposed to selecting random situations, structured trauma should be considered as, beginning with less challenging trauma and only increasing severity of scenario once performers demonstrate ability to cope with previous structured trauma. For example, if a TD programme identifies 5 structured trauma's, number 1 (e.g., schedule change on a training day) would have the least consequence and 5 (e.g., not being selected for competition) the most. If a performer's skills were tested in number 1 but did not demonstrate effective application of skills or growth, the skills should be revisited before introducing further structured trauma. Furthermore, the scale of structured trauma should be followed chronologically and each one being met before progressing to the next. As no two development pathways have been found to be identical, it is critical structured trauma is individualised to each performer.

A critical finding in this thesis is, the feeling of being in control and performers getting what they want *when*, *where*, and *how* they want it. As identified in Chapter 4, autonomy and control have been linked to individuals' decisions to make relevant sacrifices, which resultantly lead to higher success rates (Fazey & Fazey, 2001). As such, the aim of TD programmes should also create an environment which facilitates the development of an autonomous elite performer. More specifically, structured trauma is not about controlling but rather exploration for the performer. This exploration process must be performer led and *supported* by relevant support teams. The four clear stages of growth identified in Chapter 6, provide supporting practitioners with a framework to better understand where the performer is on the growth trajectory and how to best support that particular stage. By being able to identify the stage of growth performers are in, practitioners can support the performer's progression through the subsequent stages. Additionally, recommendations of behaviours

and actions deemed by performers as helpful from the supporting psychologist, offer clear applied implications for supporting performers response and growth following trauma.

7.3.1. Practitioner qualities. As summarised above, it is integral practitioners support and not stifle (i.e., rapid resolution) growth opportunities for performers. Furthermore, the performers in Chapter 6 placed high value in not only sport psychology support but also the specific approach and characteristics utilised. This section provides further detail on applied considerations for practitioners supporting developing athletes.

Chapter 6 depicts the overall approach and key characteristics deemed helpful in a supporting psychologist by performers when dealing with challenge (e.g., trustworthy, caring, approachable, maintained confidentiality and objectivity). The importance of a collaborative relationship between practitioner and client has, for a long time, been identified as the most robust predictor of intervention outcome (Norcross, 2002). As such, an authentic and established practitioner-athlete relationship is pertinent to facilitate intervention effectiveness. In this way, Kyndt and Rowell (2012, p. IX) stated that practitioners who are able to excel in delivering in high pressure sport environments, are distinguishable by their personal practitioner qualities as opposed to their 'technical prowess'.

Given the complex and unpredictable nature of the sporting environment, psychologists must, like the performers, effectively operate in relation to each specific context (Katz & Hemmings, 2009). Such challenges potentially faced by psychologists in the elite sport environment include building relationships, establishing credibility, handling sensitive information, understanding the relative sporting culture, and dealing with interpersonal disagreements and conflict (McDougall, Nesti, and Richardson, 2015). In this way, a strong relationship would be favourable to not only survive but thrive in a challenging environment. More specifically, Sharp and Hodge (2011; 2014) asserted that openness and trustworthiness were key practitioner qualities which facilitated strong relationships with

athletes. Similarly, and whilst aiming to develop a trusted and open rapport with athletes and coaches, a practitioner should display approachability. Anderson, Miles, Robinson and Mahoney (2004) made the important distinction between accessibility and approachability. Approachability should not be misunderstood as being 'around' or available for performers, but rather displaying the qualities or positive demeanour whereby performer's feel comfortable to approach.

As another consideration, psychologists in elite sport will typically be supporting an athlete as part of a multi-disciplinary team; as such, appreciating and operating within the organisation's culture is a key component to be able to become embedded within a performer's support team. Chandler, Eubank, Nesti, Tod, and Cable (2016) found colleagues considered effective psychologists to be able to understand, appreciate and operate within the organisational culture. Specifically, being able to understand and speak the language whilst appreciating how the psychologist fits into the wider organisational picture is key. Consistent with this, in Chapter 6, I found that displaying an understanding of the language of the sport and performer, plus a want to understand the language, are equally important. For example, if a performer is in the initial response stage of growth, it is advantageous to keep up with the language they use as opposed to have to ask for an explanation or not fully follow the conversation in situ. Additionally, when beginning to establish a relationship with an athlete, displaying a want to understand *their* language can be perceived as investment and showing you care. Each athlete has their own view on their sport/event, as such, approaching with open curiosity can help to reinforce an individualised approach and a keenness to build trust. As an example of this, an athlete in Chapter 6 struggled to develop relationships with other practitioners and felt no-one cared about their event. I purposively went along to several training sessions and asked questions to not only understand the event, but the specific culture/code of conduct of that event. Critically, I sought to understand this from the

perspective of the specific athlete and coach as opposed to just general knowledge. The athlete and coach reported that this 'really showed you cared' and 'we can trust you as part of our team'. This early process was key to developing a long-term and trusted relationship (Giges, Petitpas, & Vernacchia, 2004).

Given the volatile and unpredictable nature of elite sport, and as identified by athletes in Chapter 6, a psychologist can also be a source of consistent and stable support, whilst remaining an objective input. To achieve this objectivity and consistency in a changing and volatile environment, it is critical that a psychologist finds the balance between 'fitting in' (Lubker, Visek, Geer, & Watson, 2008) but not being viewed as 'part of the problem'. As such, it is imperative that when initially establishing rapport with performers, the psychologist positions themselves correctly within the system (Chandler, 2015). Such positioning should outline; the underpinning code of conduct and ethics of a psychologist, intentions of support/relationship, alongside specific objectivity in relation to the sport system (e.g., not part of selection or funding decisions). In addition to objectivity, such positioning of intentions, can facilitate the development of trust and feeling cared for as opposed to portraying a selfish agenda (e.g., self-promotion). As highlighted by Nesti (2010), a psychologist's interactions are often informal or 'under the radar'; subsequently, 'good work' very often will go unnoticed or not recognised. Work that is done under the radar can be interpreted by performers as genuine, as it is not been done for recognition of wider audience.

In addition to the importance and impact of specific qualities when working directly with a performer, certain qualities may have greater emphasis depending on the environment context. For example, in Athletics, athletes are likely to be; training with competitors and being supported by an MDT team who are likely to also being supporting competitors within same NGB. As such, it would be feasible to consider qualities such as trust, confidentiality and objectivity could hold heightened importance for the athletes.

7.4. Personal Practitioner Development

As a developing scientist-practitioner, commencement of this programme of work, ran parallel to completion of my BPS Stage 2 Qualification in Sport and Exercise Psychology. As typically expected of developing practitioners, my philosophy and approach has evolved over this time. This following section aims to depict how this programme of work has supported the evolution of my practice.

My initial approach as a practitioner was based around a client led, holistic philosophy whereby, I aimed to provide holistic support in order to make a sustained performance impact (Bond 2002; Henschen, 2001). To support this philosophy, I leaned towards a counselling model approach of practice, which Friesen and Orlick (2010) reported typical of many holistic consultants. In line with early research identifying characteristics of effective sport psychologists, I placed importance of demonstrating flexibility, as well as being open, creative, likeable and accessible to establish authentic rapport with athletes (Partington & Orlick, 1987a; Orlick & Partington, 1987). My initial understanding of a supportive relationship involved a practitioner aiming to reduce stressors allowing the athlete to 'focus on performance development'. As such, my original approach aligned with the premise that support should facilitate a smooth development which minimises stress or challenge.

Through this programme of work, my understanding of the important role of challenge has contributed to my evolving practice. My previous approach could lead to rapid resolution and subsequently inhibit, or disrupt constructive growth following challenge. My current approach focuses on supporting athletes to negotiate challenges autonomously, by facilitating development and/or application of their psycho-behavioural skills. In direct comparison to my original belief in purpose, this involves the athlete experiencing/being immersed in the associated distress without trying to solve it for them or reduce the

associated negative emotions. As opposed to trying to reduce the stress, I now see my role as supporting the athlete to express their response to challenge, monitor progress to the next stage, and if required prompt application of skills to support progression.

My understanding of 'client centred', which is typically non-directive and athlete led, has also developed through this programme of work. Whilst I remain athlete-centred, my origins of being solely athlete led, has evolved to incorporate practitioner led direction where appropriate. From my experience, supporting an athlete through challenge requires a practitioner-athlete relationship to be robust and able to flex between athlete and practitioner led. My aim is for the athlete to continually feel that they are ultimately leading the process, and my role being to provide subtle signposts/suggestions. In certain circumstances, I may need to be more directive with prompts (e.g., if the athlete is displaying behaviours suggesting they do not have the coping resources to respond to challenge); however, it should feel like the practitioner/athlete are working through it together as opposed to the practitioner 'telling'. Furthermore, my application of being directive is also characterised by being able to be direct with questions/probes or prompts, to support the athlete's growth through challenge. As identified in Chapter 6, athletes reported the value of a psychologist checking/challenging them, whilst maintaining a feeling of being fully supported as opposed to being told what to do. As such, my aim has evolved from developing effective and trusted rapport, to additionally, developing rapport which is robust to and open to challenge. Critically, as identified by McDougall, Neisti and Richarson (2015) in their study of experienced sport psychologists, it is imperative to know when to challenge. Through developing robust rapport and understanding the organisational context, practitioners can cultivate the skilled intuition of when or when not to challenge. For example, an athlete Chapter 6 reflected overly favourably on a year they won a significant international medal, which resulted in them setting unrealistic expectations of future seasons. As I was supporting

the athlete first hand that year, I was aware of the actual trajectory (typical ups and downs of training). Therefore, I used gentle challenge to encourage the athlete to reflect with increased accuracy, enhancing their perspective of their training expectation.

In line with self-determination theory, my current approach also aims to ensure that athletes *feel connected* to others, feel *autonomous* and *competent* (Ryan & Deci, 2000). Through deeper understanding of developing athletes' pathways, it is integral they feel *connected* to their own system of connections (e.g., coach, support staff, training partner, friends etc). Furthermore, I aim to facilitate *autonomy* whereby athletes' feel in control and responsible for the direction and decision making along their pathway. Building on this, I aspire to facilitate athletes' feeling *competent* and equipped with the skills and beliefs to navigate their pathway to reach performance potential. Such progression to a more facilitative role as opposed to acting as an expert dispensing advice or solution, aligns with Tod, Andersen, and Marchant's (2009) findings on common professional changes occurring within two years of working as an applied practitioner.

Through this programme of work, and in conjunction with becoming immersed in the complex organisational system of a NGB, my understanding of context and culture became another critical component of my approach. Understanding the NGB and culture alone was insufficient, as each athlete's perception and development to becoming part of the NGB is unique. Furthermore, the development pathway contains critical information for practitioners to understand and appropriately support athletes going forward. As a practitioner, I found the timelining technique used in Chapter 4 and 5, an extremely insightful process to engage in one-to-one support with an athlete. In addition to a detailed information gathering process, the timeline process can enhance rapport, with athletes typically reporting to enjoy the process. Furthermore, athletes often reported they felt it made them feel I better understood them and invested in. Such an approach stresses the individual pathway of development that

each athlete progresses along, which assists the understanding of current and potential future needs. Building on this learning, I aim to further developed my use of this tool along with the findings of this programme of work. More specifically, I plan to incorporate this tool in future projects which aim to develop a needs analysis and monitoring tool, to better inform individualised athlete support within the NGB. Additionally, the influence of this time-line process has transferred into other contexts of my role, particularly as a supervisor of developing psychologists. I have utilised this time-lining tool to understand developing psychologists' pathway, experiences, skills and potential areas for development. Overall, this programme of work has shaped my practice and supported my understanding of how to effectively operate across the sporting system as an applied performance psychologist.

7.5. Strengths

An overall strength of this thesis, is the calibre of performers recruited throughout all three studies. All performers competed at elite senior international level and were supported by their respective NGBs. Furthermore, I would consider the pragmatic philosophy underpinning this thesis as a key strength. A pragmatic approach allowed me to ensure the methodological coherence of each Chapter's purpose. Participant recruitment, research method, data analysis and interpretation were all aligned to a pragmatic philosophy. This philosophy was aligned with my aim to be a scientist-practitioner, driven towards providing findings that are impactful at a practice-oriented theoretical and consultancy level (Giacobbi et al., 2005). With this, the multiple methods approach provided triangulation of data forming a comprehensive picture and minimising potential limitations of a singular data collection method. A key strength of the Chapter 6 was the longitudinal tracking nature, which provided a more ecologically valid examination of performers' experience and management of trauma.

7.6. Limitations

As with all research, transparency of limitations as well as strengths is an essential component of a rounded approach. For the duration of this thesis, I have worked full time as part of a multidisciplinary team of practitioners, delivering applied support for elite level athletes. For the purposes of this thesis, I defined elite level as competing at senior international and supported within the relevant NGB. This role provided me with access to, and relationships with high calibre athletes and the world around them. More specifically, the athletes I worked with were progressing through key stages of their development pathway, which were particularly pertinent to this specific area of study. As such, initial planning decisions for this thesis concluded that I would recruit participants from the pool of athletes I worked with as a sport psychologist. Subsequently, the participant pool was limited to participant availability through my applied role elements. Resultingly, Chapter 4 and 5 included participants from a range of sports, with the majority from track and field. Given my role at the time of the longitudinal data collection for Chapter 6, all participants were from track and field. However, whilst participants were from track and field, they were recruited from a host of different events.

Notably, my role as practitioner/psychologist could have influenced the performers' perceptions thusly, at risk of researcher and participant bias. Accordingly, the investigation across Chapters 4, 5 and 6, depicted steps taken to minimise any bias or limitation from previous relationships. In addition to key communication to participants (detailed in relevant chapters; i.e., participant information sheet, conveyed voluntary participant and ability to withdraw at any time, and critically for Chapter 6; psychology support would remain the same if did not participate), the role of critical friends to check and challenge my interpretation was viewed as imperative to enhance trustworthiness of data. Furthermore, the retrospective nature of Chapters 4 and 5, leads to a risk of an interaction of hindsight and self-

preservation biases in addition to recall issues. As a result, it is not possible to state with absolute certainty the mechanisms of growth as reported by the performers. However, and importantly, as described in Chapters 4 and 5, measures were taken to reduce these biases. As articulated in chapters 4 and 5, the use of graphical timeline was a key component of the methodology to support more accurate recall. Furthermore, I attempted to overcome this general limitation by employing a more prospective study design in Chapter 6. The small sample sizes in Chapters 5 and 6 should also be acknowledged as a limitation; however, I would consider these appropriate considering the nature of exploring specific details in depth. A further consideration is the limitation to one sport in Chapter 6; however, as identified in the respective chapters, the performers were recruited from a range of events. A consideration on the length of time of the longitudinal study would be to extend further to explore the longevity of learning.

Sources of data for this thesis was primarily qualitative, further study could explore if incorporating quantitative measures could enhance the data collected in Chapter 5 and 6. With regards methodologies utilised in this thesis, it was solely interview based. A future consideration could explore the incorporation of observations, in particular, this could be an insightful triangulation to athlete reports through the stages of growth in Chapter 6. Further triangulation could have been conducted through inclusion of perceptions from coaches, support staff or athlete support network.

7.7. Future Study

With specific reference to the limitations identified in this thesis with regards researcher/supporting practitioner position, future research could track performers' longitudinally utilising separate practitioners and researchers. This would eliminate potential negative impact or bias from a psychologist/researcher perspective and provide an alternate lens to the method employed in this thesis. Extending on these findings from an athlete

perspective, it would be interesting to triangulate perceptions from the wider network (coach, support team, peers etc).

Building on the overall findings in this thesis, future studies could longitudinally track performers the initial process of being taught relevant psycho-behavioural skills (PCDEs) throughout their pathway. Such an investigation could incorporate structured trauma, ensuring performers have opportunity to test/refine the skills as they progress on their development pathway. It would be interesting to explore what the young athletes' think they have used to negotiate challenges and what they have gained as a result of negotiating each challenge. Accordingly, such research would contribute to the understanding and retention of potentially 'lost talent' in TID programmes. Furthermore, building on from Collins and colleagues (2016a) study of "Super Champs", "Champions" and "Almosts", a longitudinal tracking investigation of this nature, could provide a more ecologically valid comparison to successful and non-successful performers. The applied implications from this thesis could be utilised as a framework to conduct and support such an investigation. Addressing a further limitation of this thesis, future longitudinal research could be conducted across a variety of sports and NGBs. This thesis addressed the gap of how skills help performers cope with traumas on their pathway; a similar exploration into how attitudes may help performers cope would advance knowledge in the area. For example, it would be interesting to explore how positive attitudes such as Growth Mindset (Dweck, 2006) and Grit (Duckworth, Peterson, Matthews, & Kelly, 2007) can facilitate positive growth following trauma.

7.7. Conclusion

This thesis sought to examine the role of Challenge and Growth on the Talent Development Pathway. In doing so, the pertinent ability to withstand and grow from challenges/trauma along the development pathway has become apparent. Overall, the findings have contributed additional knowledge to the existing literature and provided

conceptual evidence for the concept that ‘talent needs trauma’. Uniquely, this thesis employed a longitudinal tracking design, providing a distinct understanding of the temporal stages of growth. In sum, this thesis provides a significant contribution to the wider literature by providing an understanding of athletes’ use of psycho-behavioural skills, and the mechanisms by how these psycho-behavioural skills support growth through challenge/trauma. Alongside the identification of several areas for future research, this programme of research provides a transition from theory to practice with key applied implications for those assisting with the development of talented athletes.

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Appendix A

A.1. Participant information sheet Chapter 4

A.2. Participant consent form Chapter 4

A.3. Interview guide Chapter 4

A.4. Participant information sheet Chapter 5

A.5. Participant consent form Chapter 5

A.6. Interview guide Chapter 5

A.7. Participant information sheet Chapter 6

A.8. Participant consent form Chapter 6

A.9. Interview guide Chapter 6

Appendix A.1. Participant Information Sheet - Chapter 4

Challenge and Growth on the Talent Development Pathway

Please read the information below thoroughly before deciding whether or not to participate in this study.

Introduction

You are being invited to take part in a research study being conducted as part of a PhD project into Talent Development. Before you decide to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. If there is anything that is not clear or you would like more information please just contact me, my details are on page 3 of this document. Take time to decide whether or not you wish to take part.

Thank you for reading this information sheet, which you should keep if you decide to take part in the study.

Who will conduct the research?

The research will be conducted by Jennifer Savage (PhD Student) under the supervision of Prof Dave Collins and Dr. Andrew Cruickshank. Supervision is through at University if Central Lancashire (UCLan) where this PhD is based.

Purpose of this Study

An athlete's development pathway is a multidimensional process. This process typically involves various transitions and challenges. How an athlete responds to such obstacles can have a significant impact upon their development pathway. If an athlete does not feel they have the coping mechanisms to deal with a challenge this could have a negative impact on their development. For example, athlete A fails to be selected for a team and avoids being put forward for future selection. On the other hand, successful negotiation of challenges can develop essential skills needed to facilitate successful optimisation of challenges. For example, if athlete B also fails to be selected however they reflect on why they weren't selected and aim to develop those specific areas for the next chance to be selected. Subsequently positive challenges can contribute to an athlete's development and subsequent progression.

I am interested in tracking successful senior athletes' development pathway to explore the extent to which such challenges positively contributed to their progression.

This study will be conducted over three months from November 2013 to January 2014.

Why have I been chosen?

You have been chosen to participate in this study because you are a successful senior athlete and have experience negotiating a development pathway.

Do I have to take part?

It is up to you to decide whether or not to take part. If you wish to participate in this study, please contact the researchers within one week of receiving this information sheet.

If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

The study will consist of an interview in which you will be asked a number of questions about your experiences through your sporting development pathway. During the interview you will be asked to map your perceived timeline of development.

Where will the interview take place?

The interview will take place on a day and time that is convenient to you. This will be face-to-face with the researcher at the Hi Performance Centre, University of Birmingham, in a consultation room. Each interview will last approximately 90 minutes. You do not have to answer any questions, you can stop answering the questions at any time and you can withdraw your data from the study at any point up to two weeks post-interview completion.

The interview will be recorded and later analysed. If you would like to receive data from the analysis that will follow the interviews, this will be available within six months. The specific data that will be accessible to you is the recording of your own interview and your performance progression map.

Confidentiality

Please rest assured that all information gathered in this study will remain completely anonymous and strictly confidential. Interviews will be identified using a code number that you will be assigned. Quotes may be taken from you and used to illustrate generally themes; however these will be completely anonymous. When I write the final report and any other publications, I will not use your name and nothing that can identify you will be contained in it.

All collected data will be held on a password protected computer and in a secure locked cupboard. Data will be stored for five years from the end of the project and then destroyed.

Withdrawing from the study

Participation in this study is completely voluntary. You have the right to withdraw from the study at any time without any penalty. If you withdraw from the study, your interview will be deleted and all information about your involvement will be discarded. If your data has already been anonymised and aggregated with other data it will not be possible to identify and remove it. However please be assured it will also not be possible to identify anyone from this aggregated data set.

Benefits

The information you provide will help us understand more about the importance of positive deliberate experience on the development pathway. Subsequently it will help us better support and prepare developing athletes' with the skills needed to negotiate challenges.

Follow up study- study 2

There will be a follow up study (study 2) to this initial study which you may be contacted to ask to take part. By taking part in study 1 it is not assumed you wish to take part in study 2. Therefore when contacted you can decline participating further in study 2.

Research Ethics

The UCLan BuSH Ethics Committee has reviewed and approved this study.

If you have any complaints or issues about the study please contact John Minten, Head of School, Sport, Tourism, and the Outdoors, UClan. Jhminten@uclan.ac.uk

If you would like to take part in this study or if you require further information please contact:

Jennifer Savage, BPS trainee Sport Psychologist, Hi Performance Centre, University of Birmingham

j.savage@bham.ac.uk 0121 414 7645

University of Central Lancashire

Appendix A.2. Participant Consent Form – Chapter 4

1) **Investigation:** Retrospectively track successful senior athletes and explore the extent to which challenge and deliberate experience made a positive contribution to their progression.

Investigator: Dave Collins, Andrew Cruickshank & Jennifer Savage
Name _____

Please read and initial each statement

- I have read and understand the subject information sheet. ____
- I understand what the project is about and what the results will be used for. ____
- I am fully aware of all procedures involving myself and of any risks and benefits associated with the study. ____
- I know that my participation is voluntary and that I can withdraw from the project at any stage without giving any reason. ____
- I understand that anonymized quotes may be taken from me and used to illustrate general themes. ____
- I understand that the data [*interviews*] will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed. ____
- I understand that the results will be anonymous and any results used will not be attributable to me ____
- I would like to receive a copy of the results. ____

Signature of participant:_____ Date:_____

I certify that I have explained to the above individual the nature, purpose and possible risks associated with participation in this research study, have answered any questions that have been raised, and have witnessed the above signature.

Signature of investigator: _____Date:_____

Appendix A.3. Interview Guide – Chapter 4

a. Confirm rationale of study □
b. Reinforce confidentiality and encourage honesty □
c. Indicate likely length of interview □

Question 1: Opening discussion	
What sport/event do you compete in?	□
What level have you reached in your sport?	□

Question 2: Mapping performance progression	
Begin with marking down the age you started in your sport at the start of the X axis and then mark your current age/age of retirement at the end of the X axis.	□
Choose some key ages to fill up the axis, so that you can map what happened against your age	□
The next step will be to draw a line to represent your performance progression. Start at the beginning of your career and work chronologically to present/retirement. The y axis here represents your perceived progress to the top. When you felt you were progressing well, the line will slope up. Slumps or setbacks will be shown as downward slopes, plateaus as flat lining, etc.	□

Question 3: Mapping performance progression	
Can you split your timeline into phases (e.g. school, university)	□
Can you annotate progression line with significant events and particular challenges;	□
age at the time of event/challenge/transition	□
competitive level at the time of event/challenge/transition	

You can amend or add to your performance progression graph at any point during the interview □

Question 4: Response to phase/transition
Can you talk me through this phase/transition and how you responded to its major events/challenges? □
How did this event/transition come about? □
How did you respond to this event/transition?
Why did you respond this way?
Why not alternative way?

University of Central Lancashire

Appendix A.4. Participant Information Sheet – Chapter 5

Challenge and Growth on the Talent Development Pathway

Please read the information below thoroughly before deciding whether or not to participate in this study.

Introduction

You are being invited to take part in a research study being conducted as part of a PhD project into Talent Development. Before you decide to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. If there is anything that is not clear or you would like more information please just contact me, my details are on page 3 of this document. Take time to decide whether or not you wish to take part.

Thank you for reading this information sheet, which you should keep if you decide to take part in the study.

Who will conduct the research?

The research will be conducted by Jennifer Savage (PhD Student) under the supervision of Prof Dave Collins and Dr. Andrew Cruickshank.

Purpose of this Study

This is a follow up study to the initial study which you took part in involving tracking your sporting development pathway. This study aims to investigate a more in depth picture of your development pathway. Specifically I am interested in the need for balance between perceived skills and perceived challenge to optimise the impact of the challenge as a positive experience.

This study will be conducted over three months from August 2013 to March 2014.

Why have I been chosen?

You have been chosen to participate in this study because you are a successful senior athlete and have experience negotiating a development pathway. Furthermore you have been selected to participate as you participated in study 1.

Do I have to take part?

It is up to you to decide whether or not to take part. If you wish to participate in this study, please contact the researchers within one week of receiving this information sheet.

If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

The study will consist of an interview in which you will be asked a number of questions about your experiences through your sporting development pathway. During the interview you will be asked to map your perceived timeline of development.

Where will the interview take place?

The interview will take place at a time and place that is convenient to you. This will be face-to-face with the researcher at the Hi Performance Centre, University of Birmingham, in a consultation room. Each interview will last approximately 90 minutes. You do not have to answer any questions, you can stop answering the questions at any time and you can withdraw your data from the study at any point up to two weeks post-interview completion.

The interview will be recorded and later analysed. If you would like to receive data from the analysis that will follow the interviews, this will be available within six months.

Confidentiality

Please rest assured that all information gathered in this study will remain completely anonymous and strictly confidential. Interviews will be identified using a code number that you will be assigned. When I write the final report and any other publications, I will not use your name and nothing that can identify you will be contained in it.

All collected data will be held on a password protected computer and in a secure locked cupboard. Data will be stored for five years from the end of the project and then destroyed.

Withdrawing from the study

Participation in this study is completely voluntary. You have the right to withdraw from the study at any time without any penalty. If you withdraw from the study, your interview will be deleted and all information about your involvement will be discarded. If your data has already been anonymised and aggregated with other data it will not be possible to identify and remove it. However please be assured it will also not be possible to identify anyone from this aggregated data set.

Benefits

The information you provide will help us understand more about the importance of positive deliberate experience on the development pathway. Subsequently it will help us better support and prepare developing athletes' with the skills needed to negotiate challenges.

Research Ethics

The University of Central Lancashire's research ethics committee has reviewed and approved this study.

If you have any complaints or issues about the study please contact John Minten, Head of School, Sport, Tourism, and the Outdoors, UClan. Jhminten@uclan.ac.uk

If you would like to take part in this study or if you require further information please contact:

Jennifer Savage, BPS trainee Sport Psychologist, Hi Performance Centre, University of Birmingham

j.savage@bham.ac.uk 0121 414 7645

University of Central Lancashire

Appendix A.5. Informed Consent Form – Chapter 5

Challenge and Growth on the Talent Development Pathway

1) Investigation: Investigate through more in-depth, rich picture examination, the need for balance between perceived skills and perceived challenge to optimise impact of deliberate experience.

Investigator: Dave Collins, Andrew Cruickshank & Jennifer Savage
Name _____

Please read and initial each statement

- I have read and understand the subject information sheet. ____
- I understand what the project is about and what the results will be used for. ____
- I am fully aware of all procedures involving myself and of any risks and benefits associated with the study. ____
- I know that my participation is voluntary and that I can withdraw from the project at any stage without giving any reason. ____
- I understand that anonymized quotes may be taken from me and used to illustrate general themes. ____
- I understand that the data [*interviews*] will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed. ____
- I understand that the results will be anonymous and any results used will not be attributable to me ____
- I would like to receive a copy of the results. ____

Signature of participant:_____ Date:_____

I certify that I have explained to the above individual the nature, purpose and possible risks associated with participation in this research study, have answered any questions that have been raised, and have witnessed the above signature.

Signature of investigator: _____Date:_____

Appendix A.6. Interview Guide –Chapter 5

Recursive guided questioning will be used to explore each phase along the performance progression graph.

a. Confirm rationale of study □
b. Reinforce confidentiality and encourage honesty □
c. Indicate likely length of interview □

Question 1: Response to phase/transition	
Can you talk me through this phase/transition and how you responded to its major events/challenges?	□
How did this event/transition come about?	□
How did you respond to this event/transition?	
Why did you respond this way?	
Why not alternative way?	

Question 2: Factors involved	
Were there any other factors involved in shaping your response to this event/transition? Why?	□
a. Psychological/motivational factors?	□
b. Training factors?	□
c. Support staff/network factors?	□
d. Competition factors?	□
e. Personal circumstances?	□

Question 3: Factors involved	
Did anything get in the way of/not help with your response? Why?	□
a. Psychological/motivational factors?	□
b. Training factors?	□
c. Support staff/network factors?	□
d. Competition factors?	□
e. Personal circumstances?	□

Question 4: Support	
How did 'XXXX' help?	□
Why did this work?	□
Was there any support or resources that you didn't have/might have benefited from for handling this event/transition?	□

Question 5: Impact on performance	
How did this response/transition impact on your on-going performance?	□
a. Why did your performance level increase/decrease/sustain/plateau?	□
b. When did you see the impact on your performance?	□
	□

c. To what extent did this feed forward into your responses to future challenges?	

Question 5: Overall summary	
Looking at your overall performance progression, what would you say were the most important factors in successfully managing challenges?	□
a. 'What were the most significant hurdles in trying to negotiate challenges?	□
b. 'Is there anything you would have done differently?'	□

Appendix A.7. Participant Information Sheet - Chapter 6

Challenge and Growth on the Talent Development Pathway

Please read the information below thoroughly before deciding whether or not to participate in this study.

Introduction

You are being invited to take part in a research study being conducted as part of a PhD project into Talent Development. Before you decide to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. If there is anything that is not clear or you would like more information please just contact me, my details are on page 3 of this document. Take time to decide whether or not you wish to take part.

Thank you for reading this information sheet, which you should keep if you decide to take part in the study.

Who will conduct the research?

The research will be conducted by Jennifer Savage (PhD Student) under the supervision of Prof Dave Collins and Dr. Andrew Cruickshank. Supervision is through at University if Central Lancashire (UCLan) where this PhD is based.

Purpose of this Study

To gain a richer understanding of how athletes' negotiate challenges encountered on their development pathway. More specifically, looking at how an athlete perceives a challenge and resulting emotional response. Furthermore, the purpose of this study is to track any actions taken by an athlete with respect to each challenge encountered. For the duration of the longitudinal study, the primary researcher, Jennifer Savage, will be logging observations/input as the supporting sport psychologist. Additionally, this study aims to conduct a semi-structured interview after the challenge has been managed any resulting actions established. The purpose of this interview is to gain reflections from the athlete on their experience, actions taken and the role of the psychologist (what helped/what didn't). The overall aim is by gaining a deeper understanding of how athletes manage challenge will better inform how developing athletes are supported.

This study will be conducted over three months from January 2015 to June 2017.

Why have I been chosen?

You have been chosen to participate in this study because you are a successful senior athlete and have experience negotiating a development pathway. Additionally, all athletes who take part in this study will be recruited from athletes receiving psychology support from the lead researcher, Jennifer Savage.

Do I have to take part?

It is important to stress that participation in this study is completely optional and declining will have absolute no impact your sport psychology support. It is completely up to you to decide whether or not to take part. If you wish to participate in this study, please contact the researchers within one week of receiving this information sheet.

If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

Your sport psychology support will remain the same. The lead researcher will use notes and observations from your psychology sessions for the purposes of this study. After you have dealt with any challenges that have occurred, you will be asked to take part in a semi-structured interview. During the interview you will be asked a number of questions about your experiences of challenges you encountered on your sporting development pathway. The lead researcher will also feedback on their observations and notes to check their accuracy.

Where will the interview take place?

The interview will take place on a day and time that is convenient to you. This will be face-to-face with the researcher at the British Athletics High Performance Centre, Loughborough, in a consultation room. Each interview will last approximately 90 minutes. You do not have to answer any questions, you can stop answering the questions at any time and you can withdraw your data from the study at any point up to two weeks post-interview completion.

The interview will be recorded and later analysed. If you would like to receive data from the analysis that will follow the interviews, this will be available within six months. The specific data that will be accessible to you is the recording of your own interview and your performance progression map.

Confidentiality

Please rest assured that all information gathered in this study will remain completely anonymous and strictly confidential. Interviews will be identified using a code number that you will be assigned. Quotes may be taken from you and used to illustrate generally themes; however these will be completely anonymous. When I write the final report and any other publications, I will not use your name and nothing that can identify you will be contained in it.

All collected data will be held on a password protected computer and in a secure locked cupboard. Data will be stored for five years from the end of the project and then destroyed.

Withdrawing from the study

Participation in this study is completely voluntary. You have the right to withdraw from the study at any time without any penalty. If you withdraw from the study, your interview will be deleted and all information about your involvement will be discarded. If your data has already been anonymised and aggregated with other data it will not be possible to identify and remove it. However please be assured it will also not be possible to identify anyone from this aggregated data set.

Benefits

The information you provide will help us understand more about bets to equip and support athletes to deal with challenge on the development pathway.

Research Ethics

The UCLan BuSH Ethics Committee has reviewed and approved this study.

If you have any complaints or issues about the study please contact John Minten, Head of School, Sport, Tourism, and the Outdoors, UClan. Jhminten@uclan.ac.uk

If you would like to take part in this study or if you require further information please contact:

Jennifer Savage, Sport Psychologist, British Athletics, National Performance Institute, University of Loughborough.

Jennifer.Savage@eis2win.co.uk, 07904979765

University of Central Lancashire

Appendix A.8. Participant Consent Form – Chapter 6

2) Investigation: Longitudinally track successful senior athletes and explore the extent to which and how they experience challenge.

Investigator: Dave Collins, Andrew Cruickshank & Jennifer Savage
Name _____

Please read and initial each statement

- I have read and understand the subject information sheet. ____
- I understand what the project is about and what the results will be used for. ____
- I am fully aware of all procedures involving myself and of any risks and benefits associated with the study. ____
- I know that my participation is voluntary and that I can withdraw from the project at any stage without giving any reason. ____
- I understand that anonymized quotes may be taken from me and used to illustrate general themes. ____
- I understand that the data [*interviews*] will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed. ____
- I understand that the results will be anonymous and any results used will not be attributable to me ____
- I would like to receive a copy of the results. ____

Signature of participant:_____ Date:_____

I certify that I have explained to the above individual the nature, purpose and possible risks associated with participation in this research study, have answered any questions that have been raised, and have witnessed the above signature.

Signature of investigator: _____Date:_____

Appendix A.9. Interview Guide – Chapter 6

a. Confirm rationale of study □
b. Reinforce confidentiality and encourage honesty □
c. Indicate likely length of interview □

Questions:

1. Can you describe what the challenge was that you experienced and how you handled it?
2. At the time I noted your perceptions/emotions at each stage, do this sound accurate?
3. This was my perceptions and input, is that accurate?
4. These were the actions which I noted, are they the same as you recalled?
5. Reflecting back now, what are your thoughts on the experience?
6. How do you think the outcomes have affected you?
7. Can you reflect on what was or wasn't useful in terms of psychology support?