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Making Sense of the Challenge: Forecasting and Reflecting on Challenging Experiences on the Talent Pathway

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Abstract

Challenging experiences appear to be an important element of the talent pathway with the potential to derail as well as propel young athletes' progress. The purpose of this study was to examine how young athletes *and* their coaches experienced the most difficult challenges (self-identified by the young athletes) in the early years on a talent pathway in the United Kingdom. Eight young athletes (*M* age = 15.8, *SD* = 0.9 years) and five talent pathway coaches (*M* age = 35.6, *SD* = 5.9 years) were purposefully sampled from a range of sports based on their involvement at the phase of the talent pathway equivalent to the transition between specializing and investment years. Individual semi-structured interviews were conducted at two time points separated by five months. Data was analyzed via interpretative phenomenological analysis. In relation to the young athlete's most difficult challenges, participants forecast their perception of the challenge and what lay ahead on the pathway. Participants reflected on the application of psychobehavioral skill for the challenge, the navigation of the challenge experience, the complexities of the challenge, and the lessons learned through the experience in preparation for future challenges. Specifically, talent pathway coaches should be aware of the individuality and complexity of the challenge experience as interpreted by the youth athletes, more so than the type of challenge itself. In doing so, talent pathway coaches should support young athletes in the development of forecasting and reflection skills to aid in navigating challenging experiences.

Keywords

sport, talent, challenges, development, forecasting, reflecting

Introduction

Regarding talent development pathways in sport, for over 20 years there has been a substantial focus on design (Cote, 1999; Balyi & Hamilton, 2004; Lloyd & Oliver, 2012) and optimization (Jayanthi & Dugas, 2017; Lloyd et al., 2015; McKeown & Ball, 2013). Although some of this research is well-developed, for example, talent development environments (Henriksen et al., 2010; Martindale et al., 2007), the influence of maturation (Malina et al., 2019) and psychobehavioral determinants of development (MacNamara et al., 2010a), there has been less of an emphasis on how young athletes with high potential negotiate the "ups and downs" of development on the talent pathway. In part, this is due to methodological issues; retrospective and single time point data collection has dominated the evidence base (Collins et al., 2016; Howells & Fletcher, 2015;

Tedeschi & Calhoun, 2004; Savage et al., 2016). However, given that challenging experiences appear to be an important element of the pathway with the potential to both derail and propel a young athletes' progress (Savage, 2019; Taylor & Collins, 2021), it seems pertinent to consider how young athletes manage these experiences, in situ. Although there is considerable debate about the nature of the challenges that support optimal *and* long-term development on the pathway (Howells & Fletcher, 2015; Rees et al., 2016; Savage et al., 2016) and the mechanisms that support its role as a determinant of development (Collins & MacNamara, 2012; Collins et al., 2016), the benefits of emotional experiences that may occur as a result of developmental challenge appear to be effective, acting as prompts for reflection and learning that can guide future development (Baumeister et al., 2011).

Young athletes will inevitably encounter a range of micro challenges as a feature of daily life and as part of their sporting development. However, in this study we are interested in major and memorable challenges that may test and/or disrupt a performer's development over an extended period of time (Savage, 2019). Awareness of research on athletes' lived experience of challenge on the talent pathway may be an important step in supporting our understanding of navigating challenging experiences, especially considering the volatile nature of development for young athletes in sport (Ackerman, 2013; Güllich, 2014; Honer et al., 2015). Experiencing a developmental challenge is likely to cause a degree of disturbance for a young athlete (YA) and this may have both short-term implications (i.e., a dip in current level of sporting performance) and long-term implicatinos (i.e., decreased access to coaching resources or deselection from a talent pathway). The developmental effects of such events are thought to accrue because of significant cognitive disruption which challenges an individual's narratives, beliefs, and goals and creates significant negative emotions (Calhoun & Tedeschi, 2006). The nature of this disruption is dependent on an individual's perceptions and interpretations of the challenge; therefore, understanding the young athlete's experience of challenge may be crucial (Savage et al., 2016). There is a growing understanding that preparing for, monitoring through, and debriefing after challenging events can optimize growth and minimize disturbance in senior athletes (Taylor & Collins, 2021; Wadey et al., 2020). As such, the ability of athletes to forecast, proactively prepare for and then negotiate, and reflect on challenging experiences appears to be developmentally important. However, less is understood in talent development terms about how young athletes *and* their coaches engage in this process. For example, how young athletes forecast and how young athletes reflect on the challenging experiences in the moment of the experience.

Learning to forecast accurately, reflect on, and then learn from significant life challenges seems to be the mechanism underpinning the benefits that can accrue from challenging experiences (Halpern & Arnold, 2008; Peeters et al., 2017). Recently, research has proposed that active working memory supports affective forecasting by conjuring up, working with, and comparing emotional experiences to help acquire active working memory (Frank et al., 2020; Mikels & Reuter-Lorenz, 2019; Smith & Lane, 2015). It may be that forecasting capabilities are more optimal in those individuals who are better able to hold on to and recall prior emotions and experiences and optimized by comparing these feelings with potential future emotions. A plethora of literature has explored senior athletes' retrospective experiences of navigating challenging experiences (Howells & Fletcher, 2015; MacNamara et al., 2010a; MacNamara et al., 2010b; Rees et al., 2016; Sarkar et al., 2015; Savage et al., 2016). Literature from these retrospective studies suggests that those athletes who have made it to the very top of their sport, as well as those deselected prior to professional sport, employed a range of psychobehavioral skills such as self-awareness and commitment to overcome a range of challenges (e.g., deselection, loss of form, selection) and facilitate personal development after deselection (Collins et al., 2016; Savage et al., 2016;

Williams & MacNamara, 2020; Williams & MacNamara, 2021). Psychobehavioral skills are described as the skills displayed because of, and through, observable and measurable human behavior (Foxall, 1987; Rothschild & Gaidis, 1981). The retrospective nature of much of the research on challenge in sport presents methodological issues such as participant recall bias and impression management; for example, participants in a number of these studies were on average 34 years old (*SD* = 13.0) at the point of reflection (MacNamara et al., 2010a, Sarkar et al., 2015, Savage et al., 2016). Given that a young athlete's first memorable challenge has been reported to occur at circa 16 years (Savage et al., 2016), this leaves a potential 17-year gap between the experience of challenge and reflection on the effect of the challenge on development. Understanding the mechanisms by which young athletes and their coaches forecast and reflect "in the moment" of developmental challenge is therefore important. This may be particularly important for young athletes who may not have the depth of prior emotions and experiences to optimize emotional preparation for future challenges. It is important to note here that not all challenge facilitates positive developmental outcomes. For example, psychological distress has been reported post deselection in high level youth soccer players (Blakelock et al., 2016), and a mental health program has been suggested to support elite youth athletes through the deselection process (Brand et al., 2013).

Reflecting the paucity of research on challenge experience in young athletes and recommendations to explore the temporal and prospective development of challenge in young athletes through longitudinal tracking (Sarkar et al., 2014; Savage et al., 2017), we were interested in exploring the forecasting and reflections of participants over a 5-month period on the talent pathway. The five-month period between interviews was chosen to allow the participants to experience a full season or off season on the talent pathway and the opportunity to capture participants' experiences of forecasting and negotiating challenges during this period. Indeed, we aimed to extend these recommendations further by utilizing multiple data sources and thus corroborate findings from young athletes with testimony from their coaches. As a research strategy, triangulation has been proposed to test the validity of a phenomenon (Denzin, 1978; Patton, 1999). Gathering the experiences of young athlete *and* their coaches during challenging experiences will help in corroborating the overall experience of the challenge for the young athlete, increasing the validity and reliability of the data collection. Therefore, the purpose of this study was to examine how young athletes *and* their coaches experienced the most difficult challenges (as self-identified by the young athletes) at a phase of the talent pathway equivalent to the transition between specializing and investing (Cote, 1999). Drawing on the work of Savage (2019), "most difficult challenge" refers to major and memorable challenges that may test and/or disrupt a performer's development over an extended period of time. Specifically, we aimed to explore the following: (1) what young athletes and their coaches forecast prior to the young athlete experiencing their most difficult challenge, and (2) what young athletes and their coaches reflected on 5 months after the young athlete had experienced their most difficult challenge.

Materials and Method

Research Philosophy and Design

The design of this study was aligned with our pragmatic research philosophy and our aim of providing practically meaningful insights about young athletes' experiences of negotiating difficult challenges on the talent pathway (Giacobbi et al., 2005). From an ontological perspective, pragmatism is in search of practical truths that prove to be useful within specific context (James, 1907) and is driven by the nature of the research question, the research process, and the consequences of such enquiry (Giacobbi et al., 2005). As such, pragmatists are free from making a "…forced choice dichotomy between positivism and constructivism" (Cresswell & Plano Clark, 2007, p.27) and are therefore free from committing to a specific epistemological view (Biesta, 2010;

Giacobbi et al., 2005). Instead, our pragmatic research philosophy meant that in order to research an applied and topical issue in the context of talent development in sport (i.e., the navigation of challenging experiences), we chose a multi-methods design incorporating qualitative interviews (including triangulation) and a tracking approach at two time points separated by five months.

Participants were recruited from two demographics: (1) young athletes on the talent pathway and (2) their coaches. This research methodology has been termed data triangulation (Denzin, 1970). Triangulation of this kind has been suggested to enhance the accuracy and trustworthiness of a research study by combining elements of research methodology to overcome the potential for biases that may arise using single research methods (Cohen et al., 2000). As such, the use of data triangulation will aid in exploring and explaining the experiences of young athletes during a period of challenge on the talent pathway. Importantly, we also considered ourselves as co-constructors of knowledge, and all stages of this study were supported by our own experiences of working within talent development pathways (Giacobbi et al., 2005) as sport science practitioners and as talent development researchers. For example, the lead researcher has worked in the field of talent development in sport for 14 years and more recently published three peer-reviewed qualitative studies on talent development in sport. This reflects pragmatism's recognition that, when managed appropriately, researcher subjectivity can be used to support practically meaningful insights rather than generalized truths or purely subjective constructions (Giacobbi et al., 2005).

Participants

Thirteen participants were purposefully sampled (Palinkas et al., 2015) on the basis of their status as young athletes (n = 8) or their employment as coaches (n = 5) coaching the young athletes on a talent pathway in sport. This sampling approach enhanced the study's analytic generalization by allowing the findings to provide a richness and depth that is valid to the reader (Firestone, 1993). The young athletes were transitioning from the specialization (characterized by a balance between deliberate play and practice, with a reduced engagement in several sports (Cote, 1999) to investment years (including activities involving a high amount of deliberate practice, a low amount of deliberate play, and a focus on one sport (Cote, 1999) of participation and now part of a formalized and selective talent development pathway in the United Kingdom.

A formalized talent pathway refers to the systematic operation of a talent pathway through structured selection, coaching, competition, and transition opportunities. Selective refers to participants having to gain a performance criterion to enter the talent pathway (i.e., swimming time or golf handicap) or achieve selection through multiple rounds of trial events (i.e., selection camps in field hockey, trial matches in rugby). Participants were identified and recruited via personal networks in sport. All the young athletes were in the early years of their talent pathway in either individual or team sports. Specifically, the young athletes had competed at either a junior international level (i.e., swimming and golf), were in a professional sports academy (i.e., rugby), or were members of a selective national governing body talent pathway (i.e., field hockey).

The coaches were employed as talent pathway coaches delivering at either a junior international or professional sport academy level. Given this context, the forecasting of, and reflections on, the most difficult challenge for the participants had relevance and personal significance (Pietkeiwicz & Smith, 2012). To note, three of the coaches underwent interviews for two young athletes each, on separate occasions, given their coaching roles with more than one young athlete in this study. The young athletes were female (n = 6) and male (n = 2), between 15 and 17 years (M age = 15.8, SD = 0.9 years) and of white British origin. Additional demographic information can be seen in Table 1. The coaches were female (n = 2) and male (n = 3), between 29 and 44 years (M age = 35.6, SD = 5.9 years) with an average 11.6 years (SD = 7.7 years) of coaching and of white British origin. Additional demographic information can be seen in Table 2.

Table 1. Young Athlete Profiles

Participant Number	Chronological Age	Sport	Age at Selection onto Talent Pathway	Years on Talent Pathway	Talent Pathway Coach
YA1	15	Swimming	15	0.5	Coach 3
YA2	15	Swimming	14	1.5	Coach 3
YA3	17	Field Hockey	15	2	Coach 1
YA4	16	Rugby Union	14	2	Coach 5
YA5	15	Swimming	14	1	Coach 4
YA6	16	Golf	15	1	Coach 2
YA7	17	Field Hockey	16	1	Coach 1
YA8	15	Swimming	15	0.5	Coach 4

Table 2. Coach Profiles

Participant Number	Chronological Age	Sport	Years Coaching on Talent Pathway	Talent Pathway Athlete/s
Coach 1	37	Field Hockey	14	YA3, YA7
Coach 2	44	Golf	24	YA6
Coach 3	29	Swimming	5	YA1, YA2
Coach 4	31	Swimming	7	YA5, YA8
Coach 5	37	Rugby Union	8	YA4

Procedures

Following research ethics board approval, after receiving individual consent from the coaches and assent from the young athletes, participants engaged in an interview process to develop an understanding of their lived experiences of negotiating difficult challenges during the young athlete's most recent season or off season. To note, ethics board of approval was granted to provide details on the young athlete and coach profiles as per Tables 1 and 2. Each participant engaged in two semi-structured interviews separated by five months. For both sets of interviews, the young athletes were interviewed first. Their coaches were then interviewed within seven days of the young athlete's interviews. The first interview explored the nature (i.e., overview of the challenge and the effect of the challenge on the young athlete) and forecasting of the young athletes' most difficult challenge and how prepared the young athletes were for these challenges since transitioning into the investment phase. For reference at the start of interview 1, coaches were informed of the most difficult challenge identified by their young athlete. In interview two, participants were asked to reflect on the most difficult challenge experience for the young athlete that was identified by the young athletes in interview 1. To confirm, Coaches 1, 3, and 4 were interviewed twice, on separate occasions, due to their role coaching two young athletes who participated in the study. Details of which person coached which young athlete can be seen in Table 2. Interviews were conducted one-on-one and recorded on a dictaphone. Interviews were arranged at the convenience of the participants and took place in a quiet location. The young athlete interviews lasted an average of 39 minutes (*SD* = 3 minutes). The coach interviews lasted an average of 46 minutes (*SD* = 4 minutes). An interview guide, consisting of the main questions for the young athletes and their coaches (see Table 3), probes,

and prompts was employed (Pietkiewicz & Smith, 2014). Interview 1 follow up questions included the following: (1) Why is this your most difficult challenge? (2) Why do you think/do you not think this will be the same for everybody on your team? (3) Why do you feel prepared/unprepared for this challenge? Follow up questions for interview 2 included the following: (1) Why was the challenge like that for you in your sport? (2) Why was this the same/not the same for everybody on your team? (3) Why did you feel prepared/unprepared for this challenge? This format also gave scope for reordering of questions and the ability to reroute the interview based on perspectives offered by the participant. It is important to note at this point that, as per Table 3 and the example follow up questions provided above, the focus of the interviews was not on why or how the most difficult challenge was specific to the sport that the young athlete participated in, but more so to the experience of the challenge being in the context of a talent pathway (i.e., a formalized and selective pathway) more generally.

Table 3. Main Interview Questions for Young Athletes and Their Coaches

Number	Interview One for Young Athletes	Interview Two for Young Athletes
1	What will be the most difficult challenge for you in your sport over the coming months?	Based on the challenge identified in interview 1, what happened over the past 5 months?
2	What will help you the most during this challenge?	What was the challenge like for you in your sport?
3	Do you think this will be the same for everyone on your team?	Was this the same for everyone on your team?
4	How well prepared do you feel for this challenge?	How well prepared were you for this challenge?
5	What do you think is going to happen with your sport over the next 4-5 months?	Did you think this was going to happen with your sport over the past 5 months?
Number	**Interview One for Coaches**	**Interview Two for Coaches**
1	What will help the young athlete the most during this challenge?	What was the challenge like for the young athlete you in your sport?
2	Do you think this will be the same for everyone on your team?	Was this the same for everyone on your team?
3	How well prepared do think the young athlete will be for this challenge?	How well prepared was the young athlete for this challenge?
4	What do you think is going to happen to the young athlete over the next 5 months?	Did you think this was going to happen to the young athlete over the past 5 months?

Data Analysis

The interview transcripts were transcribed verbatim. An interpretative phenomological analysis (IPA) was then conducted. The aim of IPA is to investigate and interpret a common phenomenon by those who have the lived experiences of that phenomenon. In this sense, IPA is "…concerned with the detailed examination of human lived experience. And it aims to conduct this examination in a way which enables that experience to be expressed in its own terms…" (Smith et al., 2009 p. 32). Given that the aims of this research were orientated around the lived experiences of the young athletes and their coaches, IPA was chosen to understand the complexity and content of the individual challenge experiences. In doing so, the authors felt IPA would offer

practitioners in the field of talent development a vivid insight into the most difficult challenge experience of participants. Analysis was completed in a stepwise manner based on the recommendations of Smith & Osborn (2007) as follows:

1. The lead author read each transcript and points of interest related to the participants experience of the young athletes most difficult challenge were annotated in the left margin. The second author reviewed the annotated transcripts.
2. Themes relating to the participants forecasting of and reflections on the young athletes most difficult challenges were identified from the transcripts and documented in the right margin by the lead author.
3. The lead author clustered the identified themes (Smith & Osborn, 2007) from all transcripts as related to step 2, taking account of the researcher's interpretation on a separate document. Qualitative software (QRS NVIVO 9) was used at this stage.
4. A hierarchy of themes from the data relating to the forecasting of and reflections on the young athletes most difficult challenges were established to provide a structure to the analysis process (Biggerstaff & Thompson, 2008). The second author reviewed the hierarchy of themes.
5. A table of superordinate and subordinate themes as well as raw data exemplars was created related to the forecasting and reflecting on the young athletes most difficult challenges (see Appendix A). The second author reviewed the table of superordinate and subordinate themes, as well as raw data exemplars.
6. The lead author then used a range of anonymized quotations from the raw data in the results section to give individual meaning to the participants' experiences of the most difficult challenges. The second author reviewed the range of anonymized quotations from the raw data used in the results section.

Trustworthiness

As trust and rapport shape the process and outcomes of interviews (Sparkes & Smith 2009), the trustworthiness of the interview process was enhanced through the authors' roles in talent development in sport and as such, knowledge of the challenging nature of the talent pathway and an awareness of the themes being discussed. Several additional steps were taken during the data analysis stage to enhance the researcher reflexivity. For example, the first author maintained a journal to reflect on the process and identify how any subjectivity interacted with the data analysis process. Tufford & Newman (2010) suggest that such a process, termed bracketing, allows the researcher to reflect more deeply on the data. A constant comparative process was also employed where the first author's interpretation was challenged by the second author acting as a critical friend (Corbin & Strauss, 2008). For example, the second author reviewed the annotated and coded transcript. When a discrepancy in interpretation was found, both authors referred to the original transcript, discussed the notes and themes and agreed on a consensus position. This occurred in three out of eight transcripts, where there were a moderate number of discrepancies. This system was applied to all transcripts, expanding to integrate new concepts as they appeared, thus allowing referral among all transcripts (Smith & Osborn, 2003).

On completion of the data analysis, the lead author utilized member reflections, and the process of findings was shared with participants for reflection to enhance the robustness and depth of findings (Smith & McGannon, 2018). Participants were sent their final transcript via email and asked to reply if they felt the transcript did not reflect their experiences of forecasting and reflecting on the young athletes' most difficult challenges on a talent pathway. Two participants responded to provide additional details around their experiences of negotiating and reflecting on their most difficult challenge. This information was reintegrated into the data analysis process for these participants. In addition, the first part of

interview 2 was spent in discussion and reflection of the individual's results and interpretation from the first interview. This enabled the participants to reflect on their experiences in the period between the two interviews in greater depth and thus more easily recall the experience of their difficult challenge during this time.

Results

The purpose of this study was to examine how young athletes and their coaches experienced the most difficult challenges (as self-identified by the young athletes) at a phase of the talent pathway equivalent to the transition between specializing and investing (Cote, 1999). More specifically, we aimed to explore the following: (1) What young athletes and their coaches forecast prior to the young athlete experiencing their most difficult challenge, and, 5 months later, (2) What young athletes and their coaches reflected on after the young athlete had experienced their most difficult challenge.

Although all young athletes were at a similar stage and age of development and all transitioning to higher levels of competition on the talent pathways in their sports, a variety of events were identified as "most difficult" by the young athletes. Specifically, the young athletes identified challenges associated to the transition to a higher competition level, training monotony, workload across multiple domains, playing up an age grade and severe injury. Table 4 provides an overview of the challenges identified by the young athletes and the self-identified effect of these challenges on the young athletes. Appendix A outlines the forecasting and reflection themes identified by the participants based on the most difficult challenges experienced by the young athletes (6 superordinate themes, 26 subordinate themes and 26 raw data exemplar quotes). The two superordinate themes associated to the forecasting of the challenge were perception of the challenge and what lies ahead through the challenge. The four superordinate themes associated to reflecting on the challenge were psychobehavioral skills for the challenge, navigating the challenge experience, complexities of the challenge experience and lessons learned through the challenge experience.

Table 4. Most Difficult Challenge Themes, Self-Identified Effect, and Descriptor

Participant	Most Difficult Challenge	Self-Identified Effect	Descriptor
1	Transition to higher competition level	Performance anxiety	Overwhelmed by high level competition environment
2	Training monotony	Lack of competition in training	Requires stretch and challenge in training
3	High workload across multiple domains	Overload of demands across multiple domains	Prioritizing time and energy across academics, sport and music
4	Playing up an age grade	Performance anxiety	Desire to display performance potential in a higher age grade
5	Severe injury	Loss of training and competition exposure	Striving to return to preinjury training load and performance
6	Transition to a higher competition level	Performance anxiety	Lack of competition experience at an international level
7	Transition to a higher competition level	Performance anxiety	Believing in one's ability to perform at an international level
8	Transition to a higher competition level	Performance anxiety	Perceiving pressure to perform for international squad selection

Perception of the Challenge

During interview 1, participants described their understanding of the most difficult challenge as identified by the YA. For example, the role of past experiences supporting awareness of the challenge was identified and was seen as a perceived advantage over their peers on the talent pathway. In reference to the challenge of playing up an age grade YA4 stated, "I have done a lot of training with the old years so that helps loads. It prepares you physically. I have also had a lot of support with my physical training. I feel ready to play at an even higher intensity." During interview 1, the young athletes also recognized the importance of prior experiences of their most difficult challenge on future playing opportunities in their sports: "I have shown everybody what I can do. I have had some opportunities this year, like playing with older players. Other players my age won't have had so that will be good for me and all the physical training" (YA4). Coach 4 also drew on prior experiences of young athletes moving up an age grade in their sport and the potential benefit of this challenge: "The more they learn in those environments the better they will be in future years. Others have done it and most kids adapt to it and they do quite well from it."

During interview 1, young athletes forecasted their experience of their most difficult challenge, how they intended to prepare to navigate their challenge, and their perceptions of challenge as part of development on the talent pathway. For example, YA1 stated, "Keep to your routines, stay hydrated, get your pre pool done. And then just get through it because for example, you might go into competition one day and you can't change the day of the competition so you might not feel good on the day. You just have to get on with it." Indeed, YA1 forecasted a change of event in their sport of swimming to help navigate their performance anxiety at competitions. Such learning was expressed by YA1 who stated the following:

> Part of our plan is to try some of the longer races and see how I go, no pressure but if it works then great. So, now I've done a few 800s in training it's kind of like, well maybe this could be my event because it felt good, it fits my stroke. I just find it easier, its more natural.

During interview 1, Coach 3 forecasted their perception of the challenge for YA1 and more specifically their awareness of the challenge through prior experiences of the young athlete's response to performing in high level competitions: "I know they get themselves uptight around the big meets. That can trigger their anxiety and illness around major competitions. I won't air those concerns directly with them. I want to keep it positive for summer nationals." Coaches' perceptions of the challenge seem important, therefore, to help positively frame the young athlete's ability to navigate the challenge experience.

What Lies Ahead for the Challenge

During interview 1, YA1 described a rise in performance anxiety as they transitioned to a higher level of competition in their sport of swimming. Coach 3 stated how they supported YA1 to develop confidence for the challenge by maintaining a positive and comfortable climate: "I want to keep it positive, keep them focused on their aims. I know their response around competition. I need to be positive, upbeat, bringing energy into our conversations." However, the step up in competition and the perceived magnitude of the challenge was overwhelming for YA1 who described their nervousness for the challenge due to the high-performance standard of the other swimmers: "I just get really nervous at the big meets. The size of the meets, the standard of the swimmers. I know for summer nationals I need to just try to focus on fast swimming and nothing else. I need to just enjoy it more and take in the atmosphere" (YA1). Importantly, the young athletes recognized that, as they were aware of the upcoming challenge, they were able to prepare proactively and have strategies ready to cope with their challenging experience. In the case of YA1's performance anxiety, strategies focused on both psychological and technical preparation: "I know I haven't nailed it yet [i.e., anxiety at high level competition environments], but it's something I want to get to. I just try and improve every meet. I need to just keep my head

down, train hard, and focus on the skills I'm learning in sessions" (YA1).

During interview 1, YA6 suggested that their performance anxiety may be due to a lack of competition experience at an international level in golf. Although YA6 was anxious about international level competition due to their inexperience, Coach 2 described how the performance results for YA6 were a key factor in providing confidence for the challenge. Coach 2 stated, "Because of the results they have had in the past 6 months their status has gone through the roof, and now they are getting selected for international tournaments. They are thinking 'actually I am good at this,' and their confidence has gone sky high." However, YA6 made comparisons to the golfers they would be competing against in international tournaments and specifically the difference in time spent preparing for such competition. This led YA6 to recognize the magnitude of the challenge that was ahead as they stated, "I try and go [to practice] every day after school, like an hour and a half, two hours, yeah. The best players would be playing all day every day, like 6 hours, or like 8 hours. Those are the players I am up against. It's a big step up." Indeed, YA6 forecast the nature of the challenge of competing at an international level given their lack of experience at this level of competition. More specifically, YA6 identified the potential learning opportunities that may lie ahead as well as the consequences if they are unable to perform to the required level. YA6 stated, "If I don't play well, I will learn from it. It's still quite new for me [international competition] compared to some of the other players. There is a bit of pressure because if you don't play well, you might not get to play in it the following year." Despite prior success at a lower performance level, the youth athletes were aware of what lay ahead for them at a higher performance level through their forecasting of their most difficult challenge.

During interview 1, Coach 1 forecast the nature of the challenge for YA7 relative to the development of their peers on the international pathway in field hockey. Coach 1 recognized the individuality of the development journey for YA7 in relation to their progression and performance levels: "I think they are in a rush to keep up with other players in the national age group program. We know everybody develops at different rates and stages and levels. That has been the consistent message from me. Managing their expectations is really key." However, during the first interview, YA7 forecast their transition to a higher competition level in line with their development on the pathway. YA7 expressed their desire to embrace the challenge and, in doing so, to develop their knowledge of international performance stating, "I hope this year I can just learn lots from England [national selection]. There is five of us who will be around next year, so I think for us it is about learning and setting the standard for the new players coming in." Forecasting YA7's preparedness for the challenge, Coach 1 cited the deliberate and progressive exposure to international junior field hockey that was required for this individual given their current level of preparedness to perform. Coach 1 recognized the positive effect of this exposure for YA7 as Coach 1 stated, "They will have some international hockey exposure this summer, and that will be brilliant for them. They aren't quite ready for that level yet, but little bits of exposure will be good for their learning." It seems, therefore, that what lies ahead for the challenge may be based on the capability of the young athlete to embrace the learning opportunity of the challenge experience.

Psychobehavioral Skills for the Challenge

During interview 2, Coach 4 reflected on the most difficult challenge for YA8. In doing so, Coach 4 recalled the experience of YA8 as the athlete transitioned to a higher competition level in swimming. Coach 4 referenced the benefit of goal setting for the challenge with this young athlete, framing their target times relative to swimmers who had previously achieved national selection:

> We [coach and athlete] went through a process of reviewing times that swimmers have reached in past major junior meets, where they are now in comparison, and what

> they needed to do to get to those times. That was uncomfortable for them but was important for their development and reaching national selection (Coach 4).

In reference to their commitment to the challenge, YA8 identified the physiological benefit of committing to hard training and the positive psychological effect on their ability to engage in competition: "I know when my training is in the zone and I'm training hard, I do way better, I'm a lot fitter when I do that and that helps me a lot. And, because I'm fitter and feel like I'm training hard I worry less about the racing" (YA8). Through the application of psychobehavioral skills, such as goal setting and commitment, the young athletes were able to engage in the process of navigating their most difficult challenge.

During interview 2, YA5 reflected on their commitment to the challenge of returning to swimming following a serious injury. YA5 reflected on the effect of missing a large proportion of training and competition and in doing so, reflected on their desire to make the most of every racing opportunity: "It wasn't a big issue for me not hitting PBs [personal bests] when I was coming back from injury. Any race is good preparation for the big races, the ones that really matter. I have missed a lot of racing over the past year, so this season I just want to get stuck in and take every opportunity" (YA5). During interview 1, YA5 forecasted their confidence in the challenge of returning to their preinjury training level in their sport. YA5 anticipated a positive trajectory for their swimming performance stating, "Knowing what I have been through this year and knowing that I have made it, I will be wanting to perform well. The upwards curve that I am on at the moment will continue." During interview 2, Coach 4 reflected on their role in developing YA5's confidence in the challenge. Coach 4 identified the need to focus on the processes of self-development and remove the focus on peer comparisons given the effect of their injury on their swimming. Coach 4 stated the following:

> Biggest common theme for them is the comparison to others. Comparing against other swimmers and feeling that everyone is watching them. For them, it needs to be about self-focus, about their confidence given their lay off [due to injury]. I need to give them things to be successful at—drills, targets, objectives—and not being faster than their peers on the national program.

The synchronicity with which the coaches and the young athletes valued and applied psychobehavioral skills in the preparation for and navigation of the challenge was evident during interview 2 and as such may be an important process which enabled the young athletes to successfully navigate the challenge.

Navigating the Challenge Experience

During interview 2, young athletes reflected on the individuality of the challenge experience. The most difficult challenge for YA2 was identified as training monotony in their sport of swimming. For example, YA2 identified a lack of competition in their training and expressed a need to experience a more challenging training environment: "If training isn't tough, if it is more technical or tactical work, then I struggle to really focus in. I can see how it helps other swimmers, but I don't really feel the benefit" (YA2). During interview 2, Coach 3 utilized their own experiences in the sport of swimming to fuel the external motivation of their young athlete and enhance the athlete's engagement in the training process. Reflecting this, Coach 3 stated, "I have just tried to go on past experiences as an athlete myself. I know what they thrive on, swimming fast at the biggest meets. I'm going to try to focus their attention on that, use that as the bait to drive their training." Coach 3 reflected on the effect of the challenge environment in the context of the young athlete's navigation of their most difficult challenge and the young athletes desire to test themselves against higher level swimmers: "It's a competitive thing for them [the challenge environment], to step up and race people that are faster them. They think that's not a big enough challenge for them or don't want to be beaten by their peers but happy to be beaten by older swimmers" (Coach 3). It seems evident then, that the experience of the young athlete navigating their most difficult challenge

stimulated their coaches to consider the effectiveness of their coaching actions and environments. In the case of YA2, the coach focused on the young athlete's external motives.

During interview 2, Coach 3 identified the overwhelming nature of the challenge environment for YA1 at summer national championships. Coach 3 recognized the effect of the high-performance standards at the championships on the performances of YA1: "Their times were good, but they struggled with anxiety at the meet; that definitely crept back in that environment. The standard of swimming was high; that threw them. That's the ups and downs they are on now at big competitions." YA1 reflected on the social support from coaches that they received to help guide them through the challenge experience. More specifically, YA1 identified the non-technical coaching support they received from Coach 1 and how this provided an opportunity to escape the demands of the competition environment stating this:

> We don't always talk about swimming though. Sometimes it's nice to talk about other stuff and take your mind off how hard it all is [high-level competition]. We talk about football or whatever is in the news. That's good for me because swimming is a quite intense sport; it's nice to step away and switch off even in the water.

In addition to social support from coaches, participants also referenced the social support from family, friends, and teachers that aided the young athlete's navigation of the challenge experience. During interview 2, for example, Coach 3 reflected on the social support that YA1 received from their parents and how the relationship between coach, athlete, and parent allowed for clear and candid communication: "Their parents have been supportive 100%. The athletic triangle is as open and honest as possible. I try to share as much detail as possible, and they are fully supportive." The role of the coach and the young athlete's closest support network seems important in supporting the young athlete to navigate their most difficult challenge by providing holistic support for the young athlete.

During interview 2, young athletes reflected on the individuality of the challenge that they experienced. In doing so, YA8 outlined the specificity of swimming training and the direct correspondence to improving their performance in the water. This was important for YA8 given the challenge of achieving international selection criteria in the sport: "There was more focus on how my training would affect my performance, so like being really specific with my sprint training and particularly around my start and break out because on the short events that makes a big difference" (YA8). In addition, YA8 also recognized the importance of social support from family, friends, and teachers. YA8 reflected on the positive affirmation from friends and the support that friends provided away from the swimming pool stating, "When I go home it's nice for my swim friends at home to say how much I've improved. My friends who don't swim always say well done and stuff. It's nice for them to recognize my swimming, but it's also nice that we can talk about stuff away from swimming." Therefore, the balance between specific and focused approaches to sports training and the supportive and comforting approach of the young athlete's social support network may provide an optimal mix of technical and non-technical support to navigate the most difficult challenge.

The Complexities of the Challenge Experience

During interview 2, young athletes reflected on the highs and lows of the challenge experience. YA5 recalled the effect of an injury on their swimming performance at national level training camps and portrayed their contrasting performance levels at training camps from one year to the next:

> After the first year when I did a number of camps working on core skills and technique, I felt I was able to use those new skills more in training and racing and got some big PBs [personal bests] at some big meets so that was really good. The next year I was only able to do one out of the two camps because I was injured. That was quite a low for me

particularly after doing so well from the camps the year before (YA5).

YA5 also reflected on performance expectations at national level competition against their actual performance level in competition. In this sense, YA5 contrasted the highs and lows experienced during their severe injury: "Even though I had my injury previously I think because I wasn't even expecting to like go to nationals and then I made it and I made finals and I kept on hitting fast times at nationals, I'd never actually done that before, so, I achieved the goals I set out to achieve which is nice" (YA5). Such contrasting experience of the most difficult challenge was also recognized by Coach 4 during interview 2. Coach 4 reflected on the rapid development YA5 had made prior to the injury and the effect of the injury on their development: "There seemed to be no stopping them until they picked up this knee injury. Because they have just been improving and improving all the way through, it must have been so tough for them to pick up that injury and for the injury to be so severe" (Coach 4). This highlights a potential dichotomy of emotions associated with the most difficult challenge through which the young athlete may have to navigate; i.e., contrasting emotional highs and lows.

During interview 2, young athletes reflected on the step up in expectations that they experienced through their most difficult challenge. Reflecting on the transition to a high level of competition, YA6 identified the step up in performance level from national to international golf: "I think it's because it's so high quality, the golf, that you just downgrade yourself, and you just don't think you're as good as them. The GBNI [Great Britain and Northern Ireland] players at that level aren't great. When you get to the Europe people, they're really tough to beat. It's a big step up; they're really good" (YA6). During interview 2, Coach 2 also reflected on the higher expectations placed on YA6. Through previous competition success and associated parental demands, Coach 2 recognized the increased pressure being placed on the young athlete: "All of a sudden in 2018 they were making a name for themself and won northern championships and started to get noticed, and parents thought they are quite good at this game, and so basically they have had more pressure put on themselves, and people were expecting them to push forward with their golf" (Coach 2). Indeed, during interview 2, Coach 2 reflected on the expectation for YA6 to reproduce a high level of performance on the international stage based on the athlete's capability to perform at this level of competition: "The challenge will come for them now that they have produced some good results and shown what they are capable of. There will be some pressure on them to replicate that again and again and on the international stage" (Coach 2). Therefore, the most difficult experience can provide a challenging stimulus for the young athlete across technical, tactical, physical, and psychological domains, and that may require an enhanced and upregulated response from the youth athlete within one or more of these areas. The nature of the response (e.g., physical, psychological, or technical development) may be dependent on the prerequisite skills and experiences the young athlete brings to the challenge experience.

During interview 2, young athletes reflected on the progress they have made in relative to their most difficult challenge and in doing so expressed a focus on long-term development. There seemed to be a sense that the challenge experience remained in context for future challenges on the talent pathway for the young athlete: "I wasn't really that nervous or anxious because I was thinking I've already achieved a lot this year. So, I should be happy with how I've done, but I also wanted to get better and perform well at summer nationals" (YA1). During interview 2, Coach 3 reflected on the highs and the lows of the challenge experience for YA1. Coaches on the talent pathway may be well positioned to contextualize the ups and downs of the challenge experience for the youth athletes. This was the case for YA1, with Coach 3 reflecting on the challenge that had been experienced and the effect on the young athlete's swimming performances: "I just had to keep reminding them of what they had been through and how early on they were with their

return to the pool. Their high aspirations are wonderful, but sometimes they just need that reality check. That honest conversation was the way to go." During interview 2, Coach 3 also reflected on the broader developmental journey of YA1. As referenced previously, the individual experience of the challenge and therefore the individual support required by young athletes to navigate their challenge experience seems important: "You can only do your best as a coach to support the individual's development. It needs to be all about the individual, all the focus on supporting them as best as possible throughout their journey" (Coach 3). The coach's ability to gain perspective on the individualized nature of challenging experiences and the coach's delivery of a supportive and developmental approach seems important to optimize the young athlete's experience of and through the challenge.

Lessons Learned: Reflections on the Challenge

During interview 2, young athletes reflected on the experience of adapting to the challenge of higher-level competition. YA7 reflected on their journey of transitioning to international competition in their sport of field hockey and their sporting development throughout the season: "Most players get selected onto the national age groups and play well, then some drop off. I felt my start was poor. I was really nervous and struggled to play well, then once I settled down and got used to it, I think I improved a lot across the season at that level" (YA7). Indeed, Coach 1 reflected on the experience of supporting YA7 through the transition to higher competition levels. During interview 2, the coach reflected on how that athlete needed to adapt to the challenge experience and execute specific technical skills to enhance the team performance:

> They have some physical gifts around their speed and agility that got them noticed and picked at an international level, but since then they have found it tough because maybe they don't have the hockey skills to complete at that level. Just being quick won't allow them to progress much further. They have to be able to hold onto possession better and contribute more to the team.

Coach 1 reflected further during interview 2 on the realities of the challenge of competing at international level for YA7. Coach 2 highlighted the young athlete's key development areas (i.e., technical development and contribution to the team performance) stating, "When they say they find it too difficult, actually they are playing at that level a year young and so it's no surprise given their limited hockey skills that it becomes a struggle" (Coach 2). Both the coach and young athlete identified the overload in performance demands through the most difficult challenge experience. The coach, in this scenario, was clearly able to identify a series of potential solutions (technical and tactical) that may aid YA7 to navigate similar future challenges better.

During interview 2, young athletes reflected on their personal investment in development through their most difficult challenge experience. In doing so, YA3 reflected on their investment in their field hockey commitments alongside their academic commitments:

> When all the schoolwork piled up, you still have all the training as well; it was tough. There was just so much going on—club hockey, national cup games for school, England competitions, and camps. I had to commit myself to it all. Getting through those stages though pays off in the end.

In relation to adapting to the challenge, Coach 1 reflected on how YA3 was able to adjust their academic commitments to benefit sporting development. During interview 2, Coach 1 cited the positive effect of an adjustment to the academic workload of YA3 and the ability of this young athlete to navigate the challenge experience:

> There is a real demand on their time in all areas of the school. The fact that they were able to drop a GCSE [subject required for the General Certificate of Secondary Education] then really helped them with time management, took the stress off parts of their schedule, giving them space for

work and play, and I would imagine that has been much less stressful for them.

Therefore, it seems that the personal investment of the young athletes in their most difficult challenge experiences, combined with interventions applied to the challenge by supportive stakeholders, aided the young athletes in optimizing their sporting performance through the challenge experience.

During interview 2, YA5 reflected on the realities of navigating a severe injury and particularly, their personal investment in development through this challenging experience. For example, YA5 continued to attend national training camps despite not being able to swim due to injury. Highlighting their investment in their development YA5 stated, "I wasn't really sure what was happening with the injury. I wanted to still try and impress [the coaches], but I was thinking of not going to the national camps. I still went though. I was at that camp all day, because sometimes it's just about being there and showing persistence." Indeed, on returning to swimming following the injury, YA5 reflected on the investment in the training process. For example, YA5 stated, "I was only PB +3 [3 seconds over personal best], which gave me lots of encouragement to get back into hard training. I did a few quick races and got some freestyle PBs [personal bests], and I felt my curve was going up. I just trained so hard, each session, giving it everything." This continued personal investment into the challenge experience by the young athletes was recognized by their coaches during interview 2. For example, Coach 4 reflected on the investment made by YA5 despite the young athlete's not being able to actively participate in the sport. Coach 4 recalled the young athlete's positive contribution to the national camps: "When they were unable to swim fully, they would help me coach sessions. I would ask them to keep a check on certain swimmers, the technical cues I was giving out and the rest periods. It was very helpful for them to stay connected with me and the other swimmers." In this sense, the young athlete's persistence in navigating the challenge experiences seems important with the potential to aid in the young athlete's development through the challenge experience.

Discussion

Young athletes are being recruited onto talent pathways at an increasingly younger age (Baker et al., 2018), and research suggests that successful talent development is characterized by the navigation of a range of developmental challenges (Collins & MacNamara, 2012; Collins et al., 2016; Taylor & Collins, 2021). Reflecting the importance of understanding these experiences as support for the development of young athletes, the purpose of this study was to examine how young athletes *and* their coaches experienced the most difficult challenges (as self-identified by the young athletes) at a phase of the talent pathway equivalent to the transition between specializing and investing (Cote, 1999). More specifically, we aimed to explore the following: (1) What young athletes and their coaches forecast prior to the young athlete experiencing their most difficult challenge, and (2) What young athletes and their coaches reflected on 5 months after the young athlete had experienced their most difficult challenge.

Forecasting and Reflecting on the Experience of the Challenge

"Most difficult" is a relative and often perceptually mediated term. In this sense, a trait tendency, such as proactive coping, which can be taught (e.g., Greenglass & Fiksebaum, 2009), or learned skills (e.g., Rosenbaum, 1983) may be crucial in determining an individual's interpretation of an event. What was clear from the data and linked to the literature on post-traumatic growth (Joseph & Linley, 2005; Tedeschi & Calhoun, 2004) is that benefits from challenge appear to occur because of emotional disruption and, therefore, experiencing something as challenging appears to be more important that the actual event (Savage et al., 2016). This study provides insight into what skills and experiences can be developed a priori to enhance young athletes' ability navigate, cope with, and learn from a developmental challenge (i.e., a broad perception of the

challenge to be encountered and the skill to forecast more specifically what lay ahead for the challenge experience). Here it is also important to consider the concept of *pre-traumatic* growth whereby participants were interviewed prior to their challenge experience. Although challenge and setbacks are often perceived negatively (Neely et al., 2016; Neely et al., 2017), the participants in this study described challenge as part of development on the talent pathway and interpreted it as a learning opportunity. Central to this may have been the athlete's preparation for the experience and confidence in their ability to navigate the experience. Authors have explored the hypothesis that seeking discomfort can be a signal of personal growth and as such can increase motivation in tasks associated with personal development (Woolley & Fishbach, 2022). The theoretical foundations for such findings are associated with the concept of cognitive reappraisal. Cognitive reappraisal has been shown to reduce the emotional effect of negative experiences before these experiences occur (Gross 1989; Gross & Levenson, 1997) and thus the reappraisal process has the capability to allow an individual to redefine discomfort as a more functional and positive construct (Brooks, 2014; Crum et al., 2013).

Such considerations should be embraced by talent pathway coaches as they attempt to optimize the development experience of young athletes on the talent pathway. A key feature of cognitive appraisal associated with the results of this study is the consideration of the qualitative and idiosyncratic nature of "most difficult" challenges. Simply seeking to quantify how much challenge is "too much" and how much is "too little" fails to consider the individual athlete's interpretation of the experience. Instead, coaches should consider the relative difficulty and meaningfulness (i.e., the functional and positive aspect of the experience) of bespoke and developmental challenges as the key feature. Consideration by talent pathway coaches of the "sweet spot" of emotional disruption, via difficult challenges, may support more optimal forecasting and increase the potential for learning by the young athlete through the challenge experience.

Previous literature has called for athletes to actively engage with challenging experiences to support the development of their performance level in sport (Sarkar et al., 2015). Indeed, prior research has called for performers to embrace challenging experiences head on (Collins & MacNamara, 2012) and that challenge should be a regular feature of the development diet in order to aid performance development (Bull et al., 2005; Collins & MacNamara, 2012; Crust & Clough, 2011; Park, 1999; Savage, 2019; Tedeschi et al., 1998; Wadey et al., 2020). Through the process of forecasting the most difficult challenge experience, participants in this study utilized previous experiences on the talent pathway and their understanding of the challenge to prepare to navigate the challenge experience. Indeed, participants forecast their readiness to embrace the experience, akin to tackling the challenge "head on" as previously suggested (Collins & MacNamara, 2012). Therefore, talent pathway coaches should be cognizant of the deliberate preparation of young athletes for challenging experiences on the talent pathway. The use of more minor and/or less difficult challenging experiences could be opportunities to teach young athletes to forecast how they may frame and navigate the experience as an opportunity for personal development. Indeed, and given the perceived individuality of the challenge experience by participants in this study, talent pathway coaches should deploy decision-making skills to position future challenge experiences at a level equivalent to a young athletes' readiness to engage in the experience. This could include consideration of how the athlete engaged in previous challenges, why they engaged in that way, and what alternative strategies could be used to support the athlete to engage in potentially more challenging experiences.

In the second phase of interviewing, participants were asked to reflect on the lessons learned through the experience of their most difficult challenge. Interestingly, the post-traumatic growth literature suggests that post-event interventions help people learn from the challenge and counter its negatives. This has been shown to be essential in the accrual of

benefits from that experience (Calhoun & Tedeschi, 2006, Savage et al., 2016; Wadey et al., 2020). The results from this study suggest participants utilized psychobehavioral skills, such as goal setting, to support their reflections of the young athlete's most difficult challenge. Furthermore, participants identified the effect of the challenge environment and the social support that was provided to aid in the navigation of the experience. Participants also reflected on the complexities of the challenge experience and the lessons learned through the experience. The developmental effect of navigating challenging experiences has been explored recently by authors in rugby league. Taylor and Collins (2021) found athletes on a professional academy pathway who were able to cope and learn from significant emotional disturbances in their transitions from junior to senior to professional rugby league were offered more playing opportunities by their clubs. Such findings, alongside those presented in this study, emphasize the need for talent pathway coaches to instigate and support the development of a full range of experiences for youth athletes to navigate on the talent pathway. In this sense, challenging experiences should be taxing enough to warrant the young athlete's application of reflection skills to review the navigation of the experience (Abraham & Collins, 2011; Bjorndal & Ronglan, 2018; Collins & MacNamara, 2017). In addition, challenging experiences may be fully utilized for development by the young athlete through the application of psychobehavioral skills and the use of social support. The application of these skills and support to the experience may enhance the young athlete's preparedness for future and more difficult challenges on the talent pathway.

In seeking to understand why young athletes would engage in forecasting and reflecting on their most difficult challenges on the talent pathway, Vroom's expectancy theory (Vroom, 1964) may provide a framework for understanding young athletes' motivation to prepare to experience a very difficult challenge and then to reflect on that experience. Expectancy theory suggests that an individual's overall motivational force to engage in an activity is dependent on the valence, instrumentality, and expectancy that the individual places on the activity (Dunlop et al., 2022; Van Eerde & Thierry, 1996; Vroom, 1964). Valence refers to the personal importance an individual places on the outcome or reward associated with the activity goal. Instrumentality refers to the perception that successful performance in the activity will lead to the outcome goal or reward. Expectancy refers to the perception that effort applied to the activity will result in successful performance.

Expectancy theory can help explain behavioral intentions through multiple mechanism (i.e., valence, instrumentality, and expectancy) (Burns et al., 2018; Courtney et al., 1983; Dunlop et al., 2022; Sanchez, 2000; Vroom, 1964), that are interconnected and operate in a stepwise manner (Brouer et al., 2011; Galbraith & Cummings, 1967; Sanchez et al., 2000). In the case of this study, valence may relate to the value that the young athletes and their coaches placed on the expected outcome of successfully navigating the most difficult challenge. In the context of young athletes' development through a talent pathway in sport and related to the most difficult challenges present in Table 4, this may mean placing a high value on achieving selection criteria for an international training or competition group, being selected for the next stage of trials for an international age group team, or returning to full training following a severe injury. In this sense, the expected outcome may have driven the young athlete's motivation to engage in forecasting and reflecting on the challenge experience. Instrumentality may relate to the perception that successfully navigating the challenge will lead to the desired outcomes referenced above. In this sense, the participants forecasting through interview 1 and reflections through interview 2 may relate to the successful enacting of behaviors associated with engaging in the challenge which then results in the desired outcomes; for example, selection or return to full training. From a coaching perspective, instrumentality may relate to facilitating challenges relative to the readiness of the young

athlete to navigate that challenge. Therefore, it may be critically important to teach psychobehavioral skills and ensure that social support is in place to allow the young athlete to perceive that it is possible to navigate the challenge. Finally, expectancy may relate to the perceived probability that putting effort into forecasting and reflecting on the challenge experience will lead to the successful navigation of the experience. In this sense, coaches may be mindful of ensuring that a challenge experience hits the 'sweet spot' of emotional disruption for the young athlete *and* that over time young athletes experience a full range of challenges on the talent pathway. These features of the challenge for young athletes on the talent pathway may allow them to perceive that more effort towards navigating the challenge will be of benefit.

Emotional Preparation for Challenging Experiences

The findings of this study highlight the importance of engaging young athletes and their coaches in forecasting and reflecting on difficult challenges on the talent pathway. The relevance of such processes may lie in the value of experiences with strong emotional valence. (Keins & Larsen, 2020; Taylor & Collins, 2021). Such realities may be constructed through a detailed knowledge of the bespoke experiences of young athletes as they navigate the challenge (i.e., the uniqueness of the challenge experience and the effect on the individual) and, critically, consideration of how these factors interact to form a challenge experience (i.e., the complexity of the experience and the personal investment in the experience). Coaches, therefore, should be encouraged to support young athletes to navigate challenge experiences that may have negative emotional valence (akin to most difficult challenges as per those presented in this study; e.g., severe injury or high workload across multiple domains). Research suggests such emotional experiences can, when balanced against a healthy mix of experiences, support effective reflexive and analytical processing (Blanchette, 2006; McEwan & Sapolsky, 1995; Taylor & Collins, 2020). The findings of this study suggest that young athletes, at the point of transition into the investment phase of a talent pathway, may be able to exploit the developmental benefits of the pre- and post-challenge experience through forecasting and reflection processes. Indeed, this study went further to triangulate the experiences of young athletes with their coaching practitioners, providing an enhanced validity to the forecasting and reflections on the most difficult challenges (e.g., the application of psychobehavioral skills in practice and working through the challenge experience).

In practical terms, considerations by coaches on the appropriate actions needed to navigate the challenges should be based on the young athlete's preparedness (i.e., athletes' forecasting skills, support for the challenge) and long-term aims (i.e., preparation for more challenging experiences) (Rongen et al., 2021). Authors have suggested such decision making within coaching is underpinned by the knowledge of why an action or actions should take place through a broader understanding of the multifaceted demands of the situation (Abraham et al., 2006; Winters & Collins, 2015). Such knowledge and understanding enables coaches to deploy an appropriate set of actions relative to the needs of the coaching context (Collins et al., 2016). In addition, coaches' own capability to encourage, review, challenge, and progress young athletes through challenging experiences may be critical (Taylor & Collins, 2020). Thus, in this context of this study, talent pathway coaches should develop an operational plan for the challenge. Reflecting the long-term agenda of talent development, this plan should contribute to the long-term development of the young athlete, allowing for a review of the strategic benefit of the experience to the young athlete on the talent pathway and the emotional preparation of the young athlete for the experience. In doing so, talent pathway coaches should apply nested decision making (Abraham & Collins, 2011). This approach connects naturalistic decisions (i.e., in the moment) in the context of goals that have longer-term aims for the athlete (i.e., future success). Pragmatically,

this may provide the opportunity for coaches to deploy and plan a blend of challenges over time and focus the young athlete's attention on the experience of the challenge.

Notwithstanding these findings, there are limitations to this study. The risk of self-preservation bias by participants may exist given the personal nature of forecasting and reflecting on the challenging experiences. In addition, personal networks through talent pathways in sport were utilized to recruit participants for the study. Thus, the relationship between participant and interviewer may have affected the degree to which participants felt they were able to disclose their forecasting and reflections of the most difficult challenge experience. However, the experiences of the young athletes were triangulated with the experiences of their coaches to validate the recall from both sets of participants. Given the importance of the young athletes' social support network as reported in this study, future research could go further to triangulate young athletes' experiences with their coaches and additional significant others (i.e., parents, friends, teachers). In addition, future research on challenge on the talent pathway may benefit from the exploration of joint challenge experiences that young athletes and coaches establish together, as well as how coaches support multiple young athletes in navigating their challenge experiences. With regards to the interview process, there is a risk that the coaches second interviews were affected by hearing the young athletes most difficult challenge in the first interview. This information may have influenced the coaches' approach to supporting the young athletes to navigate their challenge experience. Regarding the experience of the challenge for the participants, future research on the topic of challenge on the talent pathway in youth sport could explore, in a more structured fashion, potential moderators of the challenge experience for young athletes. Moderators may include, for example, experience in the sport, the type of sporting activity, the performance record of the young athlete, and the athlete's injury history. Such moderators may give greater insight into the experiences of the young athlete in sport leading up to the challenge experience. Given the call for longitudinal research in the field of talent development, future work in this area may benefit from exploring young athletes' experiences of navigating difficult challenges over an extended period (e.g., year on year and beyond the investment years on the talent pathway). The addition of reflective journaling by participants in the 5-month period between interviews may have enhanced the recall by participants during interview 2, contributing to the quality and accuracy of the analysis (Vicary et al., 2017). Finally, the participants for this study were recruited from talent pathways in the United Kingdom, across five different sports. Therefore, the findings presented are representative only of this demographic and these talent pathways in the UK. More research is needed to extrapolate such findings into talent pathways in other countries and potentially to explore the specificity of the challenge experience in particular sports by recruiting participants from the same sport.

Considering the challenges of forecasting adverse life experiences (Peeters et al., 2017), talent pathway coaches may be wise to explore the clarity with which young athletes forecast challenging experiences. In doing so, these coaches may go some way to enhancing the process of preparing young athletes for what may lie ahead on the pathway and, more specifically, the scale, nature, anticipation of, and confidence for the challenge experience. Through immediate reflection on young athletes' experience of their most difficult challenges, this study also provides insight into the psychobehavioral skills, support networks, and outcomes of reflective processes that these youths utilized to navigate their most difficult challenge. It is hoped this study provides a pragmatic insight and broader understanding of the multifaceted nature of navigating difficult challenge experiences and goes some way to help coaching practitioners support young athletes in making sense of the challenges they will experience on their talent pathway journey.

Authors' Declarations

The authors declare that there are no personal or financial conflicts of interest regarding the research in this article.

The authors declare that they conducted the research reported in this article in accordance with the Ethical Principles of the *Journal of Expertise.*

The authors declare that they are not able to make the dataset publicly available but are able to provide it upon request.

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Appendix A

Table of Forecasting and Reflecting on the Most Difficult Challenges by Participants

Superordinate Themes	Subordinate Themes	Raw Data Exemplar	Interview Number
Perception of the challenge	Awareness of the challenge through prior experiences	"I know they get themselves uptight around the big meets. That can trigger their anxiety and illness around major competitions." (Coach)	1
	Challenge as part of development	"You might go into competition one day and you can't change the day of the competition so you might not feel good on the day. You just have to get on with it." (YA)	1
	Challenge as a learning opportunity	"I feel like I have to prove myself on the pitch. I feel like I need to show them what I am capable of." (YA)	1
What lies ahead through the challenge	Confidence for the challenge	"The upwards curve that I am on at the moment will continue." (YA)	1
	Magnitude of the challenge	"The best players would be playing all day every day, like 6 hours, or like 8 hours. Those are the players I am up against; it's a big step up." (YA)	1
	Anticipation for the challenge	"They will be great. They have made excellent progress with their injury and are in a really good position." (Coach)	1
	Preparedness for the challenge	**"**They are fully prepared for that, they are better organized, prioritizing their time and energy." (Coach)	1
	Embrace the challenge experience	"You've got to make the most it, work hard, and stay focused. Enjoy it as well. You've got to love it, love playing." (YA)	1
	Potential effect of the challenge	"It may cause some ups and downs for her in her hockey, but I think that's ok and an important part of her development" (YA)	1
Psychobehavioral skills for the challenge	Goal Setting for the challenge	"We have set goals for each race, and I know they have been very consistent with their training; at nationals it's just about focusing in on those small targets." (Coach)	2
	Commitment to the challenge	"They are really showing the effort to get themselves in order and back in the water as soon as possible." (Coach)	2
	Confidence in the challenge	"For them, it needs to be about self-focus, about their confidence. I need to give them things to be successful at—drills, targets, objectives." (Coach)	2
Navigating the challenge experience	Individuality of the challenge	"It depends on their confidence, their training, their form over the past 6 to 8 weeks. Their [swimming peers] ups and downs would have been different to mine." (YA)	2
	The challenge environment	"They struggled with anxiety at the meet; that definitely crept back in that environment. The standard of swimming was high, and that threw them." (Coach)	2

Superordinate Themes	Subordinate Themes	Raw Data Exemplar	Interview Number
	Social support from coaches	"You're there as a listener, a friend, a mentor…I am there for support, to keep them on the right line and help where I can and as needed." (Coach)	2
	Social support from family, friends and teachers	"My teachers were very supportive, willing to help. I needed their help." (YA)	2
	Time away from the challenge	"It was quite fun not to have to do too much. I could pick and choose if I want to swim or not, played lots of football with my friends back home, went on holiday with my parents and just relaxed." (YA)	2
Complexities of the challenge experience	Highs and lows of the challenge	"I wasn't even expecting to like go to nationals, and then I made it, and I made finals, and I kept on hitting fast times at nationals." (YA)	2
	A step up in expectations	"When you get to the Europe people [golfers], they're really tough to beat. It's a big step up; they're really good." (YA)	2
	High expectations across domains	"There is always something else to think about. Even when I am not on England camp I will have tasks, like commenting on videos and analyzing a game. I know one of the coaches will be looking to see who has done the tasks and also because I want to learn more." (YA)	2
	A focus on long term development	"I wasn't really that nervous or anxious because I was thinking I've already achieved a lot this year." (YA)	2
	Persistence through the challenge	"It's always a good experience to play for England. It takes a lot of work, it doesn't come easy to many players, it's a showcase of how hard you have actually tried." (YA)	2
Lessons learned through the challenge experience	Gaining perspective on sport	"Swimming fast represents all the effort you have put in; it's a reflection of you, your hard work. It's an opportunity to display everything you are capable of; it's more than just the time on the clock." (YA)	2
	Adapting to the challenge	"The fact that she was able to drop a GCSE [subject] then really helped her with her time management, took the stress off parts of her schedule, giving her space for work and play." (Coach)	2
	Personal investment in development	"They said ok, yes, I will do that, I will step up and give it a go. I think that attitude and the successes they have had to date are a reflection of how determined they are." (Coach)	2
	Realities of the challenge	"Actually, they are playing at that level a year young, and so it's no surprise given their limited hockey skills that it becomes a struggle." (Coach)	2