Exploring the Developmental Practice Environment Experiences of High Performing Athletes

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Abstract: The influence and interaction of perceived experience on athlete development during deliberate practice activities is unknown. The current study aimed to explore the developmental experiences of high performing athletes during deliberate practice. Participants were 15 Talented Athlete Scholarship Scheme Dual Career athletes (8 females, 7 males, aged between 17 to 18 years) enrolled in full-time UK tertiary education. Experiential data was collected through semi-structured interviews and thematically analyzed. Ten overarching themes were developed: Enjoyable Low-Pressure Practice Environment, Simulated Competition Against Others, Practice Performance Success, Challenging Environment, Supportive Relationships and Sanctuaries, Exposure to Higher Level Athletes and Different Practice Environments, Ability Status within the Practice Group, High Intensity Climate, Disruption to Practice Routine, and Practice Performance Failure. Findings revealed practice experiences to contain significant infrequent positive and consistent low-level negative experiences. To avoid spiraling negativity, participants accepted failure and used successful performance to enhance self-belief. Practitioners working within athlete development can review study findings to enhance their deliberate practice environment.

Keywords: Training, Psychology, Sport Coaching, Influence, Performance, Education

1. Introduction

The lived experiences of individuals who become high performing athletes are complex and involve multiple, interacting cognitive and perceptual processes (Güllich et al., 2022). Research has attended to understand the developmental pathway of athletes (e.g., see Baker et al., 2019), which is particularly complicated due to temporal and contextual perceptions (Douglas & Carless, 2006). Holistic approaches to the structure and mechanisms of athletic development environments (see Henriksen & Stambulova, 2017) can often limit specific domain (e.g., deliberate practice environment) influence. Holistic developmental influences have also been reported without specific focus on associated performance (e.g., Kendellen & Camiré, 2015) and without reference to the potential growth from adversity (e.g., Whitley et al., 2016), which has been suggested to be prominent during deliberate practice activity (e.g., Smith et al., 2020a). Despite practice being an environment where developing athletes spend much of their sporting time (Fletcher et al., 2012), research has yet to specifically explore the influencing factors of the deliberate practice environment on athlete development.

During developmental years, young athletes appraise situations (see Lazarus, 1991) in the practice environment as beneficial (positive) or harmful (negative) towards their advancement (Smith et al., 2019). Athlete development literature has widely advocated the benefit of positive experiences due to strong associations with effective performance (e.g., Gerabinis et al., 2018). For example, Coutinho et al. (2016) highlighted positive and enjoyable practice activities leading to performance improvements and Martindale et al. (2005) stated the need for talent development systems to promote positivity and reinforcement. Further, coaching models have also identified solely positive experiences (i.e., competence, confidence, connection, character, and caring) contributing to athlete development (Côté et al., 2010). An affective continuum created by past literature exploring at-the-time snapshot approaches, which often suggest positive experiences provide
greater developmental success, is likely damaging to the measurement of experiential influences on development (Knight & Eisenkraft, 2015).

Temporal influence differences are shown in the Positive Youth Development (PYD) model (Shek et al., 2019), which realizes the struggles of youths, and provides a system of positive interventions (e.g., empowerment, positive relationships, and teamwork) to enhance development (Harwood & Johnston, 2016). PYD recognizes that development will often follow adversity and highlights the necessity for negative experience within a developmental environment (Sarkar et al., 2015). Exploratory research with elite Olympic athletes has also shown that success would not have been possible without certain negative experiences occurring at key moments of development (Sarkar & Fletcher, 2017). Therefore, an understanding of the interaction between positive and negative performance influences perceived during practice would aid those responsible for creating and maintaining practice environments designed to develop high performing athletes.

Athletes spend many hours engaged in deliberate practice activities to enhance performance and development (Baker et al., 2003). Deliberate practice has the specific goal of improving performance, is effortful and attention-demanding, is not necessarily enjoyable, and does not lead to immediate social or financial rewards (Ericsson et al., 1993). Recent research evaluated the psychological influences within the practice environment and revealed both positive and negative experiences contributed to successful performance (see Smith et al., 2019, 2020a, 2020b, 2021). The Practice Environment Model (PEM) (Smith et al., 2020a) identified the requirement for short-term failure leading to long term success, which temporally connects positive and negative experience. The PEM contradicted expertise development research where only lower-level players perceived negative developmental experiences when in deliberate acts of skill acquisition and practice (Rothwell et al., 2017). Despite the reported need to expel negativity (e.g., athletes encouraged to resist negative thoughts and emotions) (Headrick et al., 2015) within a skill acquisition environment, which has been reported to produce behavioral and cognitive responses that contribute to off-task behavior and poor future performance (Hurley & Burt, 2015), failure and the facing of adversity in sporting environments have been shown to lead to resilience building (Brown et al., 2015). Resilience, in turn, can potentially shield the influence of inevitable negative sporting experiences on successful development (Fletcher & Sarkar, 2013).

The time frame at which experience is collected is likely the cause of the research contention within developmental practice environments. For example, the development of self-regulation abilities following failure will be viewed as positive without the recognition of the initial negative experience (Nicholls et al., 2016), therefore, crucial negative experiences may not be reported (Hetland et al., 2018). Fraser-Thomas and Côté (2009) highlighted a significant amount of negative experience (e.g., poor relationships with coaches, negative peer influence, parent pressure, and challenging psychological environment) when exploring adolescent developmental experience. However, because participants were of mixed ability, the warranted negative influencing factors experienced by successful athletes were not clear. The importance of recognizing both positive and negative experience is emphasized by Posttraumatic growth theory (Tedeschi & Calhoun, 1995), which posits that severely challenging moments can lead to individuals developing strategies for future benefit (e.g., cognitive processing, self-disclosure, social support, and schema change). To create effective practice environments, Hardy et al. (2017) demonstrated the need to understand the totality of elite athletes’ developmental experiences, which were “likely fueled by something more than just happiness”.

Practice during developmental phases can last for over a decade (Balyi & Hamilton, 2004), which makes the measurement of influential phenomena difficult, such as the identification of growth from initial negative experiences (Linley & Joseph, 2004). Short-term experiential measurement approaches provide more reliable data but do not identify longitudinal impacts on development (Blackie et al., 2017). By controlling for success (i.e., gaining perceptual experience from high performing athletes only), positive and negative experiences can be assumed to have enhanced athlete development (Sarkar et al., 2015). Conformity of developmental experience within elite, but not sub elite athletes (Johnson et al., 2008) further strengthens the justification to assume that the positive and negative experiences of high-performing athletes have contributed to greater performance development. Therefore, data gathered from high performing athletes who have successfully thrived within their practice environment for several years, will
provide a more accurate reflection of the experiences that influence successful development.

The current study sought to explore and identify the developmental experiences of high performing athletes during deliberate practice activities. The aim of the current study was to collect practice environment experiential data from high-performing athletes (as designated by sporting national governing bodies) and report the factors that influenced development. As high-performing athletes, both positive and negative experiences during practice would likely have contributed to successful development, which can provide practitioners with a greater understanding of how best to structure and organize the practice environment during developmental years.

2. Methods
2.1 Participants

Participants (8 females, 7 males, all White British ethnicity, aged between 17 to 18 years, with an average sport experience of 8.1 years) were purposively sampled from Talented Athlete Scholarship Scheme (TASS) Dual Career Programs located in sixth form colleges in the south of England, UK. All participants competed at either national or international level. Participant information can be found in table 1.

TASS is a Sport England funded partnership between talented athletes, delivery sites and national governing bodies of sports to provide vital support for athletes to balance sporting commitments with education (https://www.tass.gov.uk). The Swann et al. (2015) criteria for ‘eliteness’ classified participants within the competitive elite and successful elite categories.

2.2 Data Collection

Ethical approval was granted from the first named researcher’s University Ethics Committee prior to the study commencing.

The researchers’ ontological and epistemological stance was constructivism and interpretivism respectively, with researchers and participants co-constructing knowledge (Poucher et al., 2020). Both researchers have many years of experience within educational programs involving TASS athletes and understand the culture and community of developmental sporting environments. The first named researcher invited participants via email to take part in the study following permission from the educational organization where they were enrolled as a TASS Dual Career athlete. If a participant agreed to partake in the study, they were then emailed a participant information sheet, allowed to ask questions about the study, assured of their anonymity, and provided their written consent.

Table 1. Participant information

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Gender</th>
<th>Age</th>
<th>Sport</th>
<th>Sport Experience (years)</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abi</td>
<td>Female</td>
<td>18</td>
<td>Cricket</td>
<td>4</td>
<td>International</td>
</tr>
<tr>
<td>Ben</td>
<td>Male</td>
<td>17</td>
<td>Triathlon</td>
<td>5</td>
<td>National</td>
</tr>
<tr>
<td>Chloe</td>
<td>Female</td>
<td>18</td>
<td>Football</td>
<td>9</td>
<td>National</td>
</tr>
<tr>
<td>Dan</td>
<td>Male</td>
<td>18</td>
<td>Athletics</td>
<td>9</td>
<td>National</td>
</tr>
<tr>
<td>Ella</td>
<td>Female</td>
<td>18</td>
<td>Netball</td>
<td>9</td>
<td>National</td>
</tr>
<tr>
<td>Finn</td>
<td>Male</td>
<td>18</td>
<td>Mountain Biking</td>
<td>10</td>
<td>International</td>
</tr>
<tr>
<td>Greg</td>
<td>Male</td>
<td>18</td>
<td>Diving</td>
<td>8</td>
<td>National</td>
</tr>
<tr>
<td>Harry</td>
<td>Male</td>
<td>18</td>
<td>Athletics</td>
<td>6.5</td>
<td>International</td>
</tr>
<tr>
<td>Imogen</td>
<td>Female</td>
<td>18</td>
<td>Cycling</td>
<td>8</td>
<td>International</td>
</tr>
<tr>
<td>Julia</td>
<td>Female</td>
<td>17</td>
<td>Swimming</td>
<td>8</td>
<td>National</td>
</tr>
<tr>
<td>Kaye</td>
<td>Female</td>
<td>17</td>
<td>Swimming</td>
<td>6</td>
<td>National</td>
</tr>
<tr>
<td>Laura</td>
<td>Female</td>
<td>17</td>
<td>Gymnastics</td>
<td>13</td>
<td>National</td>
</tr>
<tr>
<td>Max</td>
<td>Male</td>
<td>18</td>
<td>Snow Boarding</td>
<td>8</td>
<td>International</td>
</tr>
<tr>
<td>Nicky</td>
<td>Female</td>
<td>18</td>
<td>Tennis</td>
<td>10</td>
<td>National</td>
</tr>
<tr>
<td>Ollie</td>
<td>Male</td>
<td>18</td>
<td>Badminton</td>
<td>8</td>
<td>International</td>
</tr>
</tbody>
</table>
Participants were then invited to attend a face-to-face interview with a TASS Dual Career Coordinator (DCC) (second named author), who provides regular academic support to TASS Dual Career athletes. To prevent coercion, the TASS DCC was not involved in the recruitment of participants (Comer, 2009). The advantage of the TASS DCC conducting all interviews was the strong participant-interviewer rapport that facilitated participants answering more freely and honestly to generate richer data, and the foundational knowledge of participant context (Nakkeeran & Zodpey, 2012; Trainor & Bundon, 2021).

Semi-structured interviews lasted between 47 and 82 minutes (mean = 62.64, SD = 9.64) and were recorded using a digital voice recorder. Semi-structured interviews allowed for open discussions that provided the interviewer a platform to ask further probing questions to pursue emergent themes to allow the participant to construct phenomena through their own experience (Low, 2013). The interview questions were formed from researcher knowledge of developmental practice environments in sport and supported by relevant literature (Kallio et al., 2016). An example of questions asked are “Can you describe an experience, or an accumulation of linked experience over time, from practice that had a big impact on your development?” and “When in your practice environment, was there a moment that propelled you to a higher level?”. All interviews were transcribed verbatim by the second named researcher within 48 hours of completion and emailed to the first named researcher who thematically analyzed the data before the next interview took place. Both authors then discussed the need to add or adapt questions to future interviews if the previous interview highlighted an area worthy of exploration that was previously not included. Braun and Clarke (2021) state data saturation should not be a target of qualitative research, however, following the eleventh interview code saturation had occurred (no new theme creation) with remaining interview data items adding to existing themes to provide greater meaning (Hennink et al., 2017).

2.3 Thematic Analysis

Data were analyzed using the inductive thematic analysis approach provided by Braun et al. (2016) for sport and exercise science research. Inductive thematic analysis provides a route for researchers’ theoretical assumptions, disciplinary knowledge, and research experience to influence data analysis, which was accepted within an interpretative approach (Smith & McGannon, 2017). The first named researcher, who has practical and research experience within athlete development environments, undertook initial coding by firstly familiarizing themselves with interview transcripts by reading them without making any notes. Following familiarization, the researcher reread and coded the transcripts by creating data items from any text that represented a developmental experience (i.e., an experience that was perceived to have had an impact on participant performance and athletic progress). The data items were abstracted from the original text with the researcher ensuring the participant’s message was carefully maintained to safeguard credibility and truth (Tracy, 2010). For example, the quote “I was training with my old coaches then, and I think they weren’t very optimistic about my performance and that was what spurred me on” was abstracted to “Coach not having faith in my ability motivated me”. Individual data items were labelled with a unique tag to designate the original contributor for future retrieval and added to a computerized spreadsheet for easy movement into theme categories (Smith et al., 2019).

Similar data items were grouped together to create initial theme categories. Each transcript was analyzed in turn with thematic placements sent to the second named researcher for agreement. When disagreement occurred, both researchers discussed data item placement and came to an agreement, which either moved a data item from one theme category to another or separated a theme category to provide greater distinction and experiential accuracy. Revision of data item placement occurred consistently throughout data analysis as new themes were created following each interview to produce a coherent, organized, and accurate analysis of the data set (Braun et al., 2016). Once initial theme categories had been created, both researchers grouped similar categories together to create overarching themes. Theme categories provided notable and distinct meaning to the central organizing concept of the overarching themes.

2.4 Methodological Rigor

While maintaining an interpretively oriented approach, to achieve a greater level of reliability in naturalistic research (Belotto, 2018), high reliability was gained by involving two researchers in a consensus coding approach to “capture salient themes, which are really there” (Braun & Clarke, 2016). The two-level approach consisted of the second named
researcher familiarizing themselves with data during the collection process and the first named researcher providing initial coding before both researchers created final themes, which reduced single researcher bias (Belotto, 2018). To increase rigor in qualitative research, a critical friend is often championed, but they can only encourage researcher reflexivity rather than provide a coherent and knowledgeable opinion on data generation (Smith & McGannon, 2018); which this study can offer. By using one researcher to collect data, a second researcher to analyze data, and both to create themes, bias during interpretation found with a single researcher was eliminated (Delattre et al., 2009). Data collected from 15 participants achieved high prevalence and code saturation (Hennink et al., 2017).

3. Results
Thematic analysis revealed 49 themes that were organized into ten overarching themes (displayed in table 2) from the coding of 1375 individual data items. The overarching themes are represented by an organization of both positive and negative developmental practice experiences that provide a rich overview of the TASS Dual Career athletes’ pathway to becoming a high performing athlete. Pseudonyms are used to ensure participant anonymity.

<table>
<thead>
<tr>
<th>Table 2. Overarching themes and themes from thematic analysis</th>
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<tbody>
<tr>
<td>Enjoyable Low-Pressure Practice Environment</td>
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<tr>
<td>Simulated Competition Against Others</td>
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<tr>
<td>Being able to beat others</td>
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<tr>
<td>Competition focused environment</td>
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<td>Others who compete hard</td>
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<td>Selection pressure</td>
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<tr>
<td>Comparative level athletes</td>
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<tr>
<td>Failure opportunity against superior athletes</td>
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<tr>
<td>Practice Performance Success</td>
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<tr>
<td>Creating moments of realisation</td>
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<tr>
<td>Overachieving expected performance</td>
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<tr>
<td>Overcoming challenging situations</td>
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<tr>
<td>Learning new skills</td>
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<tr>
<td>Selection success</td>
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<tr>
<td>Challenging Environment</td>
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<tr>
<td>Focus on improvement</td>
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<tr>
<td>Development of belief in ability</td>
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<tr>
<td>Consistent overreaching for success</td>
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<tr>
<td>High autonomy</td>
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<tr>
<td>Producing a practice vision</td>
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<tr>
<td>Generation of self-awareness</td>
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<tr>
<td>Supportive Relationships and Sanctuaries</td>
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<tr>
<td>Encouragement</td>
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<tr>
<td>Significant trauma</td>
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<tr>
<td>Professional training structure</td>
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<tr>
<td>Strong coach relationship</td>
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<tr>
<td>Practice friends</td>
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<tr>
<td>Exposure to Higher Level Athletes and Different Practice Environments</td>
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<td>Modelling opportunities</td>
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<tr>
<td>Multisport environment experience</td>
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<tr>
<td>Learning from different athletes</td>
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<tr>
<td>Ability Status within the Practice Group</td>
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<tr>
<td>Recognition</td>
</tr>
<tr>
<td>Elite level label</td>
</tr>
<tr>
<td>Lowest ranked</td>
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</tbody>
</table>
### 3.1 Enjoyable Low-Pressure Practice Environment

The practice environment was regarded as a domain that athletes enjoyed, with Ella stating: “Everyone was getting along and having fun, it was the spirit of the team that made it enjoyable”. Participants highlighted lower performance expectations in practice producing less pressure, which enhanced enjoyment and performance. Kaye highlighted lower practice expectations provided a grounding when goals were not met: “if I don’t get picked [for national squad] then that’s not the end of the world, I’m back at training the next day, and I’m still a year young and shouldn’t expect my development [in practice] to come all at once”. Having a love for practicing the sport was critical for athlete development, as shown by Dan: “I actually found a sport that I loved going to training for. I think that was a really positive steppingstone for me as I loved being there [at practice]”.

### 3.2 Simulated Competition Against Others

The chance to compete against others during practice was discussed by Imogen as a central driving force: “As a sports person the need to beat others is really important, and that starts in training, and drives me massively”. Competing to be the best within a training group appeared to be a necessity to improve and develop as an athlete, which was aided by others in the practice environment who would compete: “people put a lot into it. Sessions become really intense, really serious, so it’s a really good environment to be in as no one wants to be last” (Ben). Selection for advanced practice groups was discussed as an inevitable part of athlete development. Abi spoke of the damaging effects of selection pressure: “Sometimes it does [impact my performance in practice], especially when its leading towards a game, that’s when I feel it the most”. However, Ella stated the need for selection pressure to enhance motivation: “I knew that the higher you move up the better the coaching will get so I was like I have to stay here on the program and that made every practice really important to me and I had to be better than everyone else”. Finally, Harry revealed experiencing a strong influence from their success or failure against athletes who were a similar ability level:

> I got in and that’s when [friend in group] got his England vest. Of course, I was annoyed because that’s what I wanted to get. I wasn’t annoyed at him of course, but it was frustrating to see your teammate get it and then I was tense and didn’t train well for weeks.

### 3.3 Practice Performance Success

The impact of successful performance permeated through much of the interviews and was described by Max as a key factor of his development: “I just kept being the best [during practice], others start to get worried about you. I’d go to GB training camps, and everyone knew it, it does feel good and helps push you”. Chloe suggested the need for consistent skill learning: “[Previous team coach] made me think about aspects of the game individually. They would make me do sessions just on place kicks. But [New team] then helped me to think more technically better and how to analyze your game”. Participants were greatly impacted by overachievement in practice
that had a lasting and spiraling effect: “It started with some great competition wins, made me so motivated in practice, I wanted to train every day, like an addiction. I was training at a top level, and I just kept getting better, it all fed in” (Greg). Unexpected high performance led to moments of realization, as described by Laura: “I remember it really well, I just got it [high level skill], like really got it, which made my ability during practice go up, which had a knock-on effect for other things, that’s when I thought I’m good”. Successful practice performance was also cited following the overcoming of challenging situations: “when you’re on the track, it’s just you, so you learn to deal with it yourself, I’m more resilient in training” (Dan).

### 3.4 Challenging Environment

To develop successfully, participants required an ardent desire to be better, which was enhanced and supported by their practice environment. Ella’s enduring belief in her ability was evident when she stated:

> I would have just stuck it with for another year [if failed to gain selection]. I would have made my way up because I still have my confidence and mentality that I’m going to get there. That’s been built into me for years in training. My coach got me to overcome things, no matter how hard they have been.

The development of strong self-belief was accompanied with a strong motivation to improve when set difficult challenges in practice, which created feelings of never being happy with performance: “you always feel you could do so much better, even if you can’t. I can’t remember ever being 100% happy with how I practice. High [practice] performance wouldn’t impact me” (Imogen). The practice environment provided high levels of autonomy, as indicated by Chloe: “It’s not easy but I started doing my own research and stuff. I did my own research for gym, and they [coach] would help me as we didn’t have that much time together”. As well as having autonomy, participants were also said to have a vision for where they would be in the future. For example, Kaye spoke about “knowing that I wanted to be a pro [professional athlete] and then planning out what I need to do in practice to get there and how tough it would be”. Laura highlighted: “I think my training has developed me as this person. I have overcome tough times and that’s made me resilient to other things that happen”.

### 3.5 Supportive Relationships and Sanctuaries

Significant others were said to give participants encouragement, support and direction in practice, especially following traumatic experiences: “It was demoralizing at the start [of the year] because it felt like the training was for nothing, but my coach helped me... we go back and watch the film and find errors” (Max). Having friends within the practice environment was important for psychological recovery: “I think its stuff like my mates at training knowing about it. I can see other people outside to socialize and take a break, but they don’t really know” (Harry). The support structure in practice influenced athlete development, as stated by Nicky: “It was just more professional, not like a job yet, but more professional and that was important for me, like I could see myself as that elite athlete”.

### 3.6 Exposure to Higher Level Athletes and Different Practice Environments

Exposure to new and challenging practice situations was essential for athletic development. A significant influence was exposure to higher level athletes during practice, which promoted both an opportunity for challenge and observation. Ben discussed the importance of practicing with superior athletes:

> Training with older people definitely had an impact because when you see older people train its very inspirational... watching older people and better people, it makes you want to look like them and be like them, and that had a big impact on me.

Finn suggested that he had: “learnt a lot from [elite] teammates this year. I was fortunate to be able to practice with them before the race”. Participants identified not only technical enhancements from exposure to better athletes but also tactical, as Laura stated: “I could see and ask them why they did things, what decisions they make and why. We all have the skills so how you put it together counts a lot”. Max stated that experience from practicing other sports was also beneficial: “doing gymnastics [when younger] was good. I do lots of trampolining as well to help with flips. I used to do football and I like the teamwork element of it, which I think about when we train”.

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3.7 Ability Status within the Practice Group

Participants identified the need to display their achievements to others during practice, as stated by Imogen: “What motivates me is hearing what the other people in the group have to say about me”. Greg clarified that he wanted to impress his coach: “She didn't think I could qualify so I wanted to prove her wrong and worked really hard the next few weeks in training”. Participants also referred to wanting to impress family and friends: “It certainly boosts your confidence and ego a little bit. I’d tell everyone about training and sometimes they’d come and watch” (Ella). Holding the label of being within an ‘elite’ or ‘high performing’ practice group was highlighted as being important for development. Participants endeavored to reach higher practice groups and feared being removed:

I wanted to be in with the people who looked like they were higher standard and better. Like, I could say I’m in this group, at this level. You then don’t want to lose your place, so I had to push hard for it and be better than people around me. (Julia)

In contrast to reaching high status positions, participants also recognized the motivational impact of being a lower ranked member of a practice group. For example, Kaye suggested: “not being at the top of my sport, actually being like really low down, and made me want to get better. First you get better than them, then them, and so on”.

3.8 High Intensity Environment

When asked about effective practice environments, Abi replied: “The workload. That had an impact on me in terms of the more I did the more I learned kind of thing”. Finn identified successful practice demanding high effort: “Positive in the long term because it shows that your drive is there, and I think that it shows that you want to do this as a career for a long time. It’s got to be tough to achieve”. The practice environment was a place for effective competition preparation as stated by Julia:

I've had bad spells in training. You just need to push through, keep trying. It should be efficient and organized. I've trained in places where it's poor [organization] and wasn't great for me. I don't mind having fun but I'm not there to have fun, I'm there to get better.

Practice was important for physical development: “my strength and conditioning coach helped to build up my physique... made me feel more like an athlete so it put me in a better mindset to progress and train better” (Greg). Enhanced physical strength through higher intensity training was described by Kaye as being a “major reason why I started to improve, like training was really tough, but I got really good like really quick because I was stronger than everyone else”.

3.9 Disruption to Practice Routine

Key negative moments in a participant’s journey enhanced motivation and created opportunities to develop further as an athlete. Major injury led to practice disruption: “When I did my hamstring at training, and I carried on because I was annoyed. I was then out for a while, it was stupid [to carry on]. I was a bit lost without sport in my life” (Harry). Being injured was frustrating due to the inability to practice, but when Dan was injured, he reported being able to reflect: “You talk to people [about injuries], they think of it as a really negative thing because they think pain, can’t train, but you get time to figure out what works”. The frustration of injury was borne from a lack of control over missed practice as highlighted by Nicky: “It came at the wrong time. Totally knocked me back. I was out for months. I couldn’t do anything at all. It was a really difficult time”. Regardless of the reason for practice disruption, Chloe reported her sporting path being changed for the better:

I wasn’t enjoying training, so I stopped for a bit. Then I changed to a new position, got lucky that my dad convinced me to go back, and got me somewhere [new club]. I became a keeper... yeah, a totally different position, it was like meant to be. Because training was different and there was more focus on just me, it was better, I actually enjoyed training.

3.10 Practice Performance Failure

Significant poor performance influenced practice, as highlighted by Laura: “It definitely affected me for ages, months. I got to come back home and see everyone from my old club. I just lost a little bit of belief in myself. I’m ok now though”. The higher the stakes, the greater the impact: “Preparing for national final at training, I just couldn’t catch the ball. I replay that time all the time in my head. I still think about it today” (Ella). Failure during extended periods of poor
goal achievement and low performance in practice was reflected upon by Harry: "I found training a bit harder because I was less motivated, I couldn’t improve. My level was not good at training, which made me worse again". Ben discussed the failure he felt by being physically weaker in the practice group: "It was more of a realization. They were so much stronger and that was the difference. I literally couldn’t compete at all with them when we trained". Despite the negativity associated with failed performance, it motivated Abi to not want to fail again: "I was more scared that it was going to keep happening. What they [coaches] were actually saying [getting dropped from group] was going to happen... Sometimes it’s a positive because it wakes you up from it happening". Accepting failure and the lack of control over failure was described as essential for development: "You can’t stop training bad. Learn not to focus on it. My coach always says you only learn from losing and it stays with me" (Nicky). Performance growth from failure was stated by Imogen: "If it [practice performance] doesn't go too well its sort of holding onto that anger and putting it forward into what you do next”.

4. Discussion

The current study explored the key developmental experiences of TASS Dual Career athletes during time spent within their practice environment. The results can support practitioners to create and maintain a practice environment that facilitates the development of athletes. Findings suggest the need for certain initially perceived negative experiences to occur, which have previously been viewed as damaging to development (e.g., Coutinho et al., 2016; Martindale et al., 2005). For example, there is a critical need for failure during practice that emerges from comparisons against others, a technically and physically challenging environment, and a significant lack of progress over a long period of time. A large amount of data was analyzed, and this discussion section focuses on the more interesting and nuanced findings. At times, findings share similarities with previous research on elite athletes (e.g., Hardy et al., 2017), but the way experiences are perceived within practice appear to be unique to the environment when compared to holistic or competition-focused developmental experiences.

Sarkar et al. (2015) identified significant competition failure as important for the development of elite athletes, through which learning, and reflection could be undertaken. Gulbin et al. (2013) similarly showed that most athletes experience at least one period of developmental decline before reaching a higher competitive level. The current study suggests the practice environment should provide consistent failure, through challenge, and allow failure to pervade and influence long-term practice performance. Failure in practice should be viewed as acceptable and associated with positive consequences (i.e., opportunity to learn) (Gómez-López et al., 2020). Gustafsson et al. (2017) reported fear of failure in elite adolescent athletes produced higher levels of psychological stress and burnout, which was particularly evident through experiences of shame and embarrassment. However, failure within the practice environment (e.g., being the weakest performer) was a contributor to enhanced development rather than a cause of psychological stress and burnout. An emphasis on lower practice expectations from external sources (e.g., coaches) and the acceptance of regularly occurring, uncontrollable failure in practice seems to be effective for development (Smith et al., 2021). Higher internally generated practice expectations appear to be more effective for development and decreased the stress associated with external sources.

Success and achievement were important for athlete development within the practice environment. In contrast to failure that was experienced more consistently over time, participants referred to significant moments of success having a developmental impact. Previous research has referred to positive emotions needing to outweigh negative emotions for flourishing mental health (e.g., Fredrickson and Losada, 2005; Schutte, 2014). The critical positivity ratio has attracted criticism (Brown et al., 2013) and it seems that within sporting environments there is less flourishment due to athletes’ constant battle to overcome negativity (Hardy et al., 2017; Sarkar & Fletcher, 2017). Current study results support the cyclical developmental process proposed by Smith et al. (2020a) with the experience of low-level regular failure during practice that creates a desire to improve and ends with the realization of significant success. Lower levels of negative experience were supported by a lack of reference to spiraling negative feelings that can adversely affect performance (Knight & Eisenkraft, 2015). To offset spiraling negativity within practice, the acceptance of failure (Breines & Chen, 2012) and adversity-related experiences (Sarkar et al., 2015) seem critical to promote the motivation to improve and achieve.
Negativity was predominantly experienced through various forms of practice performance failure (e.g., failing to meet a practice objective or losing in practice competition). Recent research suggests negative communication (Smith et al., 2021) and punishment (Kerr et al., 2020) to be coaching tools used to develop athletes. However, negative communication during practice, such as condescending tones and autocratic styles (Fraser-Thomas & Côté, 2009), was not apparent in the current study. Despite the potential for the coach-athlete relationship to experience the majority of conflict during practice (Wachsmuth et al., 2018), there was no reference made to direct negative communication within the environment. In fact, coach and teammate support was often cited to be present and may be a further tool used to buffer the negative effects of performance failure.

Participants stated rarely being happy with performance, which supports the presence of consistent negativity. A strong belief in their ability built through practice achievement and autonomy afforded to them by coaches (Nichols et al., 2019) was cited to help accept failure. Whitely et al. (2016) reported self-belief to be a key influence on an athlete’s ability to overcome developmental risk factors, which was borne from early and significant career success. The rarely occurring significant positive achievements experienced in practice appear to contribute to athlete self-belief and the buffering of negative experience. Without significant practice achievement, negativity experienced in the environment may be overwhelming for athletes and cause adverse developmental influences (Saarinen et al., 2020).

Exposure to higher ability players, where failure was experienced, was deemed more acceptable by participants. Goldman et al. (2022) reported talented youth soccer players to be appropriately challenged with higher intensity practice when they practiced and competed with older athletes. Despite Goldman and colleagues highlighting the social issues that younger athletes may have when competing with older athletes, the current study did not support those findings, suggesting a developmentally successful practice environment minimizes social issues for younger athletes. Interestingly, Ronkainen et al. (2019) suggested student-athletes will choose role models not just based on performance criteria and, therefore, within socially created practice environments (Smith, 2003), coaches may wish to consider the non-performance needs of their athletes.

High performing athletes are characterized by their desire to compete against others (Witkowski & Pleiiroa, 2018). Practice competition could be created by selection pressure and goal setting, which creates regular ability comparisons against others (Smith et al., 2021). Saarinen et al. (2020) reported the need to impress others through competitive success as having a negative impact within the coaching environment, but that was not realized in this study within practice. Jordalen et al. (2020) found competition success to be important for development, but within practice there appears to be a need for regular competitive failure. Failure in competitive situations during practice would be more advisable than coach created punishments to provide negative and adversarial experiences (Kerr et al., 2020). Therefore, if high performing athletes are achieving success during competition, practice failure against other comparable athletes may be advantageous for development. Lower practice expectations may ease the impact of competitive failure in practice, suggesting why highly significant failure might be more influential in competition than practice.

When participants experienced trauma or adversity, they received support from those involved in the practice environment (Whitley et al., 2016). In fact, other individuals within the practice environment (e.g., coaches and players) also provided direction and encouragement to participants, which enhanced performance (Berg & Warner, 2019). When participants discussed positive support, it tended to be in relation to significant experiences, which reaffirms the notion that practice can maintain a consistent low level of negative experience interspersed with significant positivity (i.e., success and support). Growth from failure in the practice environment was regularly described as being a personal endeavor without the need for support unless the failure was significant. Similar to posttraumatic growth theory (Tedeschi & Calhoun, 1995), following significant trauma there was a need for support and disclosure that allowed athletes to access differing perspectives from those that had previous experience (e.g., coaches and older athletes) (Tedeschi & Calhoun, 2004).

4.1 Study Limitations

It is possible that the experiences perceived within the practice environment, despite the
participants being high performing athletes, did not contribute adaptively to their development. The measurement and evaluation of human developmental experience is temporally affected and highly complex, with recollection of experience being distorted (e.g., recalling moments of adversity) (Brown et al., 2015). The current study held the assumption that the practice environment experiences reported must have been developmentally beneficial because they were the experiences of athletes who had made it to an elite level. However, the successful youth athletes interviewed in this study may drop out of their sport and not realize their potential (Corrales & Olaya-cuartero, 2022). Therefore, the experiences reported in this study may not be applicable to the development of senior athletes. When conducting qualitative research, it is often difficult to assess how many participants are required to answer the research question (Boddy, 2016). The current study interviewed 15 participants, which may have satisfied code saturation, but did not reach the 16-24 interview target set by Hennink et al. (2017) to achieve meaning saturation. Therefore, the richer meaning within the experiential themes may not have been realized.

5. Conclusion

The findings from this study revealed the developmental experiences of high performing TASS dual carrier athletes in the practice environment. Athlete development within the practice environment is nonlinear and multifaceted with both positive and negative experiences. Results suggest that athletes perceived the practice environment to contain consistent low-level negative experiences with less common moments of significant success. Practitioners who wish to create practice environments that are beneficial for athlete developmental should consider providing a balanced approach to positive and negative experience. Significant success should be celebrated to aid with athlete self-belief, which can buffer the potential detrimental influence from a consistent low-level experience of failure within practice. This study highlights the importance of failure acceptance, which interacts with other factors such as recognition of overachievement from others and perceived high effort, to stop spiraling negativity.

References


Braun, V., & Clarke, V. (2021). To saturate or not to saturate? Questioning data saturation as a useful concept for thematic analysis and sample-size rationales. Qualitative Research in Sport, Exercise and Health, 13(2), 201-216. [DOI]


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