

Developing a Framework of Mental Toughness in Youth Football: Exploring Mentally Tough Behaviours and Personality to Aid Talent Development

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Doctor of Philosophy.

This thesis was carried out in collaboration with the Football
Association of Wales Trust.

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DECLARATION

This work has not previously been submitted in substance for any degree and is not concurrently submitted in candidature for any degree.

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This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by giving explicit references. A bibliography is appended.

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Additional Publications

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Smother, N., Copley, B., Hanton, S., McKay, A., & Williams, T. (2022). (Re) conceptualising effective teaching in further education: an exploratory study. *Journal of Further and Higher Education, 46*(5), 620-635. <https://doi.org/10.1080/0309877X.2021.1986622>.

Abstract

To achieve their strategic priorities, the Football Association of Wales Trust (FAWT) required greater insight into their psychosocial pillar of performance. Specifically, there was a need to explore the personal resources that facilitate youth players to transition into and perform successfully in their national teams. Therefore, the overall aim of this PhD thesis was to create a behaviour-based mental toughness (MT) development framework to support the youth development pathway within the FAWT. To achieve this aim, the thesis consisted of three empirical studies that sought to: (1) examine the psychosocial stressors and situational properties international youth football players experience during the club-to international transition (CIT); (2) explore how players develop the psychological resource of MT to cope with international youth football stressors; and (3) investigate how international youth coaches might be better prepared to support players in developing their MT, through designing and implementing a coach-led MT development intervention. In study one, interviews were conducted with international youth football players, international coaches, and club coaches to explore what stressors players encountered on the international football development pathway, and why players found them demanding due to their situational properties. Participants highlighted a range of performance organisational and personal stressors, and situational properties associated with the CIT. Further, the CIT was perceived as a fluctuating transition with no definitive outcome. Consequently, participants emphasised how players needed to develop MT to navigate this ambiguous transition successfully. However, participants lacked understanding of what being mentally tough looked like or how MT could be developed. Therefore, in study two a shared understanding of MT development was formulated through conducting focus groups with international coaches, and interviews with international youth players, players' parents, and support staff. Interviews were used to create a MT development framework for the FAWT, which indicated that MT development was a multidimensional process, contingent on players' transactions with individuals in their wider environment. These individuals' behaviours influenced players' propensity to engage in and reflect on contextually relevant mentally tough behaviours (MTBs), leading to MT understanding, development, and maintenance. This MT development framework was then implemented over three phases during an international camp in study three, including: (1) pre-camp coach education on a behaviour-based approach to MT development; (2) in-camp support for coaches to apply this behaviour-based approach; and (3) post-camp player and coach social validation interviews to assess the interventions' perceived impact. Coaches' self-efficacy regarding MT development increased following pre-camp education. Further, players' MT levels significantly increased from pre- to post-camp, which players attributed to their coaches' abilities to clarify, reinforce, and review the MTBs they should display under pressure. Coaches highlighted how being checked and challenged to frame MTBs appropriately helped them to develop players' MT more effectively. The findings of this PhD have significantly influenced the international youth football community by enhancing understanding of the stressors players encounter along the international talent development pathway. Moreover, FAWT stakeholders have been provided with a clear framework to effectively support players' MT development and enable them to navigate these stressors successfully. It is recommended that practitioners developing psychological resources such as MT in sport NGBs first create psychologically informed environments, where there is shared understanding of, and ownership over, psychological development among all key organisational stakeholders. In so doing, practitioners can improve the interrelationships between organisational sub-groups and ensure all stakeholders work together to foster the psychological well-being of athletes.

PROLOGUE

*Shifting the Landscape: Focusing on Individual
Psychosocial Development in the 'Numbers Game' of
Modern-Day Football*

Shifting the Landscape: Focusing on Individual Psychosocial Development in the 'Numbers Game' of Modern-Day Football

Football is widely considered to be the world's most popular sport, with approximately 265 million people across the globe playing the sport in some capacity (FIFA, 2021). However, in a modern-day football context, professional football clubs are no longer viewed as symbols of their local community, but as national or international commercial behemoths operating in the performance and entertainment industry (cf. Relvas, 2010). This shift in football's culture is typified by the heightened movement of players between countries for ever-increasing transfer fees and wages (Littlewood et al., 2011). Given this context, the funding of youth academies and a focus on youth player development has become the mantra for many football clubs, as the capacity to identify and develop talented players internally becomes essential for achieving sporting success on the pitch and financial stability or survival off the pitch (Richardson et al., 2012). Consequently, football clubs and football National Governing Bodies (NGBs) are investing ever-more resources into their youth academies and talent development programmes, attempting to identify and nurture the most promising and talented players through the provision of high-quality coaching, support services, training facilities, and a clear pathway for progression (Sarmiento, 2018). In this regard, it is beneficial for football clubs and the football NGBs that their players represent, such as the Football Association of Wales, to work together in developing the next generation of talented youth footballers. Such collaborations will allow football clubs to produce players that either transition to the senior team or can be sold on for a significant profit, thus assisting their club to be financially competitive, as well as enhancing the reputation of the club's academy system. Similarly, football NGBs receive players who show potential from a technical, tactical, and physical perspective. As a result, such players are more likely to continually make the transition to international level, accumulate international appearances,

and can support the organisation in achieving their aim of qualifying for international tournaments.

The enhanced professionalisation of youth academy systems has arguably augmented the development of those players who successfully transition to the senior level of the game. Nevertheless, in a UK context, approximately 0.017% of players in the professional development phase of the academy system earned a professional contract with a Premier League club in the period between the 2012/13 and 2021/22 seasons (Premier League, 2022). On a broader scale, of the approximately 12,000 players in the academy system, 99% of these will be released without receiving a scholarship (i.e., before the age of 16), with a further 85% of those players who remain ultimately being released without receiving a professional contract (Crouch, 2021). As such, while football club's youth academies continue to broaden their recruitment drives globally and expand the number of players in their talent development systems, formally signing players from the age of 9, it has become increasingly difficult for youth footballers to forge a professional career in the sport (Ford et al., 2020). In this highly commercialised context, youth footballers are at risk of being viewed as commodities that can be easily expended and replaced, rather than human beings who are spending their key years of psychosocial development in cut-throat academy systems, where without proper support they are at risk of developing serious long-term mental health and well-being issues (Rongen et al., 2021). Further, while football clubs and NGBs have honed their assessment procedures for performance (e.g., video analysis of previous performances), physical (e.g., GPS tracking) and biological (e.g., bio-banding) markers of optimal functioning, they have overlooked the dynamic, non-linear nature of talent development pathways and the need for psychosocial resources to support players in navigating these pathways (cf. Sweeney et al., 2021). Therefore, there is an onus on football clubs and football NGBs to work together to identify the psychosocial demands players encounter on talent

development pathways and the psychosocial resources players require to cope with these demands effectively. These insights would go some way to reducing the survivor biased nature of high-level youth football (i.e., players who transition to senior level naturally develop the psychosocial attributes needed to succeed) by equipping all players with the psychological skills needed to cope with adversity, regardless of whether they ultimately make it as a professional footballer (Collins et al., 2016). Indeed, players who possess the psychological skills to cope with pressure are more likely to succeed in transitioning to senior level, thus boosting the academies success rate in producing homegrown players, aligned with EPPP guidelines (EPPP, 2011). Further, academy level coaches are often prone to biased decisions around player selection, favouring those who are ‘early developers’ physically (Kelly et al., 2020). Thus, providing psychosocial support to youth players levels the playing field somewhat allowing those who have not yet developed physically to exhibit the psychosocial markers of performance (e.g., mental toughness) required to retain their place within the academy system and helping youth coaches to avoid ‘talent wastage’ (cf. Johnston & Baker, 2020). Finally, the holistic development of all players within a youth football academy or a football NGB’s system would help enhance the reputation of these organisations and start to shift the perception of high-level youth football from a volatile, ‘win-at-all-costs’ culture to a person-centred one, where all youth footballers are provided with the tools they need to flourish both professionally and personally.

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CHAPTER 1

INTRODUCTION

Research Context

This PhD project was conducted in the context of international youth football and was jointly funded by the Football Association of Wales Trust (FAWT) and the Knowledge Economic Skills Scholarship (KESS) scheme. The FAWT are the charitable arm of the Football Association of Wales and are responsible for: (1) growing grassroots football in Wales; (2) developing a world-class coach education programme; and (3) identifying and developing the next generation of youth players to support the future success of the Welsh National team (see www.fawtrust.cymru/who-we-are/intro/). In support of these aims, the FAWT have developed a “Welsh Way” national syllabus, which contains a cohesive blueprint for how football should be coached and played, to be delivered by coaches across all levels of the Welsh football pyramid (see www.fawtrust.cymru/nationalsyllabus/). This syllabus also contains a framework and key principles of play to be delivered by national level coaches to facilitate the development of the next generation of international players, achieve long-term on-pitch success, and continually qualify for international tournaments.

KESS is a programme funded by the European Social Fund (ESF) awarded by the Welsh European Funding Office (WEFO) in the Welsh Government. The purpose of KESS is to ‘link companies and organisations with academic expertise in the Higher Education sector in Wales to undertake collaborative research projects, working towards a PhD or Research Masters qualification’ (see www.cardiff.ac.uk/study/postgraduate//funding/doctoral-training-initiatives/knowledge-economy-skills-scholarships-kess2). Consequently, I worked with the FAWT to identify the organisation’s needs and to formulate these needs into a structured PhD project with clear objectives and outcomes. Importantly, given the purpose of KESS and the ongoing relationship with the FAWT, I had to bridge the gap between organisational needs and the criteria for a Level 8 research degree. For example, as the research progressed and findings were disseminated to the FAWT, the organisation’s needs evolved from an initial

interest in understanding the psychosocial demands youth football players encountered in an international context, to identifying and equipping players with the necessary personal resources to cope with these demands, via the coaching staff. Consequently, the focus of the research project needed to be flexible to ensure that these needs were addressed. The nature of the research presented in this thesis is, therefore, representative of the applied and impact-driven mission of KESS and the constructivist philosophical position of the lead researcher.

Background

A strategic priority for the FAWT is to create a national identity for how football is played, underpinned by developing players' technical and tactical excellence on the pitch and supporting players to engage in reflection and self-development off the pitch. Through delivering this strategic priority, the FAWT aims to identify and develop the next generation of youth players to achieve long-term success and continually qualify for major international tournaments at all competitive age groups (U16s to First Team). To achieve these outcomes, the FAWT instigated a player development framework that has, to date, placed considerable focus on the technical, tactical, and physical pillars of performance. This is perhaps due to the expertise currently held within the organisation. However, the remaining pillar, *psychosocial*, remains a priority area for development. This gap in knowledge was reflected through discussions held between the FAWT and I, in the early conceptual stages of this PhD. Specifically, while the FAWT expressed confidence in their coaches' abilities to convey tactical principles of play and develop players' technical and physical abilities, they were keen to learn more about: (1) how to integrate psychological development within their coaching framework; (2) how players perceive the national programme and the demands players encounter at various stages along the development pathway, having briefly transitioned from their club environments for training camps and competitions; and (3) how player support and psychological development could be improved to enhance this experience,

and improve player development and performance. As a result, it became clear there was an initial need to clarify the psychosocial demands players faced making the club-to-international transition (CIT)¹, prior to examining the personal resources required to help them cope with such challenges and how such resources might be developed.

During discussions with the FAWT, one personal resource which emerged as being highly valued by the organisation was mental toughness (MT); that is, the personal capacity to produce consistently high levels of subjective or objective performance when faced with both everyday challenges or more significant adversities (cf. Gucciardi et al., 2015). In a FAWT context, it is imperative that players learn the “Welsh Way” principles of play (e.g., understanding when and how to exploit a numerical advantage against the opposition). Therefore, MT is demonstrated through a player’s ability to execute these principles consistently on the pitch under competitive pressure, and learn from these experiences off the pitch, to progress along the international development pathway. However, to understand what constitutes *being mentally tough* and how it links to performance under pressure, coaches must first identify the behavioural indicators of MT or *mentally tough behaviours* (MTbs) that players need to consistently display. This focus on MTbs aligns with the recent MT literature, where MT encapsulates an individual’s latent capability to perform under pressure at any given moment, with MTbs providing a link between one’s underlying MT and performance outcomes (Anthony et al., 2020; Gucciardi, et al., 2020). Nevertheless, a limited understanding of the psychosocial demands players encounter when making the CIT has inhibited the identification of the specific MTbs players are expected to display consistently on and off the pitch. Further, there is little understanding in the FAWT of the coaching strategies required to facilitate the development of these MTbs in players. As such, there was

¹ The CIT is a temporary within-career transition that occurs when an athlete is selected to represent their country in international competition. During this event, the athlete transitions for a short period from their club to their international team before returning to their club once international duty has been completed.

a need to work with the FAWT to understand the nature of the CIT, namely *what* demands players across international youth football encounter and *why* they are demanding, prior to developing players' personal resources to cope with them.

Understanding the reasons why certain situations might be considered as demanding can be achieved through the cognitive-motivational-relational theory of stress (CMRT) and exploring the situational properties of demands (Lazarus, 1999). Through CMRT, Lazarus outlines how stress is an ongoing transaction between an individual and their perception of demands in their surrounding environment (e.g., their timing), and whether they have the appropriate psychological resources to cope effectively. To date, researchers have not examined the collective set of psychosocial demands faced by players trying to make the CIT in football. Therefore, adopting a CMRT-based lens, I sought to provide clarity around these CIT demands and their situational properties through conducting interviews with youth players across all levels of the international pathway (under 15s – 21s; Study 1, Chapter 2). To supplement this, club and international coaches who had supported players to successfully make the CIT on a recurrent basis were also interviewed regarding their perceptions of the CIT. Based on these findings, it was highlighted that coaches need educating on how to develop personal resources (e.g., MT) in players that equip them to perform consistently under pressure. Development of such resources is reliant on the identification of specific MTbs players are expected to display consistently on and off the pitch to cope effectively and progress along the international development pathway. Consequently, focus groups and interviews were conducted with relevant stakeholders from across the FAWT (e.g., coaches, support staff, parents) to: (1) identify MTbs in an international youth football context; (2) identify the specific situations that require MTbs in an international youth football context; and (3) explore how a player's support network assists in the development of their MTbs in an international youth football context (Study 2, Chapter 5). The findings of this study were

then used to create a MT intervention that was implemented by international coaches to clarify and reinforce the display of these MTbs in players, providing them with the resources to perform under pressure and in line with the “Welsh Way” principles of play (Study 3, Chapter 6).

My PhD sought to build upon the underdeveloped psychosocial pillar of performance within the FAWT and represents the first attempt at developing a MT development framework within an international football organisation. Creation of such a framework may allow the FAWT to underpin their key principles of play with clear, observable MTbs for players to display, that will equip them with the resources to perform consistently under pressure and progress along the international development pathway. Moreover, by constructing a multidisciplinary understanding of MTb and the contexts in which MT is developed, my PhD aimed to fundamentally change how the FAWT perceives and supports psychosocial development in youth international footballers. To achieve this change, it was essential for my research to identify the psychosocial demands players encounter. Further, it was important to highlight key resources players need to demonstrate and coaches need to disseminate (e.g., MT) to thrive in this environment. Such insight could assist the FAWT to achieve their aims of developing the next generation of youth players to support the future success of the Welsh National team and creating a world class coach education programme.

Thesis Aims and Objectives

The strategic priorities of the FAWT are to create a national football identity and focus on holistic player development. To achieve these goals, there is a need for greater insights into the psychosocial pillar of performance within the organisation and to explore the personal resources that facilitate young international players to transition into and perform successfully in the national team. Therefore, the overall aim of this PhD thesis was to develop a behaviour-based MT development framework to support the youth international talent

development pathway within the FAWT. To achieve this aim, the primary objectives for this PhD thesis were as follows:

- i) Identify the psychosocial demands youth football players face when making the transition from club-to-international level and being an international footballer.
- ii) Identify the processes through which youth international football players appraise these psychosocial demands.
- iii) Identify key mentally tough behaviours youth football players need to display to perform consistently under pressure in international football.
- iv) Identify and examine the strategies coaches, support staff, and parents use to develop these mentally tough behaviours in youth football players both on and off the pitch.
- v) Create, implement, and measure the effect of a mental toughness development programme within the FAWT.
- vi) Contribute knowledge to the psychosocial pillar of the FAWT's national syllabus and player development pathway.

Contribution to Knowledge

I have endeavoured to make an original contribution to knowledge, using the lens of cognitive-motivational-relational stress theory (CMRT; Lazarus, 1999) to investigate the demands and situational properties of the CIT, a transition previously unexplored in the sport psychology literature. Through adopting a CMRT-based lens, I have attempted to holistically illustrate the transactional stress experiences of youth international footballers, including demands faced, appraisal of these demands based on their situational properties and one's capacity to cope (i.e., MT), as well as the deployment (or lack thereof) of coping resources to overcome these demands (i.e., MTbs). Aligned with CMRT, I have also explored how, through the processes of coping and adaptation to the demands encountered in international

youth football, players could develop personal resources such as MT, which may have a positive impact on their responses to future situational demands. As such, through this PhD thesis, I am the first to merge transitions, stress, and MT-based research. Further, my research has expanded the MTb literature through sampling a triad of participants (coaches, support staff, parents) to identify specific MTbs youth international players are expected to display. It was the first project to explore strategies for how these MTbs are developed in athletes across a range of environments (training, competitive, home) and to incorporate the perceptions of athletes regarding key MTbs. Based on the MTbs identified, a brief contact MTb development intervention was implemented through the international coaches (Arthur-Camiselle & Giges, 2020). Using the coaches as the delivery mechanism for the intervention was appropriate within the FAWT performance context, where time working with players is limited, but consistency of performance is still paramount. This type of intervention approach is novel in MT research, with previous studies predominantly focused on providing decontextualised MT development programmes to athletes and coaches (e.g., Gucciardi et al., 2009d; Mahoney et al., 2016).

Thesis Structure

Following a prologue that sought to highlight the importance of focusing on the psychosocial development of players within the context of modern-day football, this thesis is comprised of seven main chapters and a closing reflective epilogue. Following this introductory chapter, and in line with the first two objectives of this thesis, Chapter 2 (Study 1) presents a qualitative evaluation of fourteen international youth players, six international coaches, and four club coaches' perceptions of the psychosocial demands and situational properties associated with CIT using interviews. The FAWT were initially interested in gaining a better understanding of how players perceive the national programme and the stressors they encounter along the international development pathway. Therefore, Study 1

was essentially a needs analysis, where the major CIT demands were clarified prior to examining the personal resources required to cope with these challenges. This study has been published as:

McKay, A., Cropley, B., Mullen, R., Shearer, D., & Hanton, S. (2021). Psychosocial demands and situational properties of the club-to-international transition in male youth football. *Journal of Applied Sport Psychology*, 34(6) 1272-1294.

<https://doi.org/10.1080/10413200.2021.1972495>.

Having identified the psychosocial demands youth players experience in an international football context, the FAWT were then interested in helping players develop the psychological resources required to cope effectively with these demands. One such resource that participants highlighted as important to manage CIT demands and navigate this transition successfully was MT. As such, the remainder of the PhD thesis focused on creating a shared understanding of the MT development process within the FAWT and implementing an intervention to support coaches in developing MT in their players. Therefore, Chapter 3 presents a brief overview of this shift in research topic based on the FAWT's needs evolving from a focus on CIT demands to a focus on MT development.

Chapter 4 comprises of a literature review in relation to the construct of MT. Specifically, this review explored conceptual issues associated with MT, outlining how most MT literature has focused on identifying unobservable MT characteristics and failed to outline what being mentally tough actually looks like or allows an athlete to do. Therefore, in Chapter 4 a focus on observable MTbs is advocated as a measurable way to understand what constitutes being mentally tough and how it leads to consistently high levels of performance under pressure. Moreover, by focusing on what can be seen, trained, and evaluated a clearer understanding can be gained regarding how MT is manifested within specific contexts via the processes of reflecting on and adapting one's subsequent behaviours in similar future

scenarios. Chapter 4 concludes with an outline of the objectives for the remainder of the thesis, aligned with the FAWT's evolving needs.

Chapter 5 (Study 2) presents a qualitative evaluation of the MT development process within the FAWT. Conducting focus groups with coaches and interviews with players, support staff, and players' parents, a range of MT development strategies were identified that stakeholders implemented to support players MT development, as well as the MTbs players needed to subsequently display to perform consistently highly under pressure. These findings were then used to formulate a behaviour-based MT development framework for the FAWT. This study is currently in the process of being published in a peer-reviewed journal as:

McKay, A., Cropley, B., Shearer, D., & Hanton, S. (under review). Developing a 'clarity of mind': Exploring a behaviour-based approach to MT development in international youth football. *Journal of Applied Sport Psychology*.

Chapter 6 (Study 3) involved the implementation of the created MT development framework within the FAWT during an international camp. This intervention consisted of: (1) pre-camp coach education regarding a behaviour-based approach to MT development; (2) in-camp support for coaches in developing players' MT; and (3) post-camp social validation interviews with players and coaches regarding the intervention's perceived impact. The findings of this study are in the process of being disseminated back to the FAWT and will contribute to the further development of the organisation's psychosocial pillar of performance.

In Chapter 7 (General Discussion) a summary of each PhD study is provided, alongside the major theoretical and conceptual implications of the PhD. Given the applied nature of this PhD thesis, a discussion of the practical implications of this project and the impact of the findings on coach education and player development within the FAWT are also considered. Finally, an evaluation of the strengths and limitations of the thesis are provided,

alongside some recommendations for future researchers seeking to build on the findings of this body of work and to create frameworks that will promote shared ownership over the development of psychological resources such as MT.

This thesis concludes with a reflective epilogue in which I reflect on the personal and professional developmental journey I have been on over the past four years, as well some key lessons I learned along the way. I compare my perceptions of conducting a PhD now with how I felt as I was about to embark on this programme of research and try to provide my past self (and any future PhD students reading this) with some advice to dissuade the anxieties that naturally arise at the outset of this journey.

Considerations in the Presentation of the Thesis

The time taken to complete this programme of research was extended significantly, partially due to the applied nature of the project and associated difficulties in sampling international youth level players, their parents, coaches, and support staff, as well as gaining access to international camps. These issues were further compounded by the outbreak of the COVID-19 pandemic and subsequent lockdowns during 2020 and 2021, meaning all international youth football activities were temporarily ceased and I was unable to access any international camps for familiarisation or data collection purposes. Despite these challenges, Study 1 (Chapter 2; McKay et al., 2021) and Study 2 (Chapter 5; McKay et al., under review) have either been disseminated or are in the process of being disseminated via published outputs (i.e., journal articles). Moreover, the findings from each study of my thesis have been disseminated back to the FAWT via presentations and infographics (see Appendices F & M) at coaching conferences, and coach and player education sessions. Given that Chapters 2 and 5 are published outputs, it was decided to present each of these chapters in the exact format in which they appeared in their respective publications. This has some implications for the overall presentation of the thesis.

To clarify, as the principal investigator, I have led the conceptualisation and design of each study, collected and analysed all data, and made sense of the findings independently. In line with many PhD research projects, I have worked in collaboration with my supervisory team who acted in the role as critical friends to help me engage in a more rigorous approach to research. Indeed, my supervisors challenged my decisions in a supportive way to facilitate appropriate engagement in the research process. Further, presenting each study chapter in published, or publishable format, has meant that each chapter has its own bespoke review of the literature and critical discussion that collectively work towards attending to the aims and objectives of the overall thesis. Therefore, in both Chapters 2 and 5, the term ‘we’ is regularly used instead of the term ‘I’ to denote the collaborative process involved in publication. This switch between the two forms of first-person narrative style aligns with the latest guidelines provided in the American Psychological Association (APA) 7th Edition formatting handbook. Second, despite presenting Chapters 2 and 5 as publications, the journal formatting allowed for each PhD chapter to be presented in a similar manner. Namely, (a) American Psychological Association (APA) 7th Edition format with English (UK) spelling (7th Edition); (b) the numbering of tables and figures re-starting in each chapter; and (c) reference lists being presented at the end of each chapter. However, a few minor formatting alterations were made in this thesis, including: (a) references to appendices being made that were not possible in their published versions (e.g., interview guides, infographics); and (b) published outputs being referenced in line with APA 7th Edition guidelines and further referenced in line with their chapter number for clarity purposes throughout this thesis (e.g., McKay et al., 2021 [Chapter 2]).

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CHAPTER 2

STUDY ONE

*Psychosocial Demands and Situational Properties of
the Club-to-International Transition in Male Youth
Football*

Abstract

Athletes experience a number of within-career transitions that expose them to a multitude of demands. The club-to-international transition (CIT) is one transition that has received minimal attention. Through cognitive-motivational-relational-theory (CMRT; Lazarus, 1999), we sought to address this gap by exploring the psychosocial demands, and their situational properties, football (soccer) players experience during the CIT. Fourteen age-group international players, and 10 coaches (four club; six international) were interviewed. Using thematic analysis, a range of performance (e.g., competition intensity), organisational (e.g., new organisational culture), and personal demands (e.g., evolving identity), and situational properties (e.g., novelty, ambiguity) were identified. Further, the CIT was perceived as a unique adversity, due to its fluctuating and ambiguous nature. For example, international selection is never guaranteed and is predicated on current performance at club and international level. To positively negotiate this transition, we suggest players need to develop key psychological resources (e.g., mental toughness, resilience) and rely on organisational relationships (e.g., clear feedback processes), which assist them in taking ownership over their development. Our research has worldwide reach through offering international level organisations novel insights to help support players making the CIT and facilitate bespoke interventions that will positively impact both individual player development and long-term performance success.

Psychosocial Demands and Situational Properties of the Club-to-International Transition in Male Youth Football

Across sports and competitive levels, athletes frequently experience adversities, ranging from daily hassles (e.g., physical demands of training) to major “crossroad” moments (e.g., loss of funding), which they must overcome to grow and progress in their careers (Franck & Stambulova, 2018). It is important to acknowledge the potential negative-laden value of the term *adversity* in wider life and its association with traumatic life events. Nevertheless, in the current study, adversity refers to situations that appear common, yet can be taxing, pose a threat to one’s goals, and require individuals to positively adapt to situational demands (Fletcher & Sarkar, 2013). One group of adversities that have received significant attention in the sport psychology literature are *transitions*. Transitions can be normative and anticipated, such as the junior-to-senior transition (JST), or non-normative and unexpected, such as sudden retirement due to injury (Stambulova, 2017).

Traditionally, researchers of transitional experiences have focused on the athletic transition into, and retirement from sport (cf. Drew et al., 2019). However, practitioners and researchers have recently recognised the importance of providing holistic support to athletes during key *within-career transitions* (e.g., JST; dual career transitions in sport and university; Franck & Stambulova, 2018; Henriksen et al., 2020) across all life domains (e.g., psychosocial, academic, financial; Wylleman et al., 2013). These within-career transitions expose individuals to contextually specific demands throughout their careers (e.g., managing the cultural differences between the current competitive level and the level the athlete is transitioning to; Drew et al., 2019). As a result, researchers have highlighted the importance of athletes being able to manage, cope with, and adapt to the stressors linked to the transitional experience, which largely determines whether an athlete transition is successful (e.g., the athlete’s ability to adapt to a new situation and stabilise their position within that

new context; Swainston et al., 2020). Consequently, holistic support required to facilitate adaptive experiences, including the development of the psychosocial attributes necessary to thrive during and after the transition, often takes place across prolonged periods with no guarantees of successful outcomes (Drew et al., 2019). Thus, while within-career transitions may appear overtly positive (e.g., an athlete signing a professional contract), if an individual does not have the necessary psychological resources and is not prepared for the new environment they are entering, the transition outcome could be negative (e.g., decreased performance, experience of strain; Stambulova, 2003).

Provision of holistic support during within-career transitions is particularly pertinent in male youth football (soccer) in the United Kingdom (UK), where footballers are expected to transition through structured phases in professional club academy systems (e.g., foundation [8-12 year olds], development [12-16 year olds], and professional [16-18 year olds] phases; see Elite Player Performance Plan [EPPP], 2011) before making the JST. These phases are designed to provide a tailored approach to preparing players for the demands of elite, senior level football. Researchers who have explored the JST in elite football have reported physical (e.g., need to be stronger at first-team level), situational (e.g., change of culture), social (e.g., creating relationships with new players/coaches), and psychological (e.g., internal pressure to transition successfully) demands related to the transition (e.g., Morris et al., 2017; Swainston et al., 2020). Further, despite the structure of elite youth football, it is widely reported that youth footballers appear unprepared for the challenges of the JST adaptation process (Morris et al., 2016).

Youth football players who successfully adapt to the challenges they face as they progress along their club academy pathways may also encounter other transitions, such as the opportunity to represent their country at international level. This transition, hereafter defined as the club-to-international transition (CIT), which has not previously been explored within

the literature, is a temporary within-career transition that occurs when an athlete is selected to represent their country in international competition. During this event, the athlete transitions for a short period from their club to their international team before returning to their club once international duty has been completed. In a UK football context, players make the CIT within a range of different age groups (e.g., at under 15 level), and depending on the situation, the CIT can last days (e.g., training camps) or up to several weeks during international tournaments. For youth players, representing their country at age-group level is widely viewed as positive, as it arguably supports their progression towards professional status. However, the CIT has potentially disruptive elements requiring further investigation. For example, the opportunity for CIT in youth football in the UK occurs approximately five times per year, although even if players have been selected once, future international selection is not guaranteed. The ambiguity of the CIT is, therefore, in contrast with the definitive nature of other within-career transitions and retirement from sport, where at some point the athlete will complete the transition.

Due to its nature, much like the transitional experience of Olympic selection, the CIT can be viewed as a *quasi-normative* transition; predictable only for select categories of athletes, such as elite, professional, or transnational (Diehl et al., 2019; Schinke et al., 2016). As a result, it appears necessary to explore the CIT to explain what comprises this unique situation and how a player's personal and professional development may be augmented (e.g., through repeatedly making the CIT) or debilitated (e.g., through experiencing several failures to make the CIT). Such an approach aligns with recent calls for the need to better understand the changing and novel demands across quasi-normative transitions (see Stambulova et al., 2020). From an organisational perspective, supporting positive transitional experiences may impact on international teams' long-term success. Research attempting to clarify the demands and impact of this transition will help develop the evidence-base concerning transitions in

football, and assist football National Governing Bodies (NGBs) and those who work with youth footballers to consider the wider implications of within-career transitions.

A number of sport-specific transitions models exist that have collectively supported significant developments in understanding the uncertain nature of transitional events, athletes' perceptions of transitions, and their support sources (e.g., Samuel et al., 2016; Stambulova, 2010). However, such models focus on definitive within-career and end-of-career transitions (e.g., the athlete either successfully transitions or they stagnate). By contrast, the CIT is fluctuating and ambiguous in nature, with no definitive outcome and so might be better understood through a model that captures this dynamic, ongoing person-environment transaction. One such framework is cognitive-motivational-relational theory (CMRT; see Lazarus' (1999) model). Through CMRT, Lazarus viewed stress as a process that includes stressors, appraisals, coping, and strain, and involves relational meaning between the person and their environment (Rumbold et al., 2020). Specifically, CMRT presents individuals as having capacity to perceive demands in their immediate environment as psychologically facilitative or debilitating, with the situational properties of these demands playing a key role in the appraisal process (Rumbold et al., 2020). Considering the nature of the CIT through the relational conceptualisation of stress may offer unique insights into the personal and situational significance of the event, and account for individual differences in ongoing transition outcomes (e.g., whether the individual continually makes the CIT or not; Morris et al., 2015).

Researchers have previously adopted models of stress, as well as integrated aspects of stress models into existing transition frameworks (e.g., Samuel et al., 2019), to examine within-career transitions. For example, Finn and McKenna (2010) utilised the transactional model of stress (Lazarus & Folkman, 1984) to investigate elite coaches' perceptions of athletes' JST, reporting a range of stressors (e.g., earning respect of new coaches) and

underlying situational properties (e.g., sudden transition into the first team environment) associated with the JST. Similarly, Jones et al. (2014) utilised the jobs-demands-resources model of stress (Demerouti et al., 2001) to explore cultural and organisational demands placed upon Australian Rugby League players transitioning to senior, elite level. Jones and colleague's findings highlighted the JST as an ever-changing process of personal and environmental demands and resources across three stages: *anticipation* (e.g., expectations prior to transition); *encounter* (e.g., taking responsibility to ensure transition success); and *adaption* (e.g., adapting to the club's culture). While Jones et al. used a broad theoretical underpinning, their illustration of transition as a structured three-stage development fails to highlight the unpredictable, individual-specific nature of the process (cf. Drew et al., 2019). For example, an athlete who transitions into the elite environment, fails to cope, and is sent back to the youth squad. A key facet of the extant within-career transitions literature is the notion of a successful or unsuccessful transition outcome (Morris et al., 2017). This concept is difficult to define in relation to the CIT, where athletes are reliant on personal (e.g., their current form for their club) and situational (e.g., the timing of the transition) factors to make the transition on a recurrent basis. Adopting a theoretical framework such as CMRT, which highlights the importance of these person-environment transactions, may help practitioners and researchers better understand this ambiguous transitional experience.

To date, research has demonstrated the complex and dynamic nature of transitions, and their associated, situationally dependant, demands (Drew et al., 2019). Consequently, the multitude of within-career transitions an athlete may experience cannot be considered collectively in terms of the demands these situations place on an athlete and the subsequent support required to facilitate adaptive progressions through different transitions (Morris et al., 2017). We have attempted to address several gaps in the literature by using the CMRT framework to holistically explore the CIT experienced by elite youth footballers. Specifically,

we aimed to: (a) examine both player and coach perspectives of the psychosocial demands players experience when making the CIT; and (b) identify underlying situational properties that affect players' appraisal of the CIT. Given the exploratory nature of our aims, while we adopted the CMRT framework to inform our investigation of CIT demands and their situational properties, we did not use CMRT to predict participants' CIT experiences. Rather, we aimed to offer novel insights into the psychosocial needs of elite youth footballers in an international context. These insights will allow worldwide impact by facilitating more bespoke interventions which football NGB stakeholders (e.g., coaches, sport psychologists) can implement to better prepare elite athletes for transitions they experience along their talent development pathways.

Method

Philosophical Position

Our research is underpinned by ontological relativism. Specifically, each individual's social reality is understood and derived through interactions with other individuals and phenomena in their outer world via a process of "active cooperative enterprise of persons in relationship" (Gergen, 1985, p. 267). That is, the dual nature of the participant-researcher relationship in understanding participants' lived experiences. Therefore, our epistemological position was one of constructivism, and involved engaging in conversations with participants around a phenomenon (e.g., psychosocial demands of the CIT) and utilising participants' voices to portray their meaningful experiences of this subject through detailed quotes, and development of themes to reflect their collected shared experience (Sparkes & Smith, 2013). We recognise that to engage with, and accurately construct the multiple realities of our participants, we must be "passionate participants" during data collection and accept value-free inquiry and theory-free knowledge development are not possible (Krane & Baird, 2005, p. 90). Accordingly, I (author one) kept a reflexive diary throughout data collection, to

maintain a sense of self-awareness around my subjective biases regarding the CIT and its associated demands. In this diary, I outlined my interactions with participants in international camps, as well as my coding procedure and thought process in forming descriptive themes. Further, a critical friend approach (Smith & McGannon, 2018) was used to enhance the interpretation of collected data and improve research credibility.

Participants

Participants were current international players ($n = 14$), international coaches ($n = 6$) and club coaches ($n = 4$) from football (all male), recruited using homogenous purposive sampling (Patton, 2015). Participants were selected from football NGBs within the UK, and from professional football club youth academies who had international representative players. We only selected participants who had played international youth football (players), coached an international team (international coaches), or coached international players in club academies (club coaches) for at least one year, encompassing a minimum of five international camps.

To ensure a broad range of views of the CIT were examined, both coach and player participants were recruited from different age groups, including: under 15's (players = 5; coaches = 3); under 17's (players = 3; coaches = 1); under 19's (players = 4; coaches = 3); and under 21's (players = 2; coaches = 3). International coaches were aged between 38 and 55 ($M = 42$, $SD = 6.16$) and had between six and 21 years of coaching experience. Club coaches were aged between 25 and 55 ($M = 35$, $SD = 11.8$) and had between five and 11 years of coaching experience. Players were aged between 14 and 21 ($M = 16.9$, $SD = 4.25$) and had between one and six years of playing experience at international level. To gain a wide view of the demands that players experienced, we also sampled players from different playing positions, including goalkeeper ($n = 3$); defence ($n = 2$); midfield ($n = 5$); and attack ($n = 4$).

Interview Guides

Two semi-structured guides were constructed, one each for players and coaches (see Appendices C, D, & E), to allow for a thorough examination of the participant experience. In line with our philosophical position, the guides' semi-structured nature afforded the interviewer flexibility to ask a standardised set of questions and explore responses of interest where appropriate (Patton, 2015). The questions and prompts were underpinned by CMRT (e.g., transition demands and their situational properties; Lazarus, 1999), whilst also drawing on principles from transition models (e.g., concurrent transitions; Wylleman et al., 2013).

Both interview guides were split into five sections. First, the interviewer addressed both the players' and the coaches' background in football. Second, players' and coaches' general thoughts surrounding the CIT were explored (e.g., "How do you feel as a player competing with your teammates for a starting position?" or "Based on your coaching experiences, what do you think are the main demands that separate players that manage to progress to the international team from those that do not?"). Third, the interviewer explored specific CIT demands players' experienced (e.g., "How is training structured within your international training camp, compared to club level?"). In the coaches' interviews, channels of support in place at club and international level to help players overcome CIT demands were also explored (e.g., "How do you as a club/international coach go about making this an environment in which players feel comfortable discussing any transition-related demands they might be experiencing?"). Fourth, the interviewer examined the situational properties of CIT demands and how these impacted on players' and coaches' appraisals (e.g., for *duration*, "How do you as a player plan on maintaining your form to keep your place at international level?" or for *novelty*, "How do you as a coach make your players feel comfortable transitioning into a new international environment?"). Finally, the interviewer gave participants the opportunity to provide any concluding remarks on their interview experience.

To test the effectiveness of the guide, pilot interviews were conducted with a sample of players ($n = 2$) and coaches (club, $n = 1$; international, $n = 1$). Pilot participants gave feedback on the interview process, relating specifically to the interview structure and phrasing of questions. Players in the pilot interviews reported positive experiences of the process, whereas coaches identified the need for the interviewer to clearly distinguish between the psychosocial demands faced by players who had recently made the transition for the first time, and those who had encountered the CIT on a repeated basis across age groups. Consequently, follow-up questions were added to explore the potential impact of the number of CITs a player had experienced on their perceptions of CIT demands.

Procedure

Following Institutional Ethics Board approval (see Appendix A), consent was sought and granted from football NGBs to approach potential participants during international training camps and inform them of the nature of the study (see Appendix B). Further, Heads of Academy were contacted at several professional UK clubs, informing them of the nature of our research and asking for permission to contact their age group coaches, all of whom agreed. Players and coaches (club and international) who agreed to volunteer provided written consent. For players under 18 years of age, their assent alongside written consent from parents/guardians was provided. Following this, selected players and coaches participated in individual interviews with the first author, either in person at a suitable location selected by the participant or via Skype™. All participants were fully informed of the voluntary nature of their participation and of their right to withdraw at any time throughout data collection. Interviews lasted for an average of 49 minutes for players ($SD = 12.1$) and 67 minutes for coaches ($SD = 15.5$), were audio-recorded and subsequently transcribed verbatim in their entirety, yielding 445 pages of single-spaced text.

Data Analysis and Methodological Rigour

We adopted thematic analysis (TA) to identify, analyse, and interpret patterns of meaning within our data (Braun & Clarke, 2012). TA emphasises the active role played by the researcher(s) in the process, where they use their knowledge of relevant theoretical frameworks to construct meaning within and across the data (Braun & Clarke, 2020). In this way, TA aligned with our philosophical position of ontological relativism (each individual's reality is understood through interactions with their outer world) and epistemological constructivism (multiple realities of participants can only be understood through active engagement with the researcher). Following Braun and Clarke's (2012) recommendations, the TA process followed six steps. First, transcripts were read repeatedly by all authors (PhD researcher and supervision team) to ensure familiarity. Second, author one (PhD researcher) conducted initial coding to identify meaningful ideas within the data related to the research aims (e.g., impact of *being unknown at international level* on the CIT). Following this, comparative analysis and discussion took place between authors one and two (PhD DoS), with author two acting as a critical friend to question any potential bias around conceptualisations of CIT demands and the impact of those demands on individuals (cf. Smith & McGannon, 2018). Third, authors one and two collectively organised codes sharing similar semantic qualities into descriptive themes (i.e., second order themes). This involved authors one and two discussing in-depth every code/theme that was created, offering alternative explanations for data interpretation and supporting author one in conducting an in-depth analysis of each interview transcript (Smith & McGannon, 2018). For example, demands relating to uncertainty around the security of one's position in the international setup were organised into the descriptive theme of *squad role*. Fourth, the same authors interpreted the relationship between the descriptive themes to develop overarching interpretive themes (i.e., third order themes). Fifth, to address the rigour of the analysis, authors one and two critically discussed the definition of each theme to ensure it was clear,

distinct, and traceable back to the raw data (Clarke & Braun, 2017). Finally, themes were presented to the entire research team, who, acting as critical friends, encouraged reflection on the data, actively created themes, and analysis process. The purpose of these discussions was not for the research team to reach a unanimous agreement on the interpretation and presentation of the data, but to challenge each other's thoughts and judgments in a reflexive manner (Smith & McGannon, 2018). Player and coach data were analysed separately due to their differing CIT perspectives.

To further improve the rigour of the data collection and analysis procedures, Tracy's (2010) eight big tent criteria were adhered to by ensuring: (a) *a worthy topic* (e.g., novelty of investigating the CIT); (b) *significant contribution* to the literature (e.g., investigating a unique transition through a novel theoretical framework); (c) *rich rigour* (e.g., utilising an appropriate theoretical framework - CMRT); (d) *sincerity* (e.g., discussion of impact of philosophical position on data collection); (e) *research credibility* (e.g., critical friend approach used to enhance data interpretation; Smith & McGannon, 2018); (f) *resonance* (e.g., provision of raw data quotes); (g) *appropriate ethical requirements* (e.g., fully informed, voluntary and consenting sample); and (h) *meaningful coherence* (e.g., clear link between study aims, our philosophical position, method, and findings).

Results

The results are divided into two main sections: (1) youth footballers' experiences of the CIT demands and situational properties; and (2) international and club coach perceptions of the CIT demands and situational properties. Each section is supported by a hierarchical network (see Figures 1 and 2) and is structured around both the general themes as perceived by players or coaches (the *what*), and the situational properties thought to shape the particular demand (the *why*). A selection of quotes, chosen to represent the views of multiple

participants, are presented to allow the reader to immerse themselves in the participants' experiences (Patton, 2015).

Figure 1.

Club-to International Transitional Demands and Situational Properties: Players

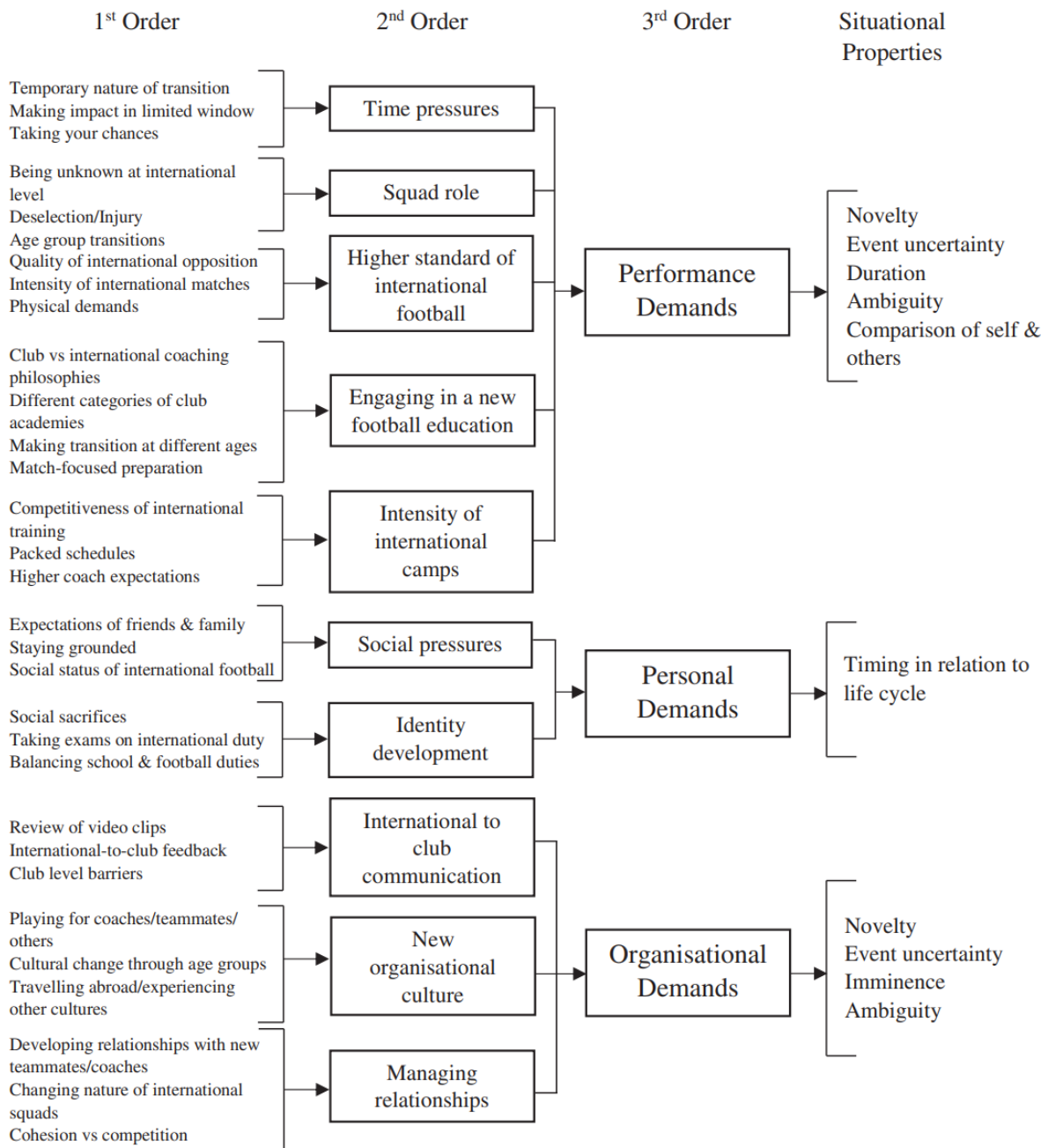
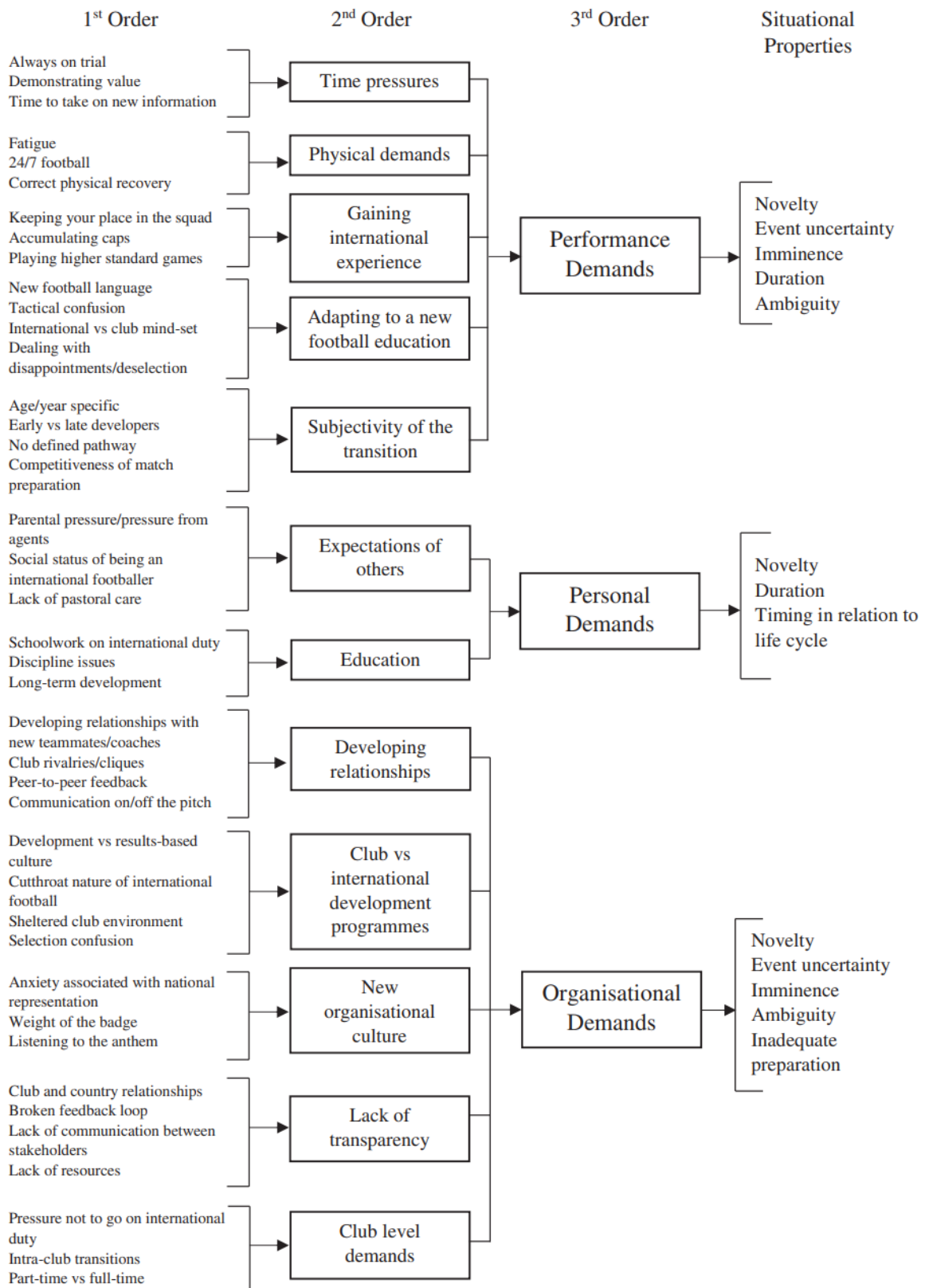


Figure 2.

Club-to International Transitional Demands and Situational Properties: Coaches



International Player Demands and Situational Properties

Performance demands. Performance demands can be defined as, “Stressors associated with competition” (Fletcher et al., 2006, p. 329). However, in our study we also found performance demands to refer to stressors associated with training for competition (see Figure 1). Players identified a range of factors associated with performance demands when making the CIT, grouped into five categorical themes: *time pressures*; *squad role*; *higher standard of international football*; *engaging in a new football education*; and *intensity of international camps*. These were underpinned by five situational properties: *novelty*; *event uncertainty*; *duration*; *ambiguity*; and *comparison of self and others*. Specifically, players highlighted the lack of time spent in an international competitive setting and the temporary nature of the transition to the international level as stressors. For example, “With the national team, you have to be ‘on it’ even more, because they [the coaches] don’t see you a lot, and when they do see you, you’ve got to be on form to get that call-up again.” Further, players reported when moving into the novel environment of international football, they were largely unknown to international coaches and felt uncertain regarding their squad role. As a result, players largely outlined the need to “make an impression” as quickly as possible, “You’ve got to be on your ‘A game’ all the time to impress the coaches. If you lose the ball [in a game] you need to win it back quickly. It’s about showing that desire that you wanna be here.”

Players also highlighted the higher standard of competitive matches they experienced when making the step up to international football. They reported feeling greater levels of anxiety when making direct comparisons between their own ability and their opposition, as well as identifying a higher intensity in international football, “I was really nervous [during CIT], it’s completely different to playing club football. You make a mistake at your club and the opposition won’t capitalise on it, but with the national team, one mistake costs you.”

Players also discussed the physical demands of competing against international opponents, and the need to adapt their game plan during competitive games, “It can be quite hard ‘cos they’re [opposition] physically bigger and stronger than you. So, you have to be quite intelligent when you’re on the ball, not take as many touches and use my speed to my advantage.”

In training, the performance demands players experienced largely stemmed from the *intensity of international camps*. This intense nature was reflected in the short, packed, and exhausting nature of international training schedules, “With the national team, you could have three games in five or six days, whereas with your club you could play on the Saturday and have six days to recover. I think that is quite hard to deal with.” These performance demands affected players’ ability to engage in novel international football education (e.g., difficulty concentrating when learning new tactical approaches). Accordingly, players perceived the international training environment as more competitive than club level, with training sessions often taking on a “physical edge” as players competed for a starting spot, “Everybody’s trying to play better than those in their position in training, it gets quite physical. You don’t have much time on the ball, can only take one or two touches, and the intensity of the session gets increased.”

Organisational demands. Organisational demands can be defined as, “Environmental stressors associated primarily with the organisation in which the individual is operating” (Fletcher et al., 2006, p. 329). Players identified three main organisational demands relating to the CIT: *new organisational culture*; *managing relationships*; and *international and club communication*. These were underpinned by four situational properties: *novelty*; *event uncertainty*; *imminence*; and *ambiguity*. While getting to play at international level made players feel proud, it was accompanied by a novel and imminent sense of burden and responsibility in attempting to perform in a *new organisational culture*,

“I was nervous ... it’s the first time playing for your country. You’re singing the national anthem; you see your parents in the crowd ... it got quite emotional. You’re representing your country, your club, and your family. It’s a big responsibility.” For a lot of players, this responsibility was considered a novel stressor, and an event they were uncertain they would get the chance to repeat, and so wanted to make the most of, “You’ve done loads to get in this position [make the national team] and you just want to enjoy the moment.” In this way, representing the national team is not a performance demand *per se*, but an organisational demand, inherently tied into players’ pride from being a part of the international team culture, and so is different from performance demands faced at club level.

When entering this new organisational culture, players struggled to develop and *manage relationships* with players from rival clubs. This was especially true with younger age groups arriving at international training camps for the first time, “There was a split in the first few camps (between players from rival clubs) ‘cos we didn’t know each other. That affected the games as well, ‘cos we weren’t really speaking much.” This demand was exacerbated by the uncertain, changing nature of international squads, making it difficult to maintain relationships over time: “Players are deselected because of injury, their clubs not letting them go, or the national team scouting someone better. It’s difficult, playing with different people... they might be new, and you need to understand how they play.” With no guarantees of selection for the next international squad, players also emphasised the demand of playing well at club level to keep their place in the national team. Players discussed the links between their international and club coaches concerning feedback provided on their performances during international camps. Players cited ambiguity over the feedback process as being particularly demanding:

I always get a copy of my [game] clips [from the national team]. Sometimes I’ll go through them with my coach at [club team]. Usually he sees them even before I do. I

don't know how he does but that's always a worry if things haven't gone well ... but it's just about taking what I've learned from international duty back to my club.

Personal demands. Personal demands can be defined as, “Stressors associated with nonsporting life events” (Fletcher et al., 2006, p. 329). All players discussed balancing the demands of playing international football alongside personal demands from other areas of their lives, including: *identity development*; and *social pressures*. These personal demands were underpinned by one situational property: *timing in relation to life cycle*. Players spoke about their *identity development* and sacrifices they had to make in their personal life in pursuit of a career in football. This often involved doing schoolwork while on international duty, “During an international tournament in [country], I had to do my maths exams. So that was tough, ‘cos obviously I didn’t get the right amount of revision in.” For some players, their pursuit of a career in international football meant education started to take a backseat, leading to parental concerns: “My family... I think they’re worried I’m going to throw away my education, because I want it [an international football career] so much.” Even though many players identified as wanting to be professional footballers, they recognised that just because they had made the CIT it did not necessarily mean they were international footballers: “You don’t make it fully until you’ve played X amount of games for your country. You haven’t made it if you’ve made, I dunno, eight appearances for the national team at under 17s.” This need to stay grounded was often in conflict with *social pressures* from friends and family, who encouraged players to brag about being an international footballer: “My parents are encouraging me to brag about it [playing international football]. They asked teachers to put me in assemblies and I just don’t want that. If people don’t know I play for my national team, then they don’t know.”

International and Club Coach Perceptions

Performance demands. Coaches reported a range of demands, categorised into five specific performance demand themes related to the CIT: *time pressures*; *adapting to a new football education*; *gaining international experience*; *subjectivity of the transition*; and *physical demands*. These were underpinned by five situational properties: *novelty*; *event uncertainty*; *imminence*; *duration*; and *ambiguity* (see Figure 2). Coaches discussed *time pressures* of international football and how the short duration of international camps had an impact on a player's ability to develop as an international footballer: "You've only got a limited amount of sessions, so you have to maximise the time you've got with them on the pitch." Specifically, coaches mentioned how players found it demanding to *adapt to an international football education* in this limited window. International coaches suggested novel football language used in training sessions (e.g., 'creating overloads'), different learning abilities of players, and the imminent need for players to integrate this education into highly intense and technical international matches as potentially significant stressors. For example, "We have limited time [before an international match], probably two days training. So you are bringing in a group of players, you are bonding them together as quickly as you can, and then you are playing a major European team", and, "The players are under pressure to learn new styles of play and the language we use really quickly when they come into the international team." Club coaches also discussed how players tried to adapt to a new football education, whilst maintaining their development at club level. Club coaches frequently mentioned the need for players to develop both a "club and international mind-set", to overcome the tactical ambiguity and uncertainty they regularly reported experiencing while on international duty:

Younger players get confused [about tactics in training]. They say 'I don't understand, when I'm here [club] they ask me to pass out from the back, and when I was with the national team, up until 16, they asked me to do the same. Now they're asking me to

do something different.’ They have to have the mind-set to switch between both teams.

The limited timeframe of international camps also led international coaches to emphasise the importance of players *gaining international experience* by participating in as many international camps as possible, “We want players to have 35-40 international caps [appearances] before they go into the [international] first team. They need to be comfortable being an international footballer, [being able to] manage a lot of information in a small amount of training time.” This quote illustrates the demand on players to accumulate international “caps” (players are traditionally awarded a cap to signify a playing appearance in international football) to continue their football education and ability to manage the CIT. Further, this expectation of coaches placed considerable *physical demands* on players, as it required them to engage in highly intense competitive matches against talented opposition, “We’ll play some of the best international opponents in Europe. Technically, if you’re not right in those games you’re not going to see the ball for long periods. Then that becomes a physical and mental strain on you.” However, not all players were afforded the opportunity to gain that level of international experience, with club coaches describing the fiercely competitive and highly subjective nature of the CIT. Specifically, players experienced a range of demands due to making the CIT from different clubs, different academy standards, and at a variety of age levels. Thus, competition for places in the international team was often position and year specific:

The team might be short of defenders [in an age group], which gives a player an opportunity to play. There might be a talented player in an age group below, however, who doesn’t get that opportunity because there are more players in their position.

The “fierce competition” associated with the CIT was thought to be a novel and demanding occurrence, as players needed to make an impact in a short time to retain their place.

Consequently, one coach described the CIT process as a “baptism of fire” [challenging experience] where players either “thrive or get limited opportunities to perform at that level.”

Organisational demands. Demands relating to organisational factors were categorised into five main themes: *new organisational culture; developing relationships; clubs versus international development programmes; lack of transparency; and club level demands*. These were underpinned by five situational properties: *novelty; event uncertainty; imminence; ambiguity; and inadequate preparation*. According to coaches, the novelty and imminence of performing within their *new organisational culture* was a major demand for players, “For a player, at any level, to be wearing that badge and representing your country is a huge pressure. Forget all the other stuff around it, just actually stepping onto that pitch and listening to the anthem for the first time.” Coaches spoke about how players were aware of the limited time they had within their new organisational culture, and felt they were “on trial” during the CIT.

Differences in organisational culture were also evident between the *club versus international development programmes*. International coaches described how, as players progressed through the international pathway, the organisational culture shifted from development-based to results-based. Specifically, international coaches mentioned the transition from under 17 to under 19 age group as a focal point for this change:

When players move from under 17's to under 19's, it gets more competitive, as they're going to European and World Cup qualifiers. You have to select the right team for the right game. We're cautious that we're trying to get results but also develop players.

According to club coaches, numerous players from the under 17 age group and above returned from the novel, results-based culture of international duty feeling inadequately prepared and uncertain about their future in the national squad. These players were

accustomed to the sheltered, development-focused environment of club football, where teams do not compete in formal leagues until under 23s, and lower-level international football, where focus was on developing ‘principles of play’:

The players can’t grasp that [results-based culture]. At club level, because we don’t play in that competitive environment, we say, ‘Look don’t worry about the result on match day, let’s try and get the performance right.’ At international level, the coaches threaten to leave players out of international camps if they play the wrong pass. When players come back from international duty, they say ‘I got left out ‘cos I made a mistake.’

These feelings of inadequate preparation and uncertainty in a new organisational culture often stemmed from a lack of a relationship with the international coach, due to limited interaction time. Consequently, coaches spoke of the demand on players to *develop relationships*, in order to become more comfortable in an international environment: “It’s difficult for children to speak to adults at times and sit-down face to face. Especially when it’s a new environment and different person. They need that comfortable person they can go to with any issues.” Coaches also mentioned the need for players to “get out of their comfort zone socially” through developing relationships with their international teammates, “Players are very safe and comfortable in clubs where they’ve been for a long time. International level is a completely different environment. You’ve got to get to know people, the team spirit, and the culture.”

The fundamental differences between the club and international developmental programmes were reported to lead to a *lack of transparency* between international and club organisations. Both sets of coaches recognised the need to develop more trusting relationships in order to have more informed discussions concerning player feedback and provide players the best possible opportunities to fulfil their potential. For example, “It’s

[player development] dependent on relationships; that trust between the coaches at the club and in the international set-up. What concerns me is maybe that broken loop, where the player isn't having feedback on the international report from their clubs", and, "Sometimes there's a lack of communication about the player between the international coaches and us back at the club, or vice versa ... then the player misses out on opportunities for development and progression and that's stressful for them." In accord, international coaches suggested a lack of appropriate national team and club feedback processes resulted in players feeling anxious about their development and questioning the "security of their position in both the club and international team."

The separate perspectives of club and international development programmes were also evident in *club level demands* placed upon players due to go on international duty. Coaches outlined how uncertainty surrounding certain players' positions within their clubs was a major CIT stressor: "We've got an under 21s player and he's conscious that if he's starting [at club level], when he goes away for 10 days [on international duty] and comes back, he'll be deselected, and he's got to fight for that place again." This illustrates the ambiguous relationship between club and international football and how without clear communication channels between them, a player cannot successfully make the CIT and continue their professional development.

Personal demands. The participating coaches discussed two main personal demands relating to the CIT: *expectations of others*; and *education*. These were underpinned by three situational properties: *novelty*; *duration*; and *timing in relation to life cycle*. The coaches indicated how the CIT affected players' social status and external stakeholders' expectations regarding their anticipated career pathway. For example, "We see it all the time with parents now, putting out that their son has been selected for their national team all over social media. So straight away they're putting more pressure on the boy", and, "Even agents are throwing

themselves at players, because if they get an international cap, then their value goes up and the agent makes more money.” For players who were new to the international environment, being thrust into the spotlight and “receiving all this unwanted attention, on top of the need to balance football with schoolwork and life outside football” was perceived as extremely challenging. Regarding *education*, coaches discussed their reluctance for players to engage in schoolwork on international duty, and the impact this may have on their long-term future, “Dragging them out of a training session to do something as important as an exam, ‘cos they’re so vital now for jobs and getting into university. What are their concentration levels like? I’m a bit mixed on that one.” Both club and international coaches reported having first-hand experience of the strain personal demands placed on players. Specifically, they emphasised the need for players to stay grounded and balance international football with education in order to repeatedly make the transition to future international squads, “It’s about being aware of where you are in your development. Yes, we want you to be an international footballer, but you also need to complete your coursework to get in the international team.”

Discussion

Given their frequency and perceived importance in holistic athlete development, researchers have begun to examine the demands associated with within-career transitions (e.g., Henriksen et al., 2020; Wylleman et al., 2013). These investigations have so far provided a better understanding of the potentially adaptive or debilitating nature of within-career transition experiences (see Drew et al., 2019). However, one quasi-normative transition that has received minimal attention by researchers is the CIT. To address this gap, we explored the psychosocial demands elite youth footballers experience during the CIT, as well as the underpinning situational properties of those demands through the theoretical framework of CMRT (Lazarus, 1999). Exploring the CIT through a CMRT framework is a novel approach in the transition literature and allowed us to examine what demands players

faced during this unique, fluctuating transition and why they were considered demanding. As a result, our findings have highlighted both players and coaches perceive the CIT to involve a multitude of *performance* (e.g., intensity of international camps), *organisational* (e.g., engaging with a new organisational culture), and *personal* (e.g., identity development) stressors. These stressors were challenging due to a variety of situational properties that are contextually aligned to the nature of the CIT (e.g., *novelty* of the international environment). This study is the first to explain CIT demands in football and provides insight to assist football NGBs and those who work in youth football in their attempts to support athletes to have positive transitional experiences.

Players in our study reported trying to “make an impression” on coaches and perform optimally in training camps and international matches. This “need” to demonstrate value to coaches is linked to the concept of *acculturation*, where an individual attempts to fit into a new sub-culture through adapting their behaviours in response to specific demands (cf. Tibbert et al., 2015). During this acculturation process, players transitioned from familiar club environments with strong coach and teammate relationships, into a novel international environment, with different tactics, coaching philosophies, and players. Similarly, researchers studying the quasi-normative cultural transitions experienced by athletes have found many of these individuals struggle to adapt to their new ‘cultural reality’, develop new relationships, and adopt a new playing style (Ryba et al., 2020). These cultural transitions are context-specific, dynamic, and have no definitive timescale, much like the CIT (Schinke et al., 2016). However, cultural transitions research has largely focused on the individual’s narrative in navigating their career pathway (i.e., what are the demands? What do they mean to me?). By contrast, we found the acculturation process of CIT to align with CMRT (i.e., why is it demanding?), where the personal goals or resources the individual brings to a situation (e.g., desire to make an impression) interact with their environmental demands (e.g., international

football culture) and its situational properties (e.g., novelty) to produce a behavioural response (Lazarus, 1999). Further, researchers have outlined the competitive nature of within-career transitions, and the need to provide athletes with a stage-based progression plan, and appropriate social support, when transitioning from a lower to higher-level sporting environment (e.g., Stambulova et al., 2017; Swainston et al., 2020). However, such recommendations do not consider situational properties of transitions with no definitive outcome. For example, during the CIT, the duration of time the athlete spends engaging with their new environment is short and does not guarantee future international selection. These time pressures can contribute to threat or harm appraisals (Lazarus, 1999). For example, Didymus and Fletcher (2017) outlined how hockey players appraised maintaining a place in the team during the transition from amateur to elite level as stressful due to the novelty of the event (i.e., they had not experienced the level of intra-team competition before) and its duration (i.e., they were uncertain how long they would keep their place), rather than due to specific stressors *per se*.

International coaches in our study also recognised the importance of acculturation during CITs. They emphasised the need for new international players to adapt to the novel organisational culture quickly through developing coach and teammate relationships, managing performance demands (e.g., higher calibre opponents, a new football education), and gaining international experience. Specifically, from the under 17-age group onwards, players reported balancing their ongoing international development with the need to achieve results and qualify for tournaments. This contrasted with the organisational culture at club level, where competitive football is not played before under 23 level (see EPPP, 2011).

Recently, researchers have begun to move beyond individual-focused models of transition (e.g., Wylleman et al., 2013) and investigate wider organisational culture or *athletic talent development environments* (ATDEs; Henriksen et al., 2020) in which transitions occur

(e.g., JST; Morris, Tod, & Oliver, 2015). They have found in football organisations where the academy and senior team's talent development philosophies are incongruent, players do not receive the required psychosocial support to make a successful transition (Morris et al., 2015). This lack of preparation resulted in players being unaware of the attitudes and behaviours required to survive and flourish in the senior environment (Morris, Tod, & Oliver, 2016). By contrast, in organisations with close links between the academy and senior team environments, emphasis was placed on giving players ownership over their development and the importance of a dual career (e.g., balancing education and football), and several players made the JST successfully (Pink et al., 2018). However, the CIT does not involve a transition between two sub-cultures of an organisation (e.g., academy to first team), but a continuous switch between two separate organisations with different talent development philosophies. Therefore, for holistic development to occur during quasi-normative transitions such as the CIT, all elements of an athlete's ATDE (i.e., club coaches, international coaches, parents) need to work together as a coherent whole (Henriksen et al., 2020). In the current study, however, there was a "lack of transparency" in the working relationship between club and country, as both organisations sought to achieve individual successes. Specifically, participating coaches reported issues with communication between the club and the national team, meaning players often received minimal feedback regarding their international performances. This broken feedback loop led to players feeling ambiguous regarding the security of their place in future international squads. Therefore, progression through the CIT, in line with CMRT, involved players facing environmental conditions that were novel (e.g., tactical changes), ambiguous (e.g., what do I need to improve to get selected again?) and for which they were inadequately prepared in a club environment (Thatcher & Day, 2008). This often led to a threat appraisal, as players were confused as to how to "fit" into both club and international environments and continue their development.

Perhaps due to this fragmented working relationship, club coaches stated they had minimal knowledge of selection processes international coaches used to choose international squads, leading to them viewing the CIT as highly subjective, based on age and position-specific factors. The subjectivity of the CIT can be explained by CMRT, which outlines how due to the unique psychological resources and experiences individuals bring to an encounter, everyone reacts distinctively to the same environmental stimulus (Franck & Stambulova, 2018; Lazarus, 1999). Specifically, these environmental stimuli are contextualised by their situational properties, such as timing of CIT (e.g., a shortage of players making the transition in a specific age group) and players' psychological readiness for CIT (e.g., a player being called-up last minute and being inadequately prepared). Nesti et al. (2013) defined these situations and their properties as critical moments and suggested that athletic career development relies on their successful navigation. That is, it is not critical moments *per se* that lead to a successful transition, but rather an athlete's ability to use acquired resources (e.g., contextual knowledge of the transition) and develop the necessary psychological strategies (e.g., emotional control) to engage in adaptive behaviours (e.g., effective communication with teammates; positive approaches to overcome setbacks). Indeed, Nesti et al. argued these critical moments can be either psychologically facilitative or debilitating, and thus a key determinant of successful progression from one environment to another. These critical moments are, therefore, likely to involve a change in identity in one's athletic and/or personal life (Nesti et al., 2013).

In the current study, we identified the challenge of identity associated with becoming an international footballer as a pertinent factor of the CIT. Specifically, players discussed how the situational properties associated with identity change (e.g., its duration) led to confusion over whether the transition was considered as complete or successful (e.g., whether they could call themselves an "international footballer"; Drew et al., 2019; Samuel et al., 2019).

Researchers have recently found there is significant pressure on athletes to adapt their behaviours to the expectations of their new organisational cultures when making a transition, to the detriment of their own identity, beliefs and long-term well-being (e.g., Champ et al., 2020). This pressure was exacerbated for players in our study, as the CIT was viewed as incomplete until a player reached senior level. Consequently, players had to commit themselves fully to the pursuit of becoming an international footballer, while acknowledging the unpredictable outcome of their chosen career path (e.g., “when do I become an international footballer?”). Further, McDougall et al. (2019) suggested athletes derive their identity from multiple sources (e.g., family life, meaningful experiences) and are unlikely to entirely give their identities up in pursuit of adapting to a new organisational culture. In our study, the uncertainty surrounding a successful CIT led to players struggling with their multiple sources of identity, including their social lives (e.g., friends and family often viewed them differently and referred to them as an “international footballer”) and education (e.g., parents pressured players to perform well in school whilst not throwing away their opportunity in international football). Many players were reluctant to entirely give up their old identities and be viewed solely as an international footballer by their friends and family. Players’ identity struggles align with CMRT, where environmental demands from several sources (e.g., performance demands of coaches, personal demands of family), which occur simultaneously, are appraised in relation to one another (Lazarus, 1999). If the individual lacks the personal resources to cope with the myriad of demands, such an encounter can potentially lead to the experience of role strain (e.g., trying to compete as an international footballer, retain your position at club level, and perform well in school; van Rens et al., 2019). Coaches in our study also felt uncertain regarding sacrifices players had to make in their academic and personal lives during adolescence while pursuing an international career (e.g., doing school exams whilst on international duty). Both sets of coaches emphasised the

need for players to be able to switch between a “club and international mind-set”, reflecting the fluctuating nature of “being an international footballer”, and the need for players to perform consistently in both environments to continually make the CIT.

Practical Implications

From an applied perspective, we suggest relevant stakeholders (e.g., international coaches, players, parents) need to be educated about the nature of the CIT (e.g., uncertainty of ‘being an international footballer’) and the effective management of its situational properties to facilitate a more positive and successful CIT experience (e.g., coach education on early coach-athlete relationship development to reduce ambiguity associated with the CIT). Further, if players are to make the CIT successfully and repeatedly, coach education programmes need to focus on conveying strategies (e.g., autonomy-supportive behaviours) for the development of personal characteristics in players (e.g., mental toughness, resilience), which allow them to adapt effectively to CIT demands. From an organisational perspective, our findings have worldwide implications through identifying the need for NGBs in international football to develop clearer communication channels with clubs regarding players’ needs during the CIT (e.g., structured feedback process involving communication between the player, international coach and club coach). The aim of this is to reduce players’ feelings of ambiguity surrounding their performances on international duty and enhance role clarity, thus providing them with a sense of ownership over their development (e.g., behaviours during international camps, schoolwork). By implementing these strategies, we believe NGBs in football will improve the transitional experiences of their players and positively influence both individual player development and their national teams’ long-term success.

Summary and Limitations

We found the CIT to involve a multitude of performance (e.g., intensity of international camps), organisational (e.g., engaging with a new organisational culture) and personal (e.g., identity development) stressors. These stressors were considered challenging due to a range of situational properties contextually aligned to the nature of the transition (e.g., novelty of the transition). Encompassing cross-sectional situational properties of the CIT aligns with a CMRT framework (Lazarus, 1999), which is crucial in understanding the transitional experiences and transactional pathways of athletes across all age levels and sports (Rumbold et al., 2020). Our research focused on specific elements of the transition process (i.e., environmental demands, individual perceptions, and situational properties) rather than the overarching experience of the CIT. Nevertheless, in line with Drew et al.'s (2019) recent calls for transition researchers to move beyond “snapshot” approaches to capture the dynamic and holistic nature of the transition process, we acknowledge the retrospective and cross-sectional nature of this study may be considered as a limitation. However, given the unique and unexplored nature of the CIT in comparison to other normative transitions, our approach has facilitated critical insights into the demands that youth footballers experience when attempting to make this transition. Additionally, through detailing the CIT process from multiple perspectives, we aligned with recent recommendations in the transition literature to provide more context-specific knowledge beyond normative transition frameworks (e.g., Devaney et al., 2018; Stambulova et al., 2020).

Future Directions

Given its fluctuating and recurrent nature, researchers wishing to build on our findings and gain further understanding of the CIT are encouraged to adopt longitudinal designs. Such approaches will help researchers to explore the fluctuations both coaches and players experience between each transitional period, as well as examine how CIT demands and the resources players develop to cope with the CIT alter over time and differ across age

groups. In addition, the role strain international players potentially experience from balancing the demands associated with pursuing education qualifications alongside a football career is a topic that warrants further investigation (van Rens et al., 2019). However, while acknowledging the importance of the burgeoning dual career literature, a broader discussion of this topic was beyond the scope of this paper. Such a discussion would have diluted the key messages we have tried to convey regarding the novel CIT in a stress-based context. Further, while it is clear that international youth players occasionally have to balance education and playing international football (e.g., complete exams on international duty), the issue of pursuing a dual career in football and school/university is one that needs to be explored in a club football context, rather than an international one. Such insights could lead to greater support for dual career development in club level football and contribute towards adaptive CITs. Finally, researchers adopting CMRT as a framework to study the CIT should consider the entire stress process. In particular, the factors that help players to cope effectively with CIT stressors and their situational properties, as well as the strategies coaches use to assist players in developing these coping mechanisms.

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CHAPTER 3

BRIDGING CHAPTER

As discussed at the outset of this PhD thesis, the nature of this project, its aims and objectives, was informed by the organisational needs of the FAWT. As the research progressed and findings were disseminated to the FAWT, the organisation's needs evolved from an initial interest in understanding the psychosocial demands youth footballers encountered in an international context, to identifying and equipping players with the necessary resources to cope with these demands, via the coaching staff. The focus of the research project, therefore, needed to be adjusted to accommodate this. Chapter 3 will provide a brief synopsis of how the organisation's needs evolved and the link between CIT demands and associated coping resources. It will also highlight the focus for the remainder of the PhD - conceptualising and conducting an intervention for the development of psychological resources in players that allow them to perform to a consistently high level despite the demands of international football.

As outlined in Chapter 2 (Study 1), for youth football players, getting the opportunity to represent their country can be overtly viewed as positive, as it supports their progression towards professional status. Yet making the club-to-international transition (CIT) also contains demands from a performance (e.g., limited time in training camps to learn tactics), organisational (e.g., developing new relationships with players & coaches) and personal (e.g., struggling with their identity as an international footballer) perspective. Collectively, such demands can be perceived as threatening and potentially disruptive to a player's progress on the international pathway and their wider self. Having explored the nature of these CIT demands and *why* they are perceived as stressful due to their situational properties, there is also a need to investigate the role personal resources play in *how* individuals respond and adapt, effectively or ineffectively, to these demands (Lazarus, 1999).

During data collection for my first study, one personal resource that coaches identified as key to coping with the demands of international youth football was mental

toughness (MT); that is, the capacity to produce consistently high levels of subjective or objective performance despite varying degrees of situational demands, ranging from everyday stressors to significant adversities (cf. Gucciardi et al., 2015). Specifically, coaches outlined how players who were mentally tough could take onboard tactical and technical information quickly in training and use that information to perform their role effectively in the high-pressure environment of international youth football. Once my first study was complete, I created an infographic of the key CIT demands and their situational properties (see Appendix F) and presented this information back to coaches in an educational workshop. During the discussions that followed my presentation, MT was raised again by coaches as an important resource that players need to develop to navigate the international talent development pathway. Coaches highlighted how players who exhibited MT demonstrated an emotional maturity that allowed them to deal with the inevitable pressures and conflicts that arise playing international football.

While the coaches' descriptions of MT provide an insight into the importance of psychological resources for coping with the demands of international football, successful adaptation to stressors is not just about which resources an individual possesses to cope with demands, but what those resources allow them to do (Gucciardi & Hanton, 2016). Conceptualising MT as an individual's potential for action aligns with Lazarus' (1999) transactional view of the stress process, whereby behaviour is directed towards accomplishing specific goals (e.g., learning the national teams' principles of play) and avoiding undesirable outcomes. It is consistent engagement in these *mentally tough behaviours* (MTbs) across a variety of situations that lead to the development of a player's MT, as well as provide a link between players' underlying MT and performance outcomes (Anthony et al., 2020). Player's maintenance and enhancement of their MT is also key to proactively cope with the fluctuating demands of international football (e.g., having limited

time to reflect after a defeat). This aligns with a transactional approach, which suggests that how individuals use psychological resources such as MT to appraise a stressor will, through the processes of coping and adaptation, affect environmental conditions, development of personal resources, and future reactions (Fletcher et al., 2006; Lazarus, 1999). However, at the time of study, there was limited understanding in the FAWT regarding the specific MTBs players are expected to display consistently on and off the pitch and the coaching strategies required to facilitate the development of these MTBs in players.

This lack of understanding regarding MTBs in the FAWT epitomises the issue of conceptual clarity in the MT literature. Specifically, MT was originally identified by applied practitioners working in sporting contexts and subsequently defined in a variety of ways within academia. The inability of researchers to reach consensus on a MT definition also reflects a wider issue within psychology, whereby socially constructed concepts such as MT are liable to continual reconstruction by researchers based on the context in which they are being measured, bringing researchers no closer to a consensual definition (Maddux, 1999). With regards to MT, this conceptual issue is further muddied by criticism of the term *toughness* and its apparent polarity to mental vulnerability and well-being (Bauman, 2016; Uphill & Hemmings, 2017). Consequently, there is a need to move towards a consensus definition of MT that covers all the necessary attributes of what MT is (and is not) and facilitates the development, utilisation, and maintenance of MT across situations and time (Gucciardi, 2017; Podsakoff et al., 2016). As a result, to accurately conceptualise the construct of MT and understand how it's developed via behaviours in a FAWT context, a thorough review of the current MT literature is required. Only through providing such clarification can meaningful MT interventions be conducted, and MT development strategies be incorporated in organisations such as the FAWT, enhancing players' capacity to perform consistently under pressure.

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CHAPTER 4

LITERATURE REVIEW

Introduction

Across sports and from grassroots to elite levels, athletes' progression along talent development pathways are non-linear or fluctuating in nature (Collins et al., 2016a; Taylor & Collins, 2019). These fluctuations are typically caused by critical moments or adversities, which can be overtly positive (e.g., junior-to-senior transition) or negative (e.g., deselection). However, irrespective of how they are classified, such events are potentially divisive in nature, especially when the athlete is not psychologically prepared to cope with and adapt to the demands associated with the event (Morris et al., 2017; Nesti et al., 2012). Consequently, there is a growing consensus that National Governing Bodies (NGBs) and their stakeholders should create challenging yet supportive developmental environments (e.g., via pressure training, feedback, reflection) that help athletes develop the personal capacity required to perform to their potential on a more consistent basis despite the everyday pressures they encounter (Sarkar & Page, 2020; Stoker et al., 2017). This capacity, better known as *mental toughness* (MT), is contingent upon self-regulation (i.e., the ability to adapt to changing environmental circumstances) and plays a key role in goal progress or achievement; that is, individuals with higher levels of MT can accomplish more challenging goals (Gucciardi, Tenebaum, et al., 2020).

Since its initial conceptualisation in the early 2000s, there has been a considerable increase in the academic examination of MT (approximately 450 articles were published from 2002-2019; see Cooper, 2019). Despite this growth, there has been a lack of agreement among research groups regarding what MT actually is. Certain research groups have adopted a bottom-up approach to conceptualising MT based on the perceptions of coaches, athletes, and sport psychologists. For example, in their seminal study 'What is this thing called mental toughness?', Jones et al. (2002) interviewed international level coaches and athletes, who defined MT as "having the natural or developed edge that enables you to: (i) generally, cope

better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer; and (ii) be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure” (p. 209). Similarly, Gucciardi et al. (2008) interviewed Australian Football League (AFL) coaches to create a context-specific understanding of MT. They found MT to be “a collection of values, attitudes, behaviours, and emotions that enable you to persevere and overcome any obstacle, adversity, or pressure experienced, but also maintain concentration and motivation when things are going well to consistently achieve your goals” (p. 278). Such conceptualisations view MT as state-like and malleable to one’s current context and previous experiences.

By contrast, other research groups have adopted a top-down approach, conceptualising MT as trait-based (i.e., consistent across performance contexts) using existing personality frameworks. For instance, Clough et al. (2002) defined MT as a personality trait based on the personality construct of hardiness. Specifically, Clough et al. viewed mentally tough individuals as “sociable and outgoing; as they are able to remain calm and relaxed, they are competitive in many situations and have lower anxiety levels than others. With a high sense of self-belief and an unshakeable faith that they control their own destiny, these individuals can remain relatively unaffected by competition or adversity” (p. 38). While Hardy et al. (2014) defined MT as a personality trait based on *revised reinforcement sensitivity theory* (Corr, 2008), which is expressed through “the ability to achieve personal goals in the face of pressure from a wide range of different stressors” (Hardy et al., 2014, p. 70). Although each of these MT definitions have made a valid contribution towards understanding the construct of MT from a range of theoretical perspectives, they have done little to advance consensus on an overall conceptualisation of MT. For example, Jones et al.’s (2002) early work has been criticised for its focus on beating one’s opponents, rather than the process of improving one’s own performance levels. Such an

outcome-based view of MT is fragile, and is liable to be inhibited, rather than developed, in the face of failure or loss (Andersen, 2011). Similarly, Gucciardi et al.'s (2008) MT definition has been disparaged for adopting too broad a focus; if MT entails all possible thoughts, emotions, behaviours, and attitudes that enable you to persist in the face of any challenge, then MT is not really anything at all (cf. Andersen, 2011). Finally, Hardy et al.'s (2014) definition conceptualises MT as behaviours that are required to accomplish goals in certain high-pressure situations, without specifying what these behaviours look like. Based on the variety of definitions provided, it is evident that MT research has suffered from a lack of conceptual clarity. Accordingly, there is a need to seek consensus among the multiple proposed MT definitions, independent of its antecedents, associated behaviours, and consequences (Gucciardi, 2017). Such insights will clarify the exact nature of MT, as well as how it can be developed, measured, and maintained effectively in athletes across performance contexts.

Gucciardi et al. (2015) previously indicated the need to provide greater conceptual clarity to MT and its relationship with associated characteristics (e.g., self-efficacy), manifestations (e.g., behaviours), and outcomes (e.g., coping with stressors) when performing under pressure. To address this, through studying cohorts of athletes, students, military personnel, and employees, they developed a definition of MT, viewing the construct as, “A personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (Gucciardi et al., 2015, p. 28). Gucciardi et al.'s findings highlighted how individuals do not distinguish between different MT characteristics (e.g., self-belief, optimism, success mind-set) but view them as a coherent whole (i.e., unidimensional). Further, Gucciardi et al. illustrated how an individual's level of MT plays an integral part in the stress process, with those exhibiting higher levels of MT more capable of appraising a high-pressure situation in a challenging

rather than threatening manner² (Lazarus, 1999). Through developing a unidimensional model of MT, clarifying the concept's relationship to other psychological characteristics, and its role in performing under pressure, Gucciardi et al. provided the foundation for growing consensus on what MT is. Indeed, their identification of MT as the manifestation of one's enduring personality within varying contextual or social niches drew together both trait-like and state-like MT perspectives and consequently their work has received increasing support in a research context (Anthony et al., 2018; Coulter et al., 2016; Mahoney et al., 2016). As a result, Gucciardi et al.'s (2015) MT definition will be used to guide this research.

Importantly, the conceptualisation of MT as an individual's potential for action under pressure needs to be distinguished from the actions themselves. That is, MT does not entail an individual's behaviours in response to stressful situations or the outcomes that occur due to these interactions (i.e., success or failure). Rather, MT encapsulates an individual's latent capability to perform under pressure at any given moment, with *mentally tough behaviours* (MTbs) providing a link between one's underlying MT and performance outcomes (Anthony et al., 2020; Gucciardi, et al., 2020). Therefore, to understand what constitutes *being mentally tough* and how it links to goal-directed performance under pressure, these acts or MTbs must first be identified and developed through training sessions and wider support mechanisms (e.g., reflective practice, one-to-one feedback; Gucciardi & Hanton, 2016). However, despite the growth in MT research output, there is a dearth of investigations examining MTbs.

Therefore, the primary aims of this literature review are to: (a) provide a brief overview of the evolution of the MT construct, how it is measured, and how it is developed; (b) discuss the important role MTbs play in MT development; (c) explore the relationship between MT,

² This conceptualisation of the stress process as an ongoing transaction between a person and their environment is based on Lazarus' (1999) cognitive-motivational-relational theory (CMRT). During this transaction, individuals have the capacity to perceive demands in their immediate environment as psychologically facilitative or debilitating, with psychological resources such as MT playing a key role in an individual's perception of whether they have sufficient or insufficient resources to cope with these demands.

MTbs, and performance outcomes; and (d) emphasise the need for an integrated approach to MT development.

Conceptualising Mental Toughness in Sport: Evolution of the Construct

Distinguishing MT from Related Constructs

A major past criticism of the conceptualisation of MT is that it is a reinvention of the wheel; an attempt to package the words of coaches and performers in sport into a vague and bloated construct, which has already been conceptualised adequately through other psychological means (cf. Andersen, 2011). This critique is epitomised through Clough et al.'s (2002) 4 C's MT conceptualisation, which significantly overlaps with the established psychological construct of *hardiness*. Hardiness is a personality disposition consisting of three attitudinal sub-components: *control* (belief that you have an influence on event outcomes in your life), *commitment* (staying involved in difficult situations because they are meaningful), and *challenge* (embracing change as an opportunity to grow rather than a threat; Kobasa, 1979). It is argued this disposition can provide a buffer against the potentially negative effects of stressors (Stein & Bartone, 2020). However, Clough et al. (2002) believed elite level athletes also demonstrated high levels of *confidence* in their pursuit of peak performance under pressure, and consequently added confidence to form their 4 C's version of MT (Clough et al., 2002; Crust, 2007).

Clough et al.'s 4 C's model and their associated MT questionnaire (MTQ48) has arguably been the most widely used MT framework within the sport psychology literature (e.g., Jackman et al., 2020; Vaughan et al., 2018). However, its conceptual overlap with hardiness, combined with a lack of rationale for the inclusion of confidence over other key MT factors (e.g., consistency, adaptability) has led researchers to question the 4 C's model (cf. Gucciardi, 2017). Nevertheless, researchers have established a clear distinction between MT and hardiness. Using a weekly assessment with university students over the course of an

academic term, Gucciardi et al. (2015) established MT as a state-like capacity to perform consistently under pressure on tasks of an enduring nature (e.g., assignments), which is essential in goal progress and achievement. This MT conceptualisation was further supported by Gucciardi (2017), who highlighted how MT is grounded in one's goal-directed endeavours. Specifically, all exemplars of MT need to be *purposeful* (all MTbs displayed bring one closer to their goals), *efficient* (all MTbs displayed align with one's goals) and *flexible* (MTbs must allow individuals to adapt to uncertainty and concurrent goals) as they strive towards their goals. Therefore, MT characterises an individual's capacity to endure and adapt to a range of psychological demands in pursuit of both short and long-term goals across situations and time (i.e., context-dependent). By contrast, hardiness reflects an individual's disposition to protect themselves against the immediate effects of stress when engaging in critical incidents (i.e., enduring across contexts; Bartone & Homish, 2020; Gucciardi, 2017).

Recently, the psychological constructs of *resilience* and *growth following adversity* have gained increasing support in the sport psychology literature when discussing an athlete's ability to perform under pressure (Fletcher, 2018; Fletcher & Sarkar, 2013; Manglesdorf et al., 2019). However, in a similar manner to MT, these constructs have come under scrutiny for their conceptual overlap and interchangeable use by researchers (known as the *jangle fallacy*; Brown et al., 2020). Accordingly, there is also a need to distinguish between the constructs of resilience and MT. Resilience is defined as, "The role of mental processes and behaviour in promoting personal assets and protecting an individual from the potential negative effect of stressors" (Fletcher & Sarkar, 2013, p. 16). This definition conceptualises resilience as a dynamic outcome that increases over time through person-environment transactions, coping, and learning. One's potential to demonstrate resilience within these transactions are reliant on a variety of individual, group, and sociocultural protective factors. Therefore, given its conceptualisation as a purely individual-level capacity, MT is just one in

a multitude of protective factors required to display resilience (Gucciardi, 2017). Further, resilience is involved in the maintenance or restoration of an individual's normal psychological functioning following an encounter with adversity (Sarkar & Page, 2022). As such, its manifestation and development are best studied in the aftermath of an adverse event. By contrast, due to its grounding in goal-directed endeavours, MT can be studied and developed through both proactive (e.g., pressure training targeting specific behaviours) and reactive means (e.g., reflection on goal progression after a heavy defeat; Gucciardi, 2017).

MT Characteristics: What does it Mean to be a Mentally Tough Performer?

Early insights into what it means to be a mentally tough performer were largely restricted to subjective experiences of applied practitioners working across a variety of sports (e.g., Beswick, 2001; Bull, Albinson, et al., 1996; Goldberg, 1998; Loehr, 1985). This resulted in a myriad of positive attributes (e.g., self-belief, desire, determination, commitment) and psychological skills (e.g., arousal regulation) being attached to MT, which lacked conceptual clarity and were atheoretical in nature (Gucciardi & Hanton, 2016). To correct this, Jones et al. (2002) conducted focus groups and interviews with performers from a range of sports (e.g., netball, golf, swimming, gymnastics), who had achieved international honours. Adopting a Personal Construct Psychology³ (PCP; Kelly, 1955) perspective, Jones et al. asked participants to illustrate the ideal personal constructs of a mentally tough performer. The researchers found that athletes who coped better with performance demands than their opponents and were more consistent under pressure (i.e., MT) displayed 12 key attributes (e.g., unshakeable self-belief, overcoming setbacks, insatiable desire to succeed). To expand on this, Jones et al. (2007) used the same “super-elite” athletes as sampled in their 2002 research, alongside elite coaches, and sport psychologists, to create a MT development framework. The framework outlined four dimensions, each with its own sub-components (13

³ For a more detailed overview of PCP, see Gucciardi et al. (2008).

in total), in which their sampled performers developed MT: *attitude/mind-set* (e.g., self-belief), *training* (e.g., pushing yourself to the limit), *competition* (e.g., handling pressure), and *post-competition* (e.g., handling success/failure). In this way, Jones et al. (2007) portrayed MT as an individual-focused, sport-general, multidimensional construct, where levels of MT may vary between different dimensions. For example, an athlete may push themselves to the limit in training but fail to handle the pressure of competition.

While Jones et al.'s (2002, 2007) early work attempted to provide some conceptual clarity to MT, the sampling of athletes from a variety of sports brought into question whether the concept should be viewed from a sport-general or sport-specific perspective. Indeed Bull et al. (2005) outlined how the development and maintenance of this mentally tough *edge* can differ greatly, depending on the demands of an athlete's sporting environment (e.g., the MT required to peak every four years for the Olympics versus the MT required to perform weekly during a football [soccer] season). These considerations prompted researchers to adopt Jones et al.'s MT conceptualisation and interview coaches and athletes to identify the *ideal mentally tough performer* in specific sports, as well as assess the impact of an athlete's environment on MT development. For example, studies conducted across sporting contexts including football (Thelwell et al., 2005), swimming (Driska et al., 2012), and the National College Athletic Association⁴ (NCAA; Butt et al., 2010) collectively identified a markedly similar set of attributes to those originally proposed by Jones et al. (2002), such as: self-belief, emotional control, and self-regulation. This could be attributed to each research team providing participants with Jones et al.'s definition for clarification purposes. Nevertheless, a key finding of each of these studies were the environmental influences through which MT was developed (e.g., getting deselected, learning how to problem solve). Consequently, these

⁴ The NCAA is the highest standard of sport in US tertiary education and its increasing commercialisation has placed greater pressure on athletes and staff to produce winning seasons, in order to boost their institution's revenue and exposure (Butt et al., 2010).

studies extended Jones et al.'s (2002) initial findings, which failed to outline the development strategies mentally tough performers adopt or the critical experiences they encounter while trying to perform optimally under pressure.

Other researchers have drawn on the culturally held knowledge of coaches to investigate the key characteristics of mentally tough performers. For example, Bull et al. (2005) asked elite cricket coaches to identify the mentally toughest cricketers they had worked with in the past two decades, who the researchers then interviewed. From these interviews, the researchers constructed a mental toughness pyramid comprised of individual MT characteristics, such as *tough character* (e.g., resilient confidence), *tough attitude* (e.g., self-belief), *tough thinking* (e.g., good decision-making); and *environmental influences* on MT development (e.g., childhood experiences, exposure to different coaching styles; Bull et al., 2005). Gucciardi et al. (2008) utilised a similar PCP approach to Jones et al. (2002; 2007) to interview AFL coaches regarding their perceptions of what it meant to be a mentally tough AFL player. Based on participant responses, Gucciardi et al. formed a comprehensive MT framework, entailing 11 key MT characteristics (e.g., work ethic), as well as behaviours (e.g., consistent performances), and situations requiring MT (e.g., recovering from injury). According to the researchers' framework, MT should be viewed as a process-focused, goal-oriented construct where one's ability to perform under pressure is contingent on their ongoing cognitions and behaviours in specific situations. Consequently, Gucciardi et al. became critical of the outcome-focused conceptualisation of MT (e.g., ability to beat your opponents) purported by Jones et al. (2002). Finally, Coulter et al. (2010) adapted Gucciardi et al.'s MT framework to Australian soccer. Here, mentally tough soccer players, chosen by elite Australian coaches, discussed a range of MT characteristics (e.g., focus), cognitions (e.g., tactical awareness), and behaviours (e.g., superior decision-making) they viewed as

inherent to high performance in soccer, and key moments for displaying these MT attributes (e.g., deselection).

Collectively, these early studies into MT conceptualisation shed light on the array of characteristics that define what a mentally tough performer “looks like”, with some overlap across sports (e.g., self-belief, focus, determination, perseverance). Nevertheless, while investigators attempted to provide their MT conceptualisations with a theoretical or cultural grounding, the volume of characteristics linked to MT (over 30 attributes in Gucciardi et al.’s [2008] study alone) led certain research groups to question the conceptual validity of MT (e.g., Andersen, 2011; Caddick & Ryall, 2012). Consequently, the multitude of MT characteristics exhibited across different research groups led to the emergence of a variety of MT scales and inventories. Researchers have attempted to use these MT measures to generalise qualitative research findings to larger populations and pinpoint specific MT characteristics for development in athletes across sports at all levels (Crust, 2008).

Measuring MT: Progress and Challenges

The psychometric properties of early MT measures, such as the Psychological Performance Inventory (PPI; Loehr, 1986) and its revised version, the Psychological Performance Inventory-Alternative (PPI-A; Golby et al., 2007) came under scrutiny due to poor model fit and lack of theoretical underpinning (for a review see Gucciardi, 2012). To address early issues with MT measurement, Clough et al. (2002) developed the Mental Toughness Questionnaire 48 (MTQ48), designed to operationalise Clough et al.’s (2002) aforementioned 4 C’s model of MT. The MTQ48 consists of four subscales (one for each ‘C’) and 48 questions, with each question being scored on a Likert scale of 1 (*strongly agree*) to 5 (*strongly disagree*; Crust, 2007). While several studies have utilised the MTQ48 to explore the relationship between MT and a number of variables, such as physical endurance (Crust & Clough, 2005), development of psychological strategies (Crust & Azadi, 2010), and affect

intensity (Crust, 2009), Clough and colleagues have never provided a rationale for the conceptual distinction between their 4C's model of MT and hardiness (Gucciardi, 2017). This lack of conceptual clarity is perhaps culpable for the questionable psychometric properties of the MTQ48 that largely render the measure invalid (Gucciardi, 2017). For example, Gucciardi et al. (2012) illustrated a lack of psychometric support for the four-factor structure of the MTQ48 through confirmatory factor analyses procedures using a sample of organisational and sport performers. Indeed, in an earlier study Crust et al. (2010) hypothesised that older, more experienced academy football players would demonstrate higher levels of self-report MT than their younger counterparts, due to the tough experiences they had gone through in the academy to earn a scholarship contract. However, Crust et al. (2010) found no significant differences in MT scores on the MTQ48 between different academy age groups or between players retained by the academy versus those that had been released, thus indicating potential issues with the reliability and validity of the MTQ48 measure. Research such as Crust et al.'s demonstrates the difficulty in applying sport-general MT measures and ignoring the contextual differences for how MT is perceived in specific sports (Eubank et al., 2017; Gucciardi et al., 2020).

To address potential issues with sport-general measures of MT, and to gain a better understanding of contextual differences in MT conceptualisation and measurement, researchers have adopted sport-specific psychometric measurement tools. For example, Gucciardi, Gordon, and Dimmock (2009a) developed the Australian football MT Inventory (AfMTI), a self-report measure designed to assess the MT levels of athletes in the Western AFL. Adopting the 11 ideal MT characteristics identified by WAFL coaches in Gucciardi et al.'s (2008) aforementioned study, and recruiting AFL players, coaches, and parents, Gucciardi et al. (2009a) formed a 24-item questionnaire with four MT attributes (*thrive through challenge, sport awareness, tough attitude, desire, and success*). Similarly, in cricket,

Gucciardi and Gordon (2009) utilised a PCP approach to conduct a multi-method study to conceptualise and develop a self-report measure for MT, namely the Cricket MT Inventory (CMTI). The researchers interviewed national level cricketers who highlighted six characteristics of the ideal mentally tough performer - *affective intelligence, desire to achieve, resilience, attentional control, self-belief, cricket smarts* – which were used to form a 42-item CMTI. The CMTI was then tested on a wider cohort of cricket players ($n = 518$), with confirmatory and exploratory factor analysis procedures revealing a 5-attribute, 15-item CMTI to provide the best fit.

Through their investigations in both AFL and cricket, Gucciardi and colleagues (2009; 2009a) outlined how their psychometric measures captured the multidimensionality of MT, its context-specific nature, and supported the conceptual distinction of MT from related psychological resources, such as resilience and hardiness. However, both inventories were created primarily through data provided by elite (e.g., international level) or sub-elite (e.g., professional club level) athletes. Consequently, Gucciardi further tested the psychometric properties of their measures with amateur level, adolescent Australian footballers (Gucciardi, 2009) and cricketers (Gucciardi, 2011), adjusting the number of items in each to provide a better fit for both cohorts. Despite Gucciardi and colleagues' preliminary work, no study has attempted to further validate the psychometric properties of the CMTI or AfMTI or use either scale to measure MT levels of athletes in context-specific interventions (Farnsworth et al., 2021). This may be attributed to the questionable content validity of both measures, the sub-attributes of which appear liable to change based on the age, competitive level, and MT perceptions of the athletes involved (Farnsworth et al., 2021; Gucciardi, 2009). Such malleable sub-attributes are indicative of arbitrary measures, which provide an indirect assessment of a multidimensional MT construct lacking in conceptual clarity (cf. Andersen, 2011).

Gucciardi et al. (2015) identified the lack of conceptual clarity provided by a multidimensional model of MT as a possible hindrance to the development of reliable and valid MT measures. They argued that research groups had accepted a multidimensional conceptualisation of MT without ever testing it against a unidimensional model, or through measuring MT levels in performance-based disciplines beyond sport (e.g., business, university). To test this hypothesis, Gucciardi et al. (2015) created the MT Inventory (MTI); a unidimensional scale of eight items, designed to directly measure the seven multidimensional attributes thought to underpin the construct of MT (e.g., self-efficacy, context knowledge, optimism) and produce a single MT score. In this way, the MTI built on previous MT inventories, which had considered MT to be multidimensional and so indirectly measured MT through assessing each of these dimensions with each dimension's score contributing to an overall MT score and doing little to reduce the conceptual confusion associated with MT in the literature (Andersen, 2011). The MTI was developed through testing on a sample of students, employees, and athletes, and based on participant responses support was found for a unidimensional rather than multidimensional MT model. Specifically, the research team found high correlations between MT dimensions (e.g., self-efficacy, success mind-set), meaning participants tended not to distinguish between different MT characteristics, but viewed MT as a conceptual whole, where increases in one underlying dimension led to increases in the others (Gucciardi et al., 2015). Moreover, MT was found to be a key characteristic in how individuals appraised situational demands and whether they had sufficient resources to cope (Lazarus, 1999). These findings lend support to a direct approach to measuring MT, rather than indirectly measuring underlying dimensions, which has caused conceptual confusion in the field (e.g., Gucciardi et al., 2009b).

Gucciardi et al. (2015) were the first to suggest and empirically test the validity of a unidimensional MT model across a range of performance domains. However, by the authors'

own admission, these domains were all situated within Australia and reflected a wider limitation within MT research, whereby most existing MT conceptualisations and inventories have been created in a Western context. To address this concern, follow-up studies tested the psychometric properties of the MTI among samples of Chinese students and youth athletes (Li et al., 2019), as well as among a multicultural sample of South African tennis players (Cowden, 2020). Both studies found support for the factorial validity of the MTI, while Cowden (2020) also found support for the construct validity of the MTI, identifying a strong correlation between the unidimensional model of MT and dispositional hope. According to Cowden (2020), this correlation typified how hope was a key facet in a mentally tough individual's capacity to appraise a stressor in a challenging rather than threatening manner, leading to an appropriate coping response. Nonetheless, the reliability of self-report measures such as the MTI across contexts and time have been brought into question, due to self-presentation and social desirability biases (Beattie, Ntoumanis et al., 2019; Farnsworth et al., 2021). With no overt links to subjective and objective athlete performance (e.g., how does a higher score on the AfMTI affect competitive performance?) due to the correlational nature of most MT measurement studies, such MT metrics are arbitrary and need to be grounded in real-world *MT behaviours* (MTbs).

Hardy et al. (2014) were one of the first research groups to suggest the need to develop a measure to observe mentally tough behaviour (MTb), rather than underlying, unobservable MT cognitions. They argued previous MT measures had focused on correlates of MT (e.g., self-belief, desire to succeed; Jones et al., 2002; Gucciardi et al., 2008) and failed to measure the mechanisms involved in "being mentally tough" (Hardy et al., 2014, p. 70). Moreover, Hardy et al. outlined how previous measures relied on athletes self-reporting their level of MT, with no data gathered from other key individuals (e.g., coaches, parents) to support these claims. Therefore, working in an elite cricket context, Hardy et al. (2014)

conceptualised MT as the ability to perform to a high standard while faced with a variety of situational demands. The research team initially recruited student-athletes and county cricket coaches to assist with the development of a MT Inventory (MTI). The MTI was designed to allow an informant, such as a teammate or coach, to assess an athlete's ability to maintain a high level of personal performance across 15 pressurised scenarios (e.g., "Player X is able to maintain a high level of personal performance in competitive matches when it's a particularly important game in the season.") on a Likert scale from 1 (*rarely*) to 7 (*regularly*). Based on participant responses and using confirmatory factor analysis procedures, the 15-item MTI was shown to have a poor fit and reduced to eight items, which demonstrated a better fit, providing the first behavioural MT conceptualisation and measurement tool in the sport psychology literature.

Hardy et al. (2014) next adopted *revised Reinforcement Sensitivity Theory*⁵ (rRST; Corr, 2008) to explore how personality may predict individual differences in MTBs on the MTI. RRST is based on a re-modelling of Eysenck's (1967) three-factor theory of personality (extraversion, neuroticism, psychoticism). Through rRST, Corr postulated that specific neural networks are responsible for reward sensitivity and punishment sensitivity in humans. Specifically, the Behavioural Activation System (BAS) in the dopaminergic reward systems of the brain is responsible for reward sensitivity. This system controls reactions to all reward-related stimuli in an individual's environment and is responsible for all approach goal-oriented behaviour. On the other hand, punishment sensitivity originates from a combination of the Behavioural Inhibition System (BIS) and the Fight-Flight-Freeze System (FFFS) in the periaqueductal grey, medial hypothalamus, and amygdala brain regions (Hardy et al., 2014).

⁵ A detailed discussion of rRST is beyond the scope of this literature review. For greater insight, please see Corr (2008) and Hardy et al. (2014).

In the context of MT, rRST has the potential to provide greater clarity from a neuropsychological perspective to the underlying mechanisms behind behavioural perseverance during situational demands (Hardy et al., 2014). Research has demonstrated that individuals higher in reward sensitivity can perform at a consistently high level despite situational demands, while individuals high in punishment sensitivity are unable to overcome threatening stimuli and perform under pressure (Perkins & Corr, 2006; Perkins et al., 2007). To test rRST in a sporting context, Hardy et al. (2014) recruited county cricket coaches to complete MTIs for their academy-level players, while the players completed Corr's (2001) version of the Eysenck Personality Questionnaire – Revised Short Version (EPQR-S; Eysenck et al., 1985). Contrary to previous findings, Hardy et al. found that cricketers who were able to detect threatening stimuli earlier (e.g., threat of being dismissed early by a fast bowler), while avoiding rewarding stimuli (e.g., thinking about winning the game), exhibited higher levels of MTb in high-pressure situations (e.g., selected the right shot). Further, individuals high in punishment and reward sensitivities engaged in approach-avoidance behaviour conflict (e.g., unsure whether to bat safe or go for the win; Hardy et al., 2014), leading to slower adaptation to situational demands. Hardy et al. (2014) surmised the positive relationship between high punishment sensitivity and MTb reflected the elite nature of the participants, with cricketers needing to develop an array of coping mechanisms to navigate through and graduate from county level cricket academies.

Hardy et al. (2014) portrayed MT as a personality trait – a dispositional tendency to detect threatening stimuli faster in one's surrounding environment – used to perform MTbs under pressure. Further, they used experienced informants to assess whether MTb had occurred, prior to making any assumptions about underlying neurocognitive markers of MTb or cognitive processes of MTb. Nonetheless, Hardy et al. (2014) conflated an individual's latent capacity to perform to a consistently high level under pressure (i.e., MT; Gucciardi et

al., 2015) with the MTbs acts themselves. A clear distinction needs to be made between an individual's potential to perform under pressure (e.g., ability to perform when the match is tight) and the performance outcomes themselves (e.g., scoring a high run total in a tight match). Hardy et al. also overlooked what MTbs players would need to display to perform effectively in high-pressure scenarios, meaning the applied implications of their findings in a cricket context are limited. In a similar vein, Beattie et al. (2017) explored the relationship between reinforcement and punishment sensitivities and MTb in a swimming context. Creating an 11-item swimming MTI (SMTI), the research team found swimmers with high punishment sensitivity and low reward sensitivity displayed more coach-rated MTbs and posted better times in the first heat of their main swimming event in comparison to the first heat of their previous three events – an objective measure of performance under pressure. Therefore, Beattie et al. concluded that punishment-sensitive individuals competing at all levels are more effective at developing *self-regulated behaviours* in a training context. These individuals can then implement these self-regulation strategies when faced with similar stressors in competition, leading to more consistent performances under pressure. This finding was supported by Beattie et al. (2019), who found that swimmers who engage in more self-regulated training behaviours also displayed greater levels of coach rated MTb in competition. However, in a similar manner to Hardy et al. (2014), Beattie et al. stopped short of detailing what these MTbs looked like in a swimming context. Moreover, Beattie et al. (2017) found no significant correlations between coach rated MTbs and swimmer performance under pressure. This could be attributed to the research team utilising an objective measure of performance (the first heat of a swimming event) that was not indicative of performance under pressure (Beattie et al., 2017). Therefore, while Hardy and colleagues provided a behavioural conceptualisation of MT and mechanisms for its display through rRST, the impact of MT on objective performance under pressure is still unclear.

Hardy et al. (2014) and Beattie et al. (2017, 2019) broadened the focus of MT measurement research beyond self-report inventories of MT characteristics, providing coaches and practitioners with informant-rated MT measures that could be implemented as part of a wider MT development program (i.e., how is MTb developed over time?). Nevertheless, Hardy et al. and Beattie et al.'s research focused on the high pressure situations in which athletes were expected to demonstrate MTbs during training (e.g., I attend all practice sessions; Beattie et al., 2019) and competition (e.g., when the opposition are using aggressive tactics; Hardy et al., 2014) rather than the specific behavioural acts themselves (e.g., working on goal kicks for 30 extra minutes after training; Gucciardi & Hanton, 2016). Further, while informant-rated measures of MT have their advantages over self-report measures, they are still susceptible to similar limitations, such as social desirability biases of coaches. Moreover, Hardy et al.'s (2014) and Beattie et al.'s (2017, 2019) work was cross-sectional in nature, reflective of the majority of MT conceptualisation and measurement studies in the field at the time. Therefore, while MTI and SMTI results were linked to behavioural outcomes, clear conclusions cannot be drawn about how scores on these measures may fluctuate in the face of varying stressors. Consequently, there is a need for researchers studying MT to broaden their investigations beyond identifying the key facets of MT and creating snapshot measurement tools and explore the mechanisms behind how MT is developed and maintained across situations, contexts, and time.

How is MT Developed?

Several research groups have recognised the need to identify the underlying processes of MT development across situations, contexts, and time, in both elite and non-elite athlete populations. For example, Connaughton and colleagues (2008; 2010) adopted Jones et al.'s (2007) multidimensional MT framework, and re-interviewed Jones et al.'s sample of super elite performers and staff. Aligned with Bloom's (1985) talent development career phases,

they identified MT development as a long-term process split across the early, middle, and later years of an athlete's career. During the early years, athletes reported fostering MT attributes, such as a positive mind-set and self-belief. These attributes were developed through learning new skills and enjoyment, underpinned by parental support and coaches creating motivational climates (Connaughton et al., 2010). Following transition into the middle years of their career, athletes indicated that MT was developed through coaches' "tough but rewarding" training strategies, exposing athletes to critical incidents, providing vicarious learning experiences via role models, and the development of psychological skills (e.g., emotion regulation; Connaughton et al., 2008). Correspondingly, coaches' leadership styles and social support provided by sporting and non-sporting personnel were identified as key to help athletes develop MT attributes (e.g., recovery from setbacks, and learn to perform under pressure) during this stage. Finally, during the later career stage, MT was reported to be developed through an athlete's ability to control their surrounding environment via advanced psychological skills usage (e.g., regulating performance, pursuing long-term goals) and maintained via their ability to handle both successes and failures, with support from fellow athletes, coaches, and peers (Connaughton et al., 2010). Through dividing Jones et al.'s (2007) MT framework into specific career stages, Connaughton et al. (2008; 2010) were able to illustrate the importance of an athlete's environment and exposure to both positive and negative critical incidents in developing and maintaining MT over a prolonged time period. Moreover, Connaughton et al. emphasised the increasingly important role coaches and support staff play in MT development as their athletes transition through each career stage.

Several researchers have also explored coaches' and support staff's perceptions of athlete MT development and the strategies they employ. Weinberg et al. (2011) interviewed coaches from a range of sports (e.g., swimming, basketball, field hockey) competing in Division I of the NCAA. Coaches highlighted how MT could be *taught* through specific

development strategies, including the creation of a positive but tough learning environment, the development of psychological skills and outlining desired MT characteristics through practice drills (Weinberg et al., 2011). Additionally, coaches outlined how MT could be *caught* by athletes through the fostering and maintenance of relationships with their coaches, teammates, and family, built on trust and positive reinforcement. In a similar vein, Gucciardi et al. (2009e) interviewed Australian football coaches, who perceived MT development as a holistic process with several strategies for both coaches and athletes to utilise (e.g., training diaries, one-to-one discussions, coaching philosophy that prioritises player development over success) beyond isolated psychological skills development. By contrast, Gucciardi et al. reported MT development was inhibited when coaches created an environment that valued winning at all costs over personal development of individuals. Seeking a different perspective, Weinberg et al. (2018) interviewed sport psychologists' regarding MT development and their role in assisting coaches to develop the construct in athletes. Participants emphasised the behaviours of the coach as fundamental in developing MT in their athletes. Sport psychologists believed their role was to assist coaches in creating a high challenge, high support performance environment in which athletes could develop the MT skills required to perform under pressure.

This body of work on MT development has made a significant contribution to understanding how MT may be both caught through lived experiences and taught with the guidance of several different stakeholders. The authors involved conducted their work through a PCP lens – the dominant framework in MT development research – and viewed MT as a set of constructs that certain athletes possess, which allow them to thrive under pressure (Connaughton et al., 2008; 2010; Gucciardi et al., 2009; Weinberg et al., 2011; Weinberg et al., 2018). However, a PCP model is binary and illustrates individuals as either mentally tough due to possession of certain personal constructs (e.g., self-belief, work ethic,

determination) or mentally weak due to their absence (e.g., self-doubt, lack of focus, inconsistency). This MT outlook places all the burden on the performer to develop the psychological skills needed to endure a tough environment, while providing coaches with a potential smokescreen to engage in dark practices to toughen up their players, including bullying or forcing athletes to play through injury (Bauman, 2016; Uphill & Hemmings, 2017). Indeed, Weinberg et al. (2011) discussed how coaches needed to create a “tough physical environment, and positive mental environment”, through “tearing players down and building them back up” (p. 164) and placing high expectations on an athlete so they refuse to give up. Such an individualistic outlook can be problematic and ethically unsound when integrated within MT development strategies (Andersen, 2011). For example, athletes may view these perfectionistic traits as desirable and even necessary to succeed in their performance context. This could lead to social desirability and self-presentation biases and inaccurate feedback on MT measurement tools and, more pertinently, cause performers to engage in maladaptive behaviours to demonstrate their toughness to coaches. Further, the majority of MT development research has been cross-sectional in nature, with researchers providing snapshot insights into generic strategies for MT development. Due to these shortcomings, there is a need for researchers to conduct MT interventions to better understand the processes and barriers involved in MT development within specific environments over time and to inform coaching practice (Stamatis et al., 2020).

MT Development Interventions

Despite the growing number of research groups conducting cross-sectional or retrospective examinations of how MT is developed across different contexts, there has been a dearth of MT development interventions within the sport psychology literature. Bell et al. (2013) attributed this lack of intervention work to a narrow research focus, whereby scholars targeted key MT characteristics for development via psychological skills training (PST). As a

result, researchers largely overlooked the need to develop a *mentally tough environment* prior to integrating PST and had difficulty distinguishing between PST and MT interventions (see Gucciardi et al., 2009c, 2009d). Moreover, the efficacy of such interventions relied on feedback from players, coaches, and parents, all of whom are liable to self-report biases.

Accordingly, Bell et al. (2013) sought to address these limitations through conducting a MT intervention with elite youth cricketers to improve their ability to perform under pressure. Using a systematic desensitisation approach (Wolpe, 1958), Bell et al. conducted an intervention that threatened cricketers with a punishment (e.g., cleaning the changing rooms) if they failed to meet performance expectations on three specific tasks – batting against pace bowling, batting against spin bowling, and a fitness test. Importantly, this pressure training was delivered as part of a holistic MT development programme, where players were afforded opportunities to develop their technical and psychological skills during relaxed training days, workshops, and feedback sessions with coaches and support staff. The intervention group was compared against a control group who received eight hours of regular training. Both pre- and post-intervention, players MT levels were measured by their coaches using the MTI (Hardy et al., 2014⁶) and their performance levels were measured using competitive statistics. Overall, participants in the intervention group improved significantly on the batting against pace bowling and fitness tasks, as well as their levels of coach-rated MT and their competitive statistics post-intervention. Bell et al. (2013) demonstrated through their results that MT development involved more than a narrow psychological skills training approach to improve underlying MT attributes, as had been alluded to in previous MT interventions (e.g., Gucciardi et al., 2009d). Rather, MT development was a complex and long-term process,

⁶ Although Hardy and colleagues' MTI was not officially published until 2014, Bell et al. use it within their 2013 study.

requiring the holistic support of a multidisciplinary team to create a highly individualised training programme and high-performance environment.

Other researchers have also sought to outline a *positive but tough* environment (cf. Driska et al., 2012) and the fostering of positive psychological characteristics (e.g., insatiable desire to succeed, Connaughton et al., 2008) as key correlates to MT development. However, they have avoided punishing failures in favour of rewarding successes in their MT models, with some suggesting all negative experiences inhibit MT development (Gucciardi et al., 2009e). Such a view of MT development is built on worries about the potential negative outcomes of a punishment-focused intervention (e.g., loss of confidence, dropout from sport). This is particularly pertinent in an environment where punishment is not correctly distributed or clear mechanisms for MT development through punishment are not outlined (Albrecht, 2009; Bell et al., 2013). By contrast, Bell et al. explicitly outlined how the mechanisms behind their intervention, including transformational leadership, creating a shared vision, and one-to-one feedback sessions, facilitated MT development via the appropriate administration of punishments in a high challenge, high support environment. Nonetheless, failing to measure the individual effects of each of these mechanisms on participants' performance under pressure is a limitation of Bell et al.'s research. Moreover, the competitive statistics used to assess participant performance pre- and post-intervention covered cricketers' overall performances (e.g., number of runs), rather than performance under pressure (e.g., number of runs made in the final over). Consequently, the authors could not make inferences about participants' objective performance under pressure (cf. Bell et al., 2013).

Although not explicitly stated, through involving players in the decision-making process around consequences (*autonomy*), supporting players in developing their ability to perform under pressure (*competence*), and providing role models to assist in the training program (*relatedness*), Bell et al. (2013) created a self-determined motivational climate (Ryan

& Deci, 2020) for MT development to occur. Such an approach aligns with the intervention work of other scholars. For example, Mahoney, Ntoumanis et al. (2016) adopted self-determination theory (SDT) in their research, conducting an autonomy-supportive intervention with rowing coaches to enhance psychological needs satisfaction, and subsequently develop MT, in rowers. The research team had rowers complete the MTI (Gucciardi et al., 2015), along with a battery of other questionnaires measuring athletes' perceptions of their current psychological needs and their coaches' controlling behaviours, both pre- and post- an eight-week intervention. The intervention itself consisted of two weeks of workshops on SDT and autonomy-supportive behaviours, followed by six weeks of correspondence with additional materials on SDT, including educational videos and detailed workbooks (cf. Mahoney et al., 2016). Data analysis and social validation interviews with coaches revealed that the intervention did not result in the desired outcomes. Specifically, rowing coaches outlined how they were reluctant to implement a new autonomy-supportive behavioural coaching style for MT development at the expense of their existing controlling behaviours due to the limited time they had with athletes. Due to this contextual barrier, coaches felt the need to elicit compliance in their training sessions as quickly as possible to be effective (Mahoney et al., 2016). This may indicate that practitioners delivering interventions need to consider the willingness of participants (coaches) to change prior to assessing the efficacy of the intervention itself.

There is a need to gain the environmental insights of players, coaches, staff, and wider stakeholders prior to the creation of MT interventions, as opposed to presenting them with ready-made programmes (Eubank et al., 2017). Further, these insights could be used to identify target MTBs for development in athletes, and so address previous limitations of work in this area, where researchers have failed to outline what specific behaviours individuals display when performing under pressure (e.g., Bell et al., 2013; Hardy et al., 2014). By

focusing on target MTbs (what can you see? what can you hear?) in sports such as cricket, informant rated MTb checklists could be developed (Gucciardi & Hanton, 2016). Coaches could use these checklists to monitor the frequency with which athletes engage in MTbs during competition in pursuit of subjective (e.g., percentage of team runs scored) and objective goals (e.g., winning a match). Additionally, MTb checklists could be used to measure self-regulated behaviours in pressure training scenarios (e.g., Beattie et al., 2019) and as part of a wider MT development programme.

Monitoring MT Development: A Behaviour-Based Approach

MT Behaviours

Researchers have previously indicated the important role MTbs play in the ability to perform consistently under pressure during specific situations (Beattie et al., 2017, 2019; Bell et al., 2013; Coulter et al., 2010; Hardy et al., 2014). However, the identification of MTbs, how they are developed, and their role in optimal performances has largely been overlooked by researchers. One of the few exceptions was Diment (2014), who created a MTb observation checklist in soccer. Using 45 hours of match footage of elite male and female Danish players ($n = 19$), Diment inductively analysed player behaviours that best represented MT. Based on this analysis, 28 behaviour categories were constructed (e.g., quick recovery after an error, wanting the ball), each with their own description (e.g., getting back into position quickly after an error, a quick change in direction to make space to receive the ball). To establish the content validity of these categories, Diment conducted two workshops with elite club and international coaches ($n = 11$) and sport psychologists ($n = 8$). Specifically, Diment asked both groups to consider how representative each behavioural category was of MTb in soccer on a 14-point Likert scale ($-7 = \textit{indicative of mental weakness}$, $0 = \textit{not related to MT}$, $7 = \textit{strongly related to MT}$), and if any additions or item removals were required. Based on these responses, Diment developed a checklist of the top 10 behavioural categories

in football and established its inter-observer and intra-observer reliability through educating and training coaches to use the checklist when observing players in competitive scenarios. Subsequently, Diment defined a mentally tough footballer in an elite Danish context as someone who is highly involved in the match on a team (e.g., encouraging teammates on the pitch) and personal level (e.g., creating space to receive the ball). Further, a mentally tough footballer understands how the game is played (e.g., scanning the defensive formation of opposition) and can act on this understanding (e.g., tactical communication in play). They are confident in their ability (e.g., playing a tough pass in tight areas), and respond positively to adversities (e.g., getting quickly back into position after an error). Using a similar systematic development process, Madrigal (2020) created a MTb checklist for volleyball, based on video footage from NCAA volleyball matches, and the feedback of elite volleyball coaches ($n = 4$) and sport psychologists ($n = 3$). According to Madrigal (2020), the top 10 MTBs in volleyball are displayed either during (e.g., accurate serving) or after play (e.g., negative verbal response to missed point), and are either negative or positive in nature.

Diment's (2014) and Madrigal's (2020) work provided a considerable step forward for MT research, creating systematic observation tools with clear, observable behaviours compared to the general MTBs identified in previous research (e.g., Coulter et al., 2010). Further, identifying behavioural manifestations of MT provided a link between unobservable MT characteristics (e.g., confidence) and subjective performance (e.g., recovering the ball after an error), although both studies stopped short of exploring this connection. However, similar to the PCP approach adopted by Gucciardi and colleagues (2008, 2009), both studies use of the term *mental weakness* is ethically questionable. It indicates that when a player demonstrates certain behaviours, such as failing to run back into position after an error, they alone are at fault. In reality, there may be several factors at play leading to this behaviour

(e.g., physical exhaustion, coach yelling criticisms from the side-line, other players being negative on the pitch leading to loss of concentration).

When context-specific MTb checklists are combined with knowledge of context-specific demands that precede MT (e.g., transitioning from club-to-international level), knowledge of game-specific situations that require MT (e.g., when the opposition are using aggressive tactics; Hardy et al., 2014), and MT interventions (e.g., Bell et al., 2013), they can be used to create MT development programmes across competitive levels (Coulter & Thelwell, 2019). These programmes could help athletes learn the MTbs required to perform under pressure via training scenarios and reflect on their use of these MTbs in video feedback and one-to-one sessions (Gucciardi et al., 2009e). Players could then utilise these experiences to appraise and respond to future match situations that require MTb more effectively. For example, Anthony et al. (2018) implemented a *GROW* behavioural coaching model; a solution-focused approach designed to help coaches from an AFL club to develop identified MTbs⁷ in their players while working under severe time pressures (Whitmore, 2002). In the context of MT development, a *GROW* coaching approach involves coaches working one-on-one with athletes to identify a target *goal* for their upcoming session (e.g., develop a specific MTb), understand the athlete's current *reality* or starting point for development (e.g., how much time are they committing to developing this MTb?), discussing potential *options* for improvement (e.g., providing the player with video footage of them performing the MTb effectively), and constructing a *way forward* (e.g., when will you work on this MTb during training?). Over a twenty-week period, Anthony et al. (2018) educated the coaching group in the *GROW* behavioural model via workshops targeting specific MTbs, observed coaches' attempts to implement the *GROW* model in their practice, and provided them with ongoing

⁷ These MTbs (e.g., composed performance actions) were identified through conducting focus groups with key stakeholders in the AFL club, including coaches and support staff. See Anthony et al. (2020) for a detailed overview.

feedback. The effectiveness and maintenance of the behavioural coaching programme was evaluated through coaches completing the MTb scale (MTbS)⁸ for each of their players at several time points, pre-, during- and post-intervention. Overall, MTbS scores demonstrated that display of MTbs by players increased gradually throughout the initial stages of the programme before levelling off until the programme's completion, at which point MTbs gradually deteriorated until the end of the season (Anthony et al., 2018). In subsequent social validation interviews, the AFL coaches who participated in the programme illustrated how fluctuations in GROW framework adherence and MTb development were due to time constraints, and a need to assimilate large amounts of information from various stakeholders (e.g., medical staff, performance analysts) on a daily basis. These MT development issues align with the aforementioned work of Mahoney et al. (2016) in an elite rowing context. Such obstacles need to be overcome through the adoption of practitioner-researcher roles, where the researcher possesses both the relevant academic and practical experience and is embedded within and viewed as a member of the organisation (Collins & Collins, 2019; Eubank et al., 2017). These roles would facilitate researchers to bridge the so-called 'research-practice gap' in sport psychology through utilising their theoretical knowledge to drive evidence-based practice (Collins & Collins, 2019). Further, these roles allow researchers to develop key relationships and trust with stakeholders (e.g., coaches, sport science staff) over a prolonged period and provide researchers with a platform from which to create more meaningful MT interventions. However, such practitioner-research roles are still few and far between in most sport settings, with coaches and players often reluctant to engage in research given the associated time constraints. Nevertheless, Anthony et al.'s (2018) MT development programme significantly improved previous applied research (Beattie et al., 2017, 2019;

⁸ See Anthony et al. (2016) for a detailed overview of the development of the MTbS.

Hardy et al., 2014) by providing an informant rated MTb checklist directly linking target behaviours to objective performance via performance consistency.

Validation of the role MTb plays in performance provides a fruitful avenue for future applied work seeking to use a behaviour-based approach to develop MT within sporting environments at all levels (Anthony et al., 2018; Gucciardi et al., 2020). Aligned with *acceptance and commitment therapies* (ACT; Hayes et al., 2012), behavioural coaching allows athletes, in conjunction with their coaches, to develop an understanding of the behaviours required to perform under pressure in training and competitive contexts and provides them with the ability to display these behaviours, regardless of underlying cognitions or emotions (cf. Anthony et al., 2018). Developing an athlete's behavioural repertoire in response to certain stimuli (e.g., threat or reward) is consistent with previous behavioural work in MT development (Bell et al., 2013; Hardy et al., 2014). Indeed, MTbs identified by Anthony et al. (2020) demonstrated conceptual overlap with behavioural research findings in other sports (e.g., displays game changing actions in AFL, Anthony et al., 2020; versus performs optimally when the opposition are using aggressive tactics in cricket, Hardy et al., 2014), lending support to behaviour-focused rather than attribute-focused MT interventions. Nevertheless, there is a need for practitioners to familiarise themselves with the desired values and behaviours of an organisation's culture, and context-specific conceptualisations of MTb, prior to developing an intervention.

Cultural Development of MT

Practitioners creating MTb development programmes need to look beyond the traits or characteristics a performer possesses (e.g., high punishment sensitivity; Hardy et al., 2014) and the mechanisms by which MTbs are developed (e.g., transformational leadership; Bell et al., 2013) and investigate the meaning of MT in specific organisational cultures (Eubank et al., 2017; Gucciardi, 2020). Aligned with recent recommendations, MT frameworks need to

be rooted in the MT descriptions or lived experiences of *cultural architects* within NGBs and sport organisations, including coaches and support staff (Eubank et al., 2017; Coulter & Thelwell, 2019). Such organisations possess their own processes, systems, values, and beliefs around player development and scholars have largely failed to integrate their MT development frameworks within these practices (Eubank et al., 2017).

Given the general failure of scholars to disseminate MT research in a meaningful way into athlete development and performance programmes, MT continues to be viewed as a highly sought after but little understood construct in applied contexts (Gucciardi et al., 2020). For example, Tibbert et al. (2015) used a longitudinal case study approach to illustrate the profound impact a subculture of MT can have on an Australian football player adapting to a new club environment. Interviewing the athlete (Joe) five times over the course of a 14-month competitive season, Tibbert et al. found that MT development entailed a process of acculturation, whereby Joe was expected to conform to certain masculine subcultural norms (e.g., playing through injuries, sacrificing his identity, hiding vulnerabilities). Joe experienced several critical moments during this acculturation process (e.g., conflict between staying true to his own values and conforming to his coaches), causing him to feel anxious and uncertain about his future with the team (Tibbert et al., 2015). Once Joe received a contract extension at the end of the season, however, he reflected on the toughening process as necessary for his development. Such post-hoc acceptance of certain toughening cultures is elitist, *survivor biased*, and fails to account for those who fall by the wayside (i.e., the mentally vulnerable; Caddick & Ryall, 2012; Uphill & Hemmings, 2017). As a result, MT has become implicitly associated with organisations that advocate a short-term ‘win at all costs’ culture and are willing to engage in unethical practices including bullying and abuse to achieve their targets (Phelps et al., 2017; Whyte, 2022). Through adopting many common MT conceptualisations Joe may be seen as mentally tough due to his ‘insatiable desire to succeed’ or his

‘unshakeable self-belief’ (Jones et al., 2002, p.211). His coaches may have also been lauded for their ability to teach Joe the right psychological skills (e.g., blocking out distraction of pain) that helped foster Joe’s supposed MT development (Driska, et al., 2012). As a result, Tibbert et al.’s findings exhibit the potential dark side of MT as a stereotypically masculine construct, where subcultural norms and expectations reward players for engaging in maladaptive behaviours, such as maintaining an air of infallibility at the risk of physical or emotional harm (Andersen, 2011).

Coulter et al. (2016) drew similar conclusions in their study of mentally tough culture in an Australian football club. Aligned with Schein’s (1990) organisational culture framework, the authors found MT to be a socially constructed term, rooted in specific behaviours (e.g., self-sacrifice, concealing emotions or playing through injuries), artefacts (e.g., a sign over the physiotherapist’s treatment table saying ‘everything for the club’), values (e.g., maintaining an unbreakable mind-set), and assumptions (e.g., MT is something internal). Such MTBs were valued due to the organisation’s underlying beliefs that the ideal mentally tough performer is one who can be trusted to put their body on the line and is impervious to criticism or adversity. These values in turn were driven by the assumption that MT is something that only successful athletes possess (you are mentally tough when you are outperforming everyone else), and those who do possess it should be viewed as role models within the club and treated to certain rewards and recognition (Coulter et al., 2016).

Both Tibbert et al.’s (2015) and Coulter et al.’s (2016) investigations offer cautionary tales for practitioners seeking to develop MT through psychological skills or creating a “tough” environment (e.g., Butt et al., 2010; Driska et al., 2012). Namely, that MT is “not what the researchers say it is, but rather it is what the subcultures in sport say it is” (Tibbert et al., 2015, p. 70). Therefore, it is important practitioners work with sport organisations to develop frameworks for what they consider MT to be (Coulter & Thelwell, 2019). A key part

of this developmental process should be creating a MT image that expands beyond a performance-enhancement approach and focuses on striving for excellence, taking responsibility for one's actions, and speaking up about any performance-related or personal issues (Eubank et al., 2017; Tibbert et al., 2015). MT should not be viewed as the opposite of mental weakness or vulnerability, but rather as the ability to embrace the fallibility of one's psychological make-up and persevere regardless (Uphill, 2014). Indeed, recent studies have demonstrated that adversity is an inevitability in the careers of elite athletes, and the ability to embrace these negative events and strive towards performance targets regardless (i.e., MT) is key to psychosocial development (Collins & MacNamara, 2017). Such a MT framework could be integrated into developmental processes within that organisation (e.g., coach education, player pathway) so that all stakeholders, including players, coaches, support staff, and parents have a clear understanding of what MT means (Coulter & Thelwell, 2019).

An Integrated Approach to MT Development

Over the past two decades, MT has been conceptualised as a personality trait (e.g., Clough et al., 2002), a set of characteristics one possesses (e.g., Jones et al., 2002), or as a socially constructed cultural ideal that shapes the individual (e.g., Coulter, Mallett, et al., 2016). However, these conceptualisations of MT need not be mutually exclusive (cf. Anthony et al., 2020). Indeed, a more holistic framework of MT is required if research is to move beyond the *what* of MT characterisation and focus on *how* MT is fostered (Eubank et al., 2017). Such a MT development framework also needs to be supported by psychological theory concerning human development and performance under pressure, to provide a platform for evidence-based practice and MT development interventions.

In recognition of these theoretical shortcomings, Anthony et al. (2016) systematically reviewed the qualitative literature on MT development and created an integrative MT development model aligned with Bronfenbrenner and Morris' (2006) bio-ecological model of

human development. Specifically, Bronfenbrenner and Morris (2006) viewed individuals as playing an agentic role in their own development, contingent on ongoing proximal processes (i.e., transactions) between an individual's personal characteristics, known as dispositional *forces* (e.g., persistence, motivation) and biopsychosocial *resources* (e.g., skills, experience), and the contexts in which they were situated over time (Krebs, 2009). The effectiveness of these proximal processes are reliant on an individual's capacity to initiate and maintain goal-directed behaviours until task completion, through fostering key relationships in both their immediate environment (microsystem; e.g., coach-athlete relationship) and related contexts (mesosystem; e.g., coach-parent relationship) and through understanding their role within a wider cultural context (macrosystem; e.g., what does an athlete's sport organisation consider MT to be?). The individual can then draw upon these developmental experiences when facing similar future challenges (Bronfenbrenner & Morris, 2006). When viewed through Bronfenbrenner and Morris' lens of *process-person-context-time*, MT can be portrayed as a dispositional force or personal capacity that allows individuals to enact and maintain goal-directed pursuits and is manifested through purposeful MTbs (Gucciardi, 2017). Accordingly, Anthony et al. (2016) surmised that MT development was a long-term, multidimensional process contingent on an individual's acquirement of flexible personal characteristics (e.g., reflective practice, support seeking), their ability to interact with and adapt to their various environments (e.g., home, sporting), and their capacity to accumulate MT over time. Through integrating the qualitative literature on MT development into one model, Anthony et al. shifted academic conversation away from the debate concerning MT conceptualisation, and instead focused on the key components of MT development.

The bio-ecological model and its ideas concerning how individuals have both consistent and adaptable ways of acting, based on their context, goals, values, and timing, have received growing support in the MT and personality psychology literature (e.g., Coulter

et al., 2016, 2018; Gucciardi, 2017; Mahoney et al., 2014; McAdams & Pals, 2006; McAdams, 2013). This model provides an overarching theoretical lens to consider longitudinal MT development. However, due to its emphasis on long-term development, the bio-ecological model is not necessarily conducive to understanding the mechanisms behind how an individual appraises and copes with the immediate performance, organisational, and personal demands they face when learning to perform consistently under pressure. Such understanding of the stress process is key to the formation of solution-focused MT development interventions, which can be utilised in applied contexts where face time with athletes is limited but consistency of performance is still paramount (Pitt et al., 2020). Therefore, it is permissible to argue that to form a truly holistic MT development framework for use in sport organisations, the bio-ecological model needs to be supplemented by a model which clearly outlines the stress process. One such model is the cognitive-motivational-relational theory of stress (CMRT; Lazarus, 1999).

Through CMRT, Lazarus (1999) viewed stress as a process that includes stressors, appraisals, coping, and strain, and involves relational meaning between the person and their environment. Specifically, CMRT presents the stress process as an ongoing transaction, where individuals do not simply interact with environmental stressors in a cause-and-effect manner to produce a response (e.g., MTb) but rather are constantly evaluating what is happening to them in relation to their own goals and beliefs (i.e., relational meaning). During this transaction, individuals have the capacity to perceive demands in their immediate environment as psychologically facilitative or debilitating, based on their available psychological resources (i.e., personal characteristics; Bronfenbrenner & Morris, 2006). The situational properties of these demands also play a key role in the appraisal process (i.e., timing of critical incidents as they relate to one's goals, expectancies, opportunities; Bronfenbrenner & Morris, 2006; Didymus & Fletcher, 2017). Therefore, a transactional

approach suggests that while environmental demands and personal characteristics combine to influence how individuals might react to a situation (i.e., behaviours), as is suggested by Bronfenbrenner and Morris, how they react will, through the processes of coping and adaptation, in turn, affect environmental conditions, personal resources, and future reactions (i.e., resources such as MT are learnt through experiences and reflection; cf. Fletcher et al., 2006). Consequently, considering the nature of MT development through integrating the relational conceptualisation of stress (Lazarus, 1999) and the bio-ecological model (Bronfenbrenner & Morris, 2006) may offer unique insights into the MTbs individuals use to cope with and learn from the immediate performance, organisational, and personal demands they encounter, and how they transact with their environment(s) (e.g., support seeking, relationship development in home and performance environment) to foster MT over time.

Summary and Aims

Until recently, the MT literature has been hampered by a lack of agreement over the conceptualisation of the construct, beyond its multidimensionality (Gucciardi, 2017). This conceptual divergence has led to the creation of a plethora of MT definitions and inventories seeking either to indirectly measure the underlying MT characteristics (e.g., Clough et al., 2002), or highlight situations in which *being mentally tough* is required (Beattie et al., 2017, 2019; Hardy et al., 2014). Nevertheless, there is growing consensus on this front, with the work of Gucciardi et al. (2015) identifying MT as “a personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (p. 28) that “has varying and enduring properties across situations and time” (p. 31). This definition has received increasing support, as it was developed via exploring multiple performance contexts (sport, business, education), clarified the mediatory role of MT in the stress process, and led to the development of a direct approach to measuring MT – the MTI (Gucciardi, 2017). Therefore, Gucciardi et al. (2015)

addressed the conceptual confusion caused by viewing MT as a higher-order construct. As such, this MT definition and direct measure, as well as the transactional stress framework (Lazarus, 1999), will be used to frame the remainder of this PhD.

To understand how MT is manifested and its links to goal-directed performance under pressure, we must identify MTBs and how they are developed in specific contexts, such as the Football Association of Wales Trust (FAWT). Further, to gain a ‘ground up’ perspective on the nature of MT within the FAWT, it is important to adopt a multidisciplinary approach and talk to stakeholders across the organisation (e.g., players, coaches, medical staff, parents) who facilitate athlete progression through the talent development pathway (Coulter & Thelwell, 2019; Eubank et al., 2017). Previous research has largely overlooked players views concerning MTBs in favour of cultural architects in charge of designing performance environments (e.g., coaches, staff; Eubank et al., 2017) and so such insights are warranted to explore the lived experiences of athletes attempting to perform optimally under pressure. From these findings, a behaviour-based MT development framework could be implemented within the developmental processes of the FAWT (e.g., coach education, player development) which will have a long-term, positive impact on the psychosocial development of its players.

As a result, the main objectives for the remainder of this PhD are:

- i) Identify the key mentally tough behaviours youth football players need to display to perform consistently under pressure in international football.
- ii) Identify and examine the strategies coaches, support staff, and parents use to develop these mentally tough behaviours in youth football players both on and off the pitch.
- iii) Create, implement, and measure the effect of a mental toughness development programme within the FAWT.

- iv) Contribute knowledge to the psychosocial pillar of the FAWT's national syllabus and player development pathway.

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CHAPTER 5

STUDY TWO

*Developing a ‘Clarity of Mind’: Exploring A
Behaviour-Based Approach to Mental Toughness
Development in International Youth Football*

Abstract

Mentally tough behaviours (MTbs) entail verbal or physical acts that allow athletes to engage their capacity to produce consistently high performances under pressure. However, researchers of *mental toughness* (MT) have typically focused on the characteristics that make an athlete mentally tough, rather than how these characteristics are developed through learning to, and reflecting on, the display of MTbs. Consequently, we explored the athlete MT development process within youth international football. Collaborating with a Union of European Football Associations (UEFA) National Association, age-group international players ($n = 6$), coaches ($n = 6$), support staff ($n = 7$), and parents ($n = 6$) were interviewed regarding MTbs, the specific contexts (e.g., training) that require MTbs, and how key personnel (e.g., coaches, parents, teammates) might help develop players' MTbs in international youth football. Using thematic analysis, we found MT development to be a relational, multidimensional process, where players transacted with individuals (e.g., coaches) in their environment. These individuals' behaviours (e.g., autonomy-supportive) influenced players' propensity to engage in and reflect on contextually relevant MTbs, leading to MT understanding, development, and maintenance. We suggest organisations develop a common understanding of the MT development process and educate all relevant stakeholders regarding their role in supporting athletes to develop the capacity to perform consistently under pressure.

Introduction

Over the past two decades, there has been an increase in research on the psychological characteristics athletes should develop to navigate critical moments on talent development pathways (e.g., Collins et al., 2017; Taylor et al., 2020). Similarly, researchers have identified how individuals differ in their capacity to use these psychological characteristics when encountering everyday stressors, such as the physical demands of training, and more significant developmental challenges, such as long-term injury (Fletcher & Sarkar, 2016). One such capacity described by coaches, athletes, and sport psychologists as key to performing under such demands is *mental toughness* (MT; Weinberg et al., 2018). MT has received considerable research attention over the last 20 years (see Gucciardi, 2020), yet clarity regarding the role of MT within performance has been hampered by a lack of agreement over its conceptualisation. Researchers have portrayed MT as: (a) a uni- or multi-dimensional construct; (b) a trait, a state, or a combination; and (c) a construct linked to an extensive number of characteristics, such as self-belief, determination, and coping with pressure (e.g., Clough et al., 2002; Gucciardi et al., 2008; Jones et al., 2007; Hardy et al., 2014). Nevertheless, these views of MT have commonalities, highlighting how MT allows individuals to cope and persevere despite the demands they face, as they strive towards specific goals (Gucciardi, 2017).

Drawing on these commonalities, Gucciardi et al. (2015) provided greater conceptual clarity to MT and the link between the characteristics (e.g., optimism), coping processes (e.g., problem-focused), and outcomes (e.g., behaviours) associated with MT. Based on their work across sport, business, academic, and military contexts, Gucciardi et al. (2015) defined MT as “a personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (p. 28). This definition has received growing support, given its acknowledgement that MT plays

a key role in the stress process (Piggot et al., 2019). Aligned with cognitive-motivational-relational theory (CMRT), Gucciardi et al. outlined how individuals with higher MT levels across performance contexts possessed a greater capacity to appraise stressors in a challenging rather than threatening manner, to utilise appropriate coping resources (Lazarus, 1999). Further, Gucciardi et al. provided empirical support for a unidimensional rather than multidimensional MT model, highlighting that individuals do not view MT as a constellation of characteristics (e.g., self-belief, optimism) but as a single resource to be utilised in response to varying levels of stressors.

There is growing consensus regarding MT's conceptualisation as an individual's potential for action under pressure, and the need to better link this underlying MT capacity, to how one displays this resource under pressure, and the subsequent performance outcomes (Jackman et al., 2020). Nevertheless, much of the MT literature has focused on unobservable aspects of the construct, including MT characteristics and cognitions (e.g., focus), rather than what these aspects allow a mentally tough athlete to do (e.g., communicate effectively; Anthony et al., 2020). Observable *mentally tough behaviours* (MTbs), however, represent an indirect but measurable way to understand what constitutes being mentally tough and how it leads to consistently high levels of performance under pressure. Typically, MTbs entail verbal or physical acts that allow athletes to engage their capacity to produce consistently high performances when faced with pressure (Anthony et al., 2018). Importantly, the behaviour-based approach to MT development being advocated in this study needs to be distinguished from behaviourism itself. Traditional behaviourism views behaviour as a response to external stimuli, with the reinforcement of desired behaviours and punishment of undesirable behaviours resulting in certain outcomes, and the role of an individual's internal processes (i.e., cognitions, emotions) being overlooked (Bandura, 2001). By contrast a behaviour-based approach to MT development recognises that an individual's internal

processes, behaviours, and surrounding context are inseparable. Therefore, a behaviour-based approach provides a more comprehensive understanding of MT development through not only examining an individual's behavioural responses to challenges and adversities, but also their capacity to cope with these challenges, and how their coping response can have a facilitative or debilitating effect on their environmental conditions, development of personal resources (i.e., MT, associated MT cognitions), and future reactions (Lazarus, 1999). Recently, researchers have identified observable MTbs within sporting contexts such as football (e.g., taking time on the ball; Diment, 2014) and volleyball (e.g., awareness of whether the ball is landing in/out of bounds; Madrigal, 2020). These investigators highlighted how, through selecting and displaying MTbs consistently, athletes could develop the underlying cognitions associated with performing under pressure. Nevertheless, these studies did not outline a clear process regarding how the display of MTbs can lead to the development of one's capacity to cope under pressure. As such, the current study sought to distinguish between MTbs being an indicator of one's MT capacity, versus the role MTbs play in one's MT development. Accurately conceptualising the MT development process, and the role of MTbs within that process, is essential to provide coaches and practitioners with strategies to develop athletes' capacity to perform under pressure across various contexts.

Providing conceptual understanding to the MT development process requires researchers to integrate established theoretical frameworks from the developmental psychology literature. For example, Anthony et al. (2016) created a MT development model underpinned by the bio-ecological model of human development (Bronfenbrenner & Morris, 2006). The bio-ecological model portrays individuals as agents of their own development, who use personal characteristics (skill-based *resources*; motivational *forces*) to interact and develop relationships in their immediate environment (microsystem, e.g., coach-athlete relationship) and related contexts (mesosystem, e.g., coach-parent relationship; macrosystem,

e.g., cultural meaning of MT) across their lifespan (Anthony et al., 2016). Thus, resources such as MT are developed over time and across contexts through one's environmental interactions. Essential to this process is the notion that individuals' MTbs are partially shaped by transactions with adversity. Individuals also have the capacity to shape similar future transactions and behavioural responses through the processes of coping, reflecting, and adapting (recursive principle; Lazarus, 1999). Moreover, athletes must learn to navigate the social and cultural norms associated with consistent high performance in their sport (i.e., what MTbs are valued by key stakeholders within the sport environment?; Anthony et al., 2018). Given these contextual nuances, it is arguable that for MT to be developed effectively within a specific environment, a 'bottom-up approach' must be adopted (Eubank et al., 2017). Such an approach involves researchers collaborating with sport organisations to create frameworks for what MT development entails in their contexts (i.e., MT cognitions, MTbs, adaptational responses, MT development strategies; Coulter & Thelwell, 2019). Central to this approach are the lived experiences of athletes, who are constantly appraising the stressors they face in relation to their values and goals and must learn to display MTbs on a consistent basis under varying degrees of strain (Lazarus, 1999). Previous research has overlooked athletes' views concerning MTbs and MT development in favour of coaches (Anthony et al., 2020), sport psychologists (Weinberg et al., 2018) and other stakeholders responsible for facilitating athlete's psychological development. Such insights have not provided a holistic view of MT development from a person-context perspective.

A Behaviour-Based Approach to MT Development: An International Football Collaboration

This study was conducted in collaboration with a UEFA National Football Association. Previous research conducted with this Association focused on identifying the psychosocial demands players face making the club-to-international transition (McKay et al.,

2021 [Chapter 2]). Incorporating the perceptions of international youth players and coaches, a range of performance (e.g., new football education), organisational (e.g., managing relationships) and personal demands (e.g., social pressures) were highlighted, as well as the situational properties of these demands (e.g., novelty). A key outcome of McKay et al.'s study was that for players to successfully navigate the international talent pathway, they needed to develop state-like personal resources, specifically MT, to cope with the fluctuating demands they faced on this journey, while also performing to a consistently high level to maintain their place in the squad, achieve re-selection, and progress through the age groups and into the senior team. One such individual state-like resource, specifically identified by coaches in McKay et al.'s study as vital to facilitating these outcomes, was *MT*. Indeed, MT is characterised by an individual's capacity to endure and adapt to a range of psychological demands in pursuit of both personal and performance-based goals across situations and time (i.e., context-dependent; Gucciardi et al., 2015). Therefore, it was decided that MT warranted investigation over similar psychological constructs, such as *hardiness*, which is typically enduring across situations and time, and *resilience*, which is a dynamic outcome contingent on a range of individual (e.g., MT), group and sociocultural protective factors (Fletcher & Sarkar, 2013). As such, there was a need to investigate the nature of MT development within this UEFA National Football Association; specifically, the MTbs the Association viewed as critical for players to cope with international football demands and the strategies they used to develop players' MT capacity. Researchers have previously utilised contextually developed MTbs to solely target players' behaviours (e.g., responses to punishment-conditioned stimuli; Bell et al., 2013) and coaches' practices (e.g., behavioural coaching framework; Anthony et al., 2018). By contrast, the current study sought to create a shared understanding of the MT development process (MT development strategies, MTbs) through constructing a MT development framework. This framework could then be used to inform the design of a MT

development programme for coaches in the participating UEFA National Football Association, and to inform coaching practice. Therefore, the aims of this study were to investigate: (1) MTbs in international youth football; (2) the specific contexts (e.g., training, competition) that require MTb in international youth football; and (3) how key personnel (e.g., coaches, support staff, parents, teammates) might develop players' MTbs in international youth football.

Method

Philosophical Position

A constructivist approach underpinned our research. Specifically, we adopted a relativist ontological position through which we understand that individuals' interpretations of the world around them are based on their experiences and interactions with others (Smith & Sparkes, 2019). In a research setting, knowledge of participants' multiple realities relies on the researcher being an "active participant" in data collection (i.e., a subjectivist epistemological position; Krane & Baird, 2005, p. 90). The researcher must account for their understanding of reality, including the theoretical frameworks they implement, and the socioeconomic structures and culture in which they are situated (Wiltshire, 2018). Our philosophical position meant we considered there to be multiple sets of MTbs across different sporting contexts, which are valued by both the individual and the organisation, due to their impact on an individual's capacity to perform optimally under pressure. Therefore, MT is a socially constructed concept and relies on the researcher accurately portraying participants' lived experiences to reach consensus on conceptual understanding (Gucciardi, 2017). Consequently, theory-free knowledge development was not possible, and we took several measures to identify and minimise researcher bias, including interviewing multiple stakeholders (e.g., players, parents, coaches), stating our conceptual position regarding MT

and MTbs at each interview's outset, and providing interviewees with MTb categories (e.g., competitive, training).

Participants

The sample was selected purposively from the participating UEFA National Association (Patton, 2015). We selected participants who: (a) were either playing international youth football, or were parents of youth international football players, or worked in a performance (e.g., coaches) or support role (e.g., physiotherapists) within international football; and (b) had a minimum of two years' (or four international camps) experience performing or supporting (i.e., parents) in their role. International youth football players attend approximately four to five international camps per year, typically each lasting one week. Therefore, we deemed that recruiting participants' who had a minimum of two years' experience being involved with these international camps would ensure we sampled a group of individuals who could provide detailed insight into the nature of MT development and types of MTbs.

Given the sampling criteria (e.g., two years' experience), approximately 60 players and 120 parents/guardians of players from the under 16s to under 21s age groups, and 46 support staff and 18 coaches from under 15s to under 21s age groups were deemed eligible for participation. Contact lists for players and parents were provided by the National Association, with an initial selection, thought to offer a representative sample, being contacted by the research team (players, $n = 12$; parents, $n = 12$ – three individuals per age group). With the agreement of the National Association, all support staff and coaches were invited to participate. Following initial email contact, a reminder was sent out to those who had not responded, after which the final sample consisting of everyone who replied positively was confirmed. Due to availability (e.g., some support staff work part-time for the National Association; players are full-time in professional club academies), the final sample included

international players ($n = 7$), coaches, ($n = 6$), support staff ($n = 7$; five performance analysts; one physiotherapist; one education & welfare officer), and parents of international players ($n = 6$ – all identified as parents rather than guardians). To examine MTBs and MT development across the international pathway, our participants were recruited from across age groups, including under 15s (coaches, $n = 1$; support staff, $n = 2$); under 16s (support staff, $n = 1$; parents, $n = 6$), under 17s (players, $n = 4$; coaches, $n = 2$; support staff, $n = 2$), under 18s (players, $n = 1$; support staff, $n = 1$), under 19s (players, $n = 3$; coaches, $n = 2$; support staff, $n = 1$), and under 21s (coaches, $n = 1$; support staff, $n = 1$). Players were aged between 16 and 18 ($M = 16.6$, $SD = 0.73$) with between two and six years' international playing experience ($M = 4.29$; $SD = 1.58$). Coaches were aged between 42 and 56 ($M = 47.2$, $SD = 4.71$) with between four- and 11-years international coaching experience ($M = 7.33$; $SD = 2.70$). Support staff were aged between 27 and 67 ($M = 37.3$, $SD = 13.19$) with between two- and five-years' international football experience ($M = 6.71$; $SD = 4.13$). Parents were aged between 41 and 49 ($M = 44.6$, $SD = 2.94$).

Focus Group and Interview Guides

One focus group guide (coaches; see Appendix I) and three semi-structured interview guides (players, staff, parents; see Appendices J, L, & K) were created to examine each cohort's views on MTBs and MT development. Aligned with our philosophical position, these guides contained overarching questions to examine participants' displays of MTb (e.g., "What MTBs do international players display in response to challenging situations in training?") while providing flexibility to probe participant responses to better understand their lived experiences (e.g., "What specific actions do you observe this player doing?"). In this way, we attempted to overcome previous issues in MTb research, whereby participants failed to describe MTBs in sufficient detail, compromising the link to effective MT development (Anthony et al., 2020). All guides had five sections. First, the interviewer

provided a MT definition (see Gucciardi et al., 2015) to stimulate discussion and asked all participants to discuss the typical demands a player faces in international youth football (e.g., “What are the major personal challenges players encounter on their journey to being selected for the international team?”). Second, participants were asked to identify key MTbs players need to display across different contexts (e.g., “What observable MTbs does your child display in response to challenging situations at home?” or “What are the key MTbs you need to display on the pitch to perform consistently when dealing with challenges you’ve experienced?”). Third, participants discussed key MT development strategies they implemented in international football (e.g., “How do you develop MT through your coaching sessions to assist players in performing to a consistently high level when faced with challenging situations?”). Fourth, participants’ perspectives on MT maintenance over time were explored (e.g., “How do you, as a coach, get players to reflect after an international camp and refine their MTbs in preparation for the next session/game/international camp?”). Finally, participants were asked for their thoughts on the data collection experience to check for potential researcher bias.

To test the effectiveness of each guide, pilot focus groups were conducted with coaches ($n = 3$), and pilot interviews with parents ($n = 2$), support staff ($n = 1$), and players ($n = 2$). Subsequently, coaches highlighted the need to consider wider demands of international football (e.g., short duration of international camps) when discussing MT development. Therefore, the guides were updated to better link the introductory question on international football demands to the main questions on MTbs and MT development (e.g., “What are the key MTbs you need to display off the pitch to perform consistently when dealing with the challenges you’ve discussed?”). Further, pilot participants identified the need to provide a lay version of the MT definition (i.e., MT is the ability of an individual to perform to a

consistently high level when faced with challenging situations) alongside the published version to clarify its focus on sustaining high performance under pressure.

Procedure

Following Institutional Ethics Board approval, access was granted from the UEFA National Football Association to approach potential participants (see Appendices G & H). Potential participants were contacted via e-mail and informed of the nature of the study. Players, coaches, staff, and parents who agreed to participate provided written consent and were informed of their rights as participants. For players under 18 years of age, their written assent was provided, alongside the consent of a parent/guardian. Participants then took part in one of two focus groups (coaches – three participants in each group) or interviews (all others). Participating coaches had a minimum of four years' experience working full-time within the National Association and so possessed an in-depth understanding of the talent development pathway. Further, the National Association employs a system whereby the head coach of one age group (e.g., under 17s) also undertakes an assistant role in the following age group (e.g., under 19s). This ensures continuity between age groups, particularly for players making the intra-team transition. Given coaches' busy full-time schedules and coaches' familiarity both with the pathway and each other, focus groups were the most appropriate data collection method for this cohort, as it provided the opportunity for them to collectively discuss their experiences of working with players across multiple age groups. Data collection took place online via Microsoft Teams. Coach focus groups lasted an average of 82 minutes ($SD = 1.4$), while interviews lasted on average 57 minutes for players ($SD = 9.23$), 64 minutes for support staff ($SD = 8.81$), and 72 minutes for parents ($SD = 6.2$). All interviews were audio-recorded and transcribed verbatim, yielding 508 pages of text.

Data Analysis and Methodological Rigour

Data was analysed and interpreted using reflexive thematic analysis (TA; Braun & Clarke, 2022). Aligned with our philosophical approach, we utilised reflexive TA with an *experiential orientation* to illustrate the multiple realities of our participants, providing detailed quotes and creating overarching themes to reflect their collective experiences of MT development and the MTbs necessary for international football (see Braun & Clarke). The TA process followed six steps. First, interview transcripts were read and re-read by all authors (PhD researcher and supervision team) to ensure familiarity and identify initial patterns in the data. Second, the first author (PhD researcher) created codes to capture concepts related to the overall research aims (e.g., impact of *having the courage to fail during critical moments* on MT development). In recognition of the need for reflexivity (e.g., recognising one's own biases and theoretical positioning when analysing data), a critical friend approach was employed (Smith & McGannon, 2018). This involved authors one and two (PhD DoS) critically discussing generated codes, with author two challenging author one's potential biases regarding MTb conceptualisation and their impact on MT development. Third, authors one and two organised codes into descriptive themes that captured key ideas in relation to the research aims. Here, author two critically assessed author one's generated themes, offering alternative explanations, and encouraged them to review the coded data as analysis progressed to ensure themes continued to make sense. For example, behaviours linked to one's ability to recover after negative events were grouped under the descriptive theme *positive body language*. Fourth, the same authors reviewed each theme to ensure each made sense in relation to the research aims. Fifth, authors one and two created an accurate definition for each theme that linked back to the raw data (Braun & Clarke). Finally, authors three and four (PhD supervisors) acted as critical friends to clarify the conceptual distinction of each theme and its relevance. The critical friend approach facilitated debate between

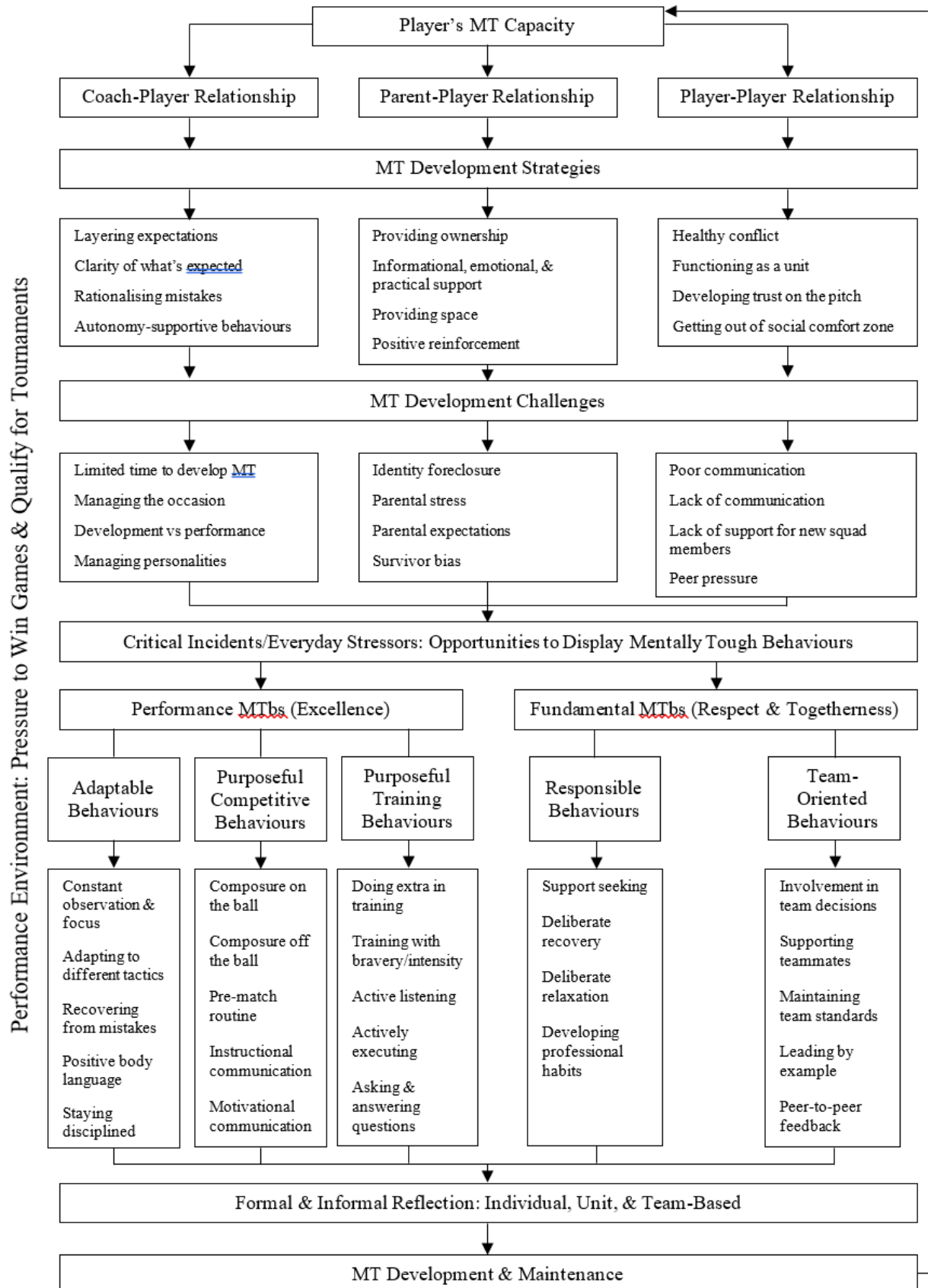
authors regarding the presentation of themes and the underpinning theoretical frameworks and biases that impacted data interpretation (Smith & McGannon, 2018).

Results

Constructed through analysis of our findings, Figure 1 outlines a process for MT development in international youth football. Specifically, a player's MT capacity is developed via relationships between players and key personnel (e.g., player-coach) across competitive, training, and developmental contexts. Within these contexts, there are also challenges that may hinder MT development (e.g., time-limited environment). As players learn to develop MT within these contexts, they encounter opportunities to display this capacity via *performance* and *fundamental* MTbs on and off the pitch. Finally, players must reflect upon their display (or lack of display) of MTbs to further develop and maintain their MT capacity over time. Aligned with the structure of our MT development model in Figure 1, the results are divided into three sections: (1) *how* MT capacity is developed via relationships, and MT development challenges (see *MT Development Strategies* and *MT Development Challenges* sections in Figure 1); (2) *when* players can display MTbs on and off the pitch and *what* MTbs players display to develop MT in international youth football (see *Opportunities to Display MTbs* section in Figure 1); and (3) *how* MT is developed and maintained over time via reflection and learning (see *Formal and Informal Reflection* section of Figure 1). We acknowledge that while the MT development process is presented in a linear format in Figure 1, MT is developed through an ongoing transaction between the individual and their environment, across contexts and over time (Anthony et al., 2016). Due to their collaboration in supporting players on the international development pathway, coach and support staff insights into MT development are combined in the results section. Further, all themes are supplemented with direct quotes from participants to give the reader insight into each population's lived experiences of MT development.

Figure 1.

Mental Toughness Development Process



Player-Coach Relationship

The player-coach relationship was considered essential in supporting players' MT development via MTBs. Specifically, coaches talked about how they clarified and reinforced context specific MTBs on and off the pitch, to aid players in learning to display these MTBs on a regular basis and improve performance consistency. Participants identified a range of MT development strategies associated with the player-coach relationship that were categorised into four main themes: *layering expectations*; *clarity of what's expected*; *rationalising mistakes*; and *autonomy-supportive behaviours*. Participants also discussed four main challenges to implementing such strategies: *limited time to develop MT*; *managing the occasion*; *development versus performance*; and *managing personalities*. When players first transition into international football at the approximate age of 15, coaches spoke about the need to *layer expectations*. Coaches reported implementing a developmental philosophy, where players are afforded time to foster relationships with coaches and become comfortable with the international football environment, prior to entering the results-orientated culture of competitive international football: "When players arrive at under 15s, they don't have to be mentally tough, you must layer expectations. Let them get a couple of years international experience ... then when they compete in European qualifiers, they can manage that better" (Coach 1). Coaches and staff highlighted how, when players failed to develop this environmental comfort, they were unable to *manage the occasion* when trying to win competitive games and qualify for tournaments. This was especially true for players transitioning from lower-level clubs, where they had not been exposed to the technical, physical, and mental demands of international football, and so failed to perform under pressure: "Our players are not exposed to consistently high-level competition at club level, particularly playing three games in 10 days (Support Staff 3)." Players also cited struggles making the transition from a *development to performance* environment and trying to qualify

for tournaments. When performing under pressure to win, players spoke about feeling isolated and struggling with the personal ramifications of failing: “Mentally, international football is a lot more challenging, especially qualifiers because you think, ‘If I make a mistake and we’re out, that’s my fault’” (Player 7).

Coaches emphasised the importance of *rationalising mistakes* when developing the MT required to cope with international football demands:

I don’t mind players making mistakes, as long as they’re trying to do the right thing.

If we’re going to produce players that make it to the senior team, they’re going to end up making mistakes at 15 or 16 and we’ve got to support them through that (Coach 3).

Becoming comfortable with making mistakes was also highlighted by the players:

“You have to be mentally strong enough to fail, knowing it is going to be supported by the coaching staff” (Player 5). Such coach support was provided through *autonomy-supportive behaviours*, where coaches empowered each player to “take full responsibility for their behaviours on the pitch” (Coach 2) and provided players with input into shaping the international environment: “You need to give players a tactical plan, but then allow them to challenge that plan if required, individually or through a leadership group” (Coach 4).

However, given the *limited time to develop MT* and the need to *manage different personalities* in the squad, coaches often resorted to more direct means of MT development: “In a club environment, I would wait for the players to come to me for feedback, but I don’t think we’ve got time for that on our camps. We’ve got to give them feedback and have those conversations” (Coach 1). Due to the limited time available in international football, it was important during these feedback sessions for coaches to provide *clarity of what’s expected* from players to account for players of different learning abilities and coming from different playing levels: “We have a clear process the players are used to, ‘reflect on the last game,

what's the next one? What do the opposition do? What do we need to do? Let's go out and train that" (Support Staff 2).

Player-Parent Relationship

Given international camps only occur four to five times per year, a player's home environment and relationship with their parents was also considered important for MT development. Participants highlighted several MT development strategies parents implement to support their children, including: *providing ownership; informational, emotional, and tangible support; providing space; and positive reinforcement*. Participants also mentioned four challenges that impacted these strategies effectiveness: *identity foreclosure; parental stress; parental expectations; and survivor bias*. Parents emphasised the importance of *giving ownership* to their child over their MT development for international football. For example, parents encouraged their children to form a greater self-awareness of their own performances via Socratic questioning: "As a parent, it's important to ask questions like 'how do you think that went?' or 'why did you do that?' rather than 'go do this' or 'go do that'" (Parent 1). This led to an informal conversation about the performance, with parents providing *informational support*: "I think it's important for them [child] to be able to talk the game through with someone and put challenges in place to improve" (Parent 2). Participants reported that these challenges often involved working on specific aspects of players' performance at home, with parents providing *tangible support* to help their child develop a skill that could be recreated under pressure: "My son's right-footed, so to improve his left foot, he'll go out to the park with my husband and practice" (Parent 4). However, the sacrifices parents made to support their children to play international football often brought high levels of *parental expectations*: "A lot of the time it's ferrying them around the country, paying to stay overnight. They need to do well to make it worthwhile" (Parent 3). Further, *informational* and *tangible support* were often provided by international coaches, with parents' primary roles involving

emotional support: “I think sometimes your child just wants to talk at you. They don’t want your feedback; they just want you to listen” (Parent 1). Players spoke about how, as they progressed through the international pathway, they relied on their parents to “focus my mind elsewhere after a bad game” (Player 7), meaning parents had to learn to *provide space* and adopt a diminished role in their development:

It’s about knowing your child and giving them that space, knowing they are reflecting themselves. The car shouldn’t always be the place for post-match analysis, because otherwise they [player] associate the car with ‘oh my god, Dad is gonna give me the third degree.’ If you try push support on them, you’ll be met with a wall (Parent 3).

However, parents often struggled to balance this new role with the stress they felt regarding their child’s career pursuits. Specifically, parents expressed their concerns over the *survivor biased* nature of youth football, where MT is not a psychological skill that is taught but perceived as something that is naturally developed by those who adapt to the system: “I just don’t think they’re [child] equipped with how to handle failure. They sort of learn MT by hook or by crook” (Parent 6). Further, by committing early to pursuing a career in football, parents believed their children risked suffering a form of *identity foreclosure*, with their ability to manage demands and perform under pressure suffering as a result: “At 15 it’s hard to know what they [child] want to achieve. He knows he needs to get qualifications, but he’s so focused on playing professional football that it’s hard to balance his priorities” (Parent 5).

Player-Player Relationship

Forging relationships with teammates on and off the pitch was reported as essential for players to develop the MT required to execute their tactical role in a novel environment (e.g., playing against an international team for the first time) under pressure. Participants discussed four main MT development strategies associated with the player-player relationship: *healthy conflict*; *functioning as a unit*; *developing trust on the pitch*; and *getting*

out of your social comfort zone. Challenges linked to the player-player relationship that may affect MT development were: *poor communication*; *lack of support for new squad members*; and *peer pressure*. Due to the changing nature of international squads, international camps typically focused on team-based sessions, with players learning how to *function as a unit* (e.g., defenders, midfielders): “International training is team and tactics-based. For example, one session involved attacking and defending set pieces. We had to get the right images in our head [of how to play as a team] before going out on the pitch” (Player 6). The purpose of these sessions was for players to *develop trust on the pitch* in those playing around them:

We’d usually work in units, which helps you build those relationships with other players you might not have played with before. You get to know your teammates by talking to them and training with them more. That really reflects in how we work on the pitch then as well (Player 4).

In developing this on-pitch trust, *healthy conflict* was also encouraged where coaches asked players to “have the confidence to feedback to each other” (Coach 1) about their performances to enhance MT. It was important, however, that players framed this healthy conflict in a constructive manner, rather than engage in *poor communication*, which may be detrimental to both an individual’s capacity to perform consistently and team functioning: “If I make a mistake and somebody just says, ‘Oh, you should’ve done this’ straight away, I just think ‘Shut up, ye I know’” (Player 4). As such, while MTbs are displayed individually, players acknowledged that developing the capacity to perform under pressure required them to rely on the MTbs of the players around them as well. Trust between players was also developed off the pitch, where players were encouraged to *get out of their social comfort zone*, through “sharing their experiences from their different football clubs” (Coach 2), rooming with different teammates: “Being in rooms on international duty, that’s when you talk and get to know a person and form friendships” (Player 7), and engaging in social

activities: “In the evenings we put on events, quizzes, games and so on, to get some bonding and camaraderie going” (Support Staff 1). Players emphasised the importance of being authentic in developing these relationships rather than succumbing to *peer pressure* on international duty. Being authentic in these new relationships allowed players to focus on enhancing their own capacity to perform consistently: “I used to be a sheep [on international camps] and do things I didn’t want to, like stay up to 3am. Off the pitch it’s about not messing about, doing the right things, showing the coach you’re the better player” (Player 7). Players reported transferring the strong relationships and team ethos formed off the pitch into their performances under pressure in competition: “Playing with a stranger is much more uncomfortable than playing with a mate” (Player 2).

Opportunities to Display Mentally Tough Behaviours

As players interacted with key personnel within and outside international football, developed relationships, and acquired MT, they encountered opportunities to display MTBs across competitive, training, and developmental contexts. Importantly, behaviours identified in this study were characterised as MTBs because they were verbal or physical acts that allowed players to engage their capacity to produce consistently high performances in critical moments where they encountered the stimulus of pressure (Anthony et al., 2018). This capacity to focus on one’s decision-making process and produce the correct action under pressure, distinguishes these MTBs from regular behaviours. In international football, these task-oriented endeavours centred around performing at a consistently high level under pressure in competition (e.g., recovering from mistakes; performance MTBs), learning the behaviours necessary to perform at a reliably high level in training (e.g., asking questions; performance MTBs), and regularly displaying professional behaviour off the pitch to maximise one’s chances of successful performance under pressure (e.g., deliberate recovery; fundamental MTBs).

Mentally Tough Behaviours

Performance MTBs

In competition and training, participants reported that players encountered opportunities to display and test *performance MTBs*, which were classified as any observable actions a player displays on the pitch that indicates their intense desire to continuously improve. Performance MTBs included *being adaptable*, *training with purpose*, and *competing with purpose*. Football is a dynamic sport and consequently participating players emphasised the importance of *being adaptable*. Players discussed the need to constantly observe the game, anticipate all potential scenarios and avoid mistakes: “You’ve always got to stay focused on the game, you can’t just watch it; see where your man is, where the ball is, and position yourself right” (Player 4). However, players also acknowledged it was important to recover quickly when errors happened: “If you make a mistake or lose the ball, you’ve got to get back into position and do your next job” (Player 5). Further, coaches and players emphasised the importance of players displaying positive body language after an error, with some individuals implementing a refocusing routine to recover quickly: “You’ve got to have something, whether it be clapping your hands or hitting your head, that helps you shake off the mistake and play on as if nothing happened” (Player 7) and to show their courage to try again: “If they [player] make a mistake in front of their goal, have they got the bravery to ask for the ball in the same place the next time?” (Coach 2). Staying disciplined during difficult moments was another key MTb discussed by staff, with players needing to remain calm under pressure and not get distracted by external factors: “If they’ve [player] missed a chance, not moaning about it, but jumping back up. If they’re being constantly fouled, not moaning to the referee, or getting despondent” (Support Staff 2).

Players, coaches, and support staff all indicated that players’ ability to remain composed on and off the ball was essential in helping them to *compete purposefully*.

Specifically, coaches discussed how players who exhibited MT possessed a clarity of mind when displaying their technical ability under pressure: “If you can’t deal with the ball in tough situations [getting tackled by the opposition] consistently and act decisively, you won’t play much for this country” (Coach 1). Players broke this technical process down into key steps, which they could reproduce in various pressure situations: “Check my shoulder, see where my opponent is, take my first touch away from them, ready to play the next pass or turn, because if you’re not concentrating and have a poor first touch, you might lose the ball” (Player 5). Off the ball, players highlighted the importance of displaying composure to create the space necessary to receive a pass and help a teammate under pressure: “Not everything good you do is with the ball. Your movement can drag a player away for someone else to score... You need to be constantly affecting the game” (Player 3). Players mentioned how, to be constantly effective and maximise the chance of goal achievement, they needed to observe the game and position themselves appropriately both individually and collectively. This required clear instructional communication: “If I say, ‘Get tighter!’ to my midfielder and he does, then the opponent doesn’t turn, doesn’t run at me, and we prevent a chance. It’s about making sure your whole team is organised” (Player 5). This communication needed to be motivating, and account for the individual: “Some of my teammates, if they make a mistake just want to be told ‘Sort it out’, whereas others want to be encouraged, rather than told what they did wrong” (Player 4) and the situation: “Whether we’re winning or losing 5-0, we need to keep communicating effectively and working as a unit” (Player 3). Therefore, according to the players, and aligned with our earlier findings regarding MT development strategies, effective communication relied on the development of trusting relationships between teammates: “I trust my fellow defenders... Pre-match, we usually have a conversation about what I want from them, and I tell them that I know they can do it” (Player 4).

Players' capacity to compete with purpose in matches was reported by players and coaches to be developed through *training with purpose* during international camps. Here, players explained how they engaged in short, sharp tactical sessions with coaches, where engaging in meaningful discussion and asking questions were encouraged based on a strong working relationship: "It's important for players to be confident to ask questions, otherwise it's pointless just having information thrown at you" (Player 4). Players detailed how they were tested by coaches on their capacity to execute instructions on the training pitch:

It's important to listen to the coaches [before training], have those mental images going onto the pitch, and have the mental strength to implement those instructions repeatedly with intent and effort. It would be interesting if the coaches didn't provide any instructions on the pitch, to find out who has or hasn't listened. (Player 6).

Players also highlighted how training provided an opportunity for them to practise new behaviours and push themselves to the edge of their comfort zone: "Training is for taking risks and practising things, like kicking the ball with a side volley, so I can do it without thinking in a game" (Player 7). Players stated that often, they stayed behind after training to develop these behaviours further and ensure they could reproduce them consistently under pressure in matches: "Me and a coach practised crossing one-to-one after a session... If you've practised it 100 times, then you feel confident when you get that one chance in a game" (Player 6).

Fundamental MTbs

In development scenarios, players encountered opportunities to display *fundamental MTbs*; which were classified as any observable actions an individual displays to improve their ability to learn efficiently and think rationally. These MTbs included *being responsible* (e.g., deliberate recovery) and *being team oriented*. Players used their fundamental MTbs to help develop their performance MTbs on the pitch. For example, players spoke about *being*

responsible through developing professional habits at camp to help them recover between games: “Recovery is very important – stretching, getting an ice bath, stuff like that. If you’ve got two games in three days, you’ve got to be fully energised” (Player 7). Players detailed having to balance being performance-focused and the ability to switch off at camp, but also demonstrate a maturity in how they spent their downtime: “The more focused players take a nap or just chill out. You don’t want to mess about in the hotel, twist your ankle and be out for the rest of camp” (Player 6). Coaches viewed the professional habits players displayed as essential in progressing through the international pathway: “If you do cut corners in what you eat, the way you sleep, you won’t get away with it at international level” (Coach 3). Coaches also emphasised players seeking out support as a clear sign of professionalism and desire to continuously improve themselves: “If you’re not sure, be brave enough to ask for clarity. That can be quite difficult for young players to do” (Coach 4).

For coaches and players, taking responsibility for their own development also demonstrated how *team-orientated* a player was, and their willingness to improve themselves, and those around them, for the good of the team. Players and support staff discussed the important role of the experienced players in the international squad, who were typically looked upon to maintain team standards and rules from camp to camp: “We have a set of rules within camp – punctuality, forgetting training gear – and whoever breaks these rules gets a punishment, such as clearing their table” (Player 3). These experienced players acted as “a link between coaches and players” (Support Staff 4), encouraging players to engage fully in sessions and forming a leadership group to discuss any in-camp issues with coaches. Support staff stressed the importance of teammates supporting each other on and off the pitch throughout the camp, deemphasising competing for a starting spot and instead focusing on creating a family environment, where everyone pushed each other to reach optimal performance levels: “If a player is not starting, are they supporting the rest of the

team in training? Are they providing the starting players with the realistic challenges they are going to face or are they just moaning and thinking of themselves?” (Support Staff 6).

Mental Toughness Maintenance

Encountering and coping with stressors were important factors in the development of MT in international football. All participant cohorts acknowledged that reflecting on these experiences reinforced and maintained players’ MT. According to the international coaches, reflective practice is a strategy for understanding and enhancing performance that was implemented on an *individual, unit-based, and team level*, and was adaptable to the time demands of international football. On an individual level, coaches would often sit down with players to discuss their performance. The coaches detailed how their role was to help players understand *why* they made a mistake, and to learn the reflection process rather than simply reflect on individual mistakes: “Players at youth level make mistakes, but it’s about understanding why, and how they learn that reflection process through analysis” (Coach 1). Coaches positively reinforced this reflection process through emphasising it was ok to make mistakes and “reaffirming they are good players” (Coach 1). Players discussed how working with international coaches helped foster the autonomy and capacity to think for themselves about their performances under pressure: “I’d watch the game back and think, ‘Why do I keep making those mistakes? What could I do differently?’” (Player 4). Coaches and staff also demonstrated these autonomy-supportive behaviours in unit-based reflections, where players were divided into small groups, usually position-based, to review training sessions or game clips and encouraged to share perceptions of their performances: “When we review training, we get the players to give their view first, to see if they have the solution in their head” (Support Staff 6). Unit-based reflection catered to different personalities within the squad and empowered quieter players to speak up: “Unit reflection allows you to express yourself and ask more questions if you’re not as confident as other players” (Player 5). These

unit-based reflections would often link into larger team-based meetings, where players mentioned being asked to “reflect on scenarios in groups, then come together to feedback the points we discussed” (Player 3). Here, coaches emphasised a focus on “effort and tactical application as a group” (Coach 2), rather than singling out individual players in front of a group. This was to maintain trusting relationships and reinforce the family-oriented environment they were trying to create.

Discussion

MT development programmes have previously been created based on the MTBs identified as essential within specific sporting contexts (e.g., Anthony et al., 2018). However, little shared understanding exists of how MTBs contribute to MT development (Anthony et al., 2020). To address this gap, we conceptualised the MT development process in an international youth football setting and explored how MTBs are reinforced through various processes (e.g., relationships) and contexts (e.g., training versus home environment). Through multiple stakeholder interviews, we suggest MT development consists of players transacting with individuals and their environment, appraising the stressors they face (e.g., transitioning to a new organisational culture), attempting to display MTBs to cope with these stressors to support consistently high performance, and reflecting on these experiences to enhance their MT capacity when faced with future adversities. Thus, MT development is aligned with the cognitive-motivational-relational theory of stress and emotion (CMRT; Lazarus, 1999). Based on our findings, to develop MT, athlete’s coping strategies involve consistently displaying specific MTBs (e.g., fundamental MTBs) thus taking agentic action over their development across performance contexts. Further, while environmental demands and personal characteristics combine to influence how players behave in stressful situations, how they learn from these responses, through the processes of reflection and adaptation of

underlying cognitions, affects their environmental conditions, MT development, and future MTBs (Anthony et al., 2016).

All MT development strategies outlined in our study relied upon relationships players had with key individuals in their support network, including coaches, parents, and teammates. Relationships were the vehicle through which athletes learned to cope with stressors in their environment, displaying MTBs, and developing the MT to perform under pressure (Lazarus, 1999). In international football, the highly cohesive relationship between the coach and athlete is evidenced through mutual respect, trust, and clear, honest communication, leading to successful performance (Davis et al., 2019). These qualities were evident within the coach-player relationships in the current study, where international coaches' assisted players to develop their ability to perform consistently under pressure through re-appraising these pressures as challenges. Coaches outlined a structured learning process all players undergo to develop MT on the international development pathway, and the MTBs players need to display (e.g., quick recovery from mistakes) to navigate this pathway successfully. Where possible, coaches used autonomy-supportive behaviours to foster each player's sense of control, and subsequently their motivation over their own learning and MT development (Carroll & Allen, 2021). However, due to the time-limited nature of international football, coaches acknowledged they often needed to display controlling behaviours to get their message across quickly. Such insights highlight the need for practitioners to be flexible when working in the time poor, solution-focused environments of high-level sport, and to accommodate these contextual needs when developing MT interventions to ensure stakeholder buy-in (Eubank et al., 2017). For example, when creating a punishment-based MT development programme in the time-limited context of international youth cricket, Bell et al. (2013) highlighted how a high challenge-high support framework was required to adequately prepare players to perform under pressure. Within this framework, players were challenged during high-

pressure training days, where they received a punishment for not matching performance expectations (e.g., cleaning the changing rooms). Alongside this, players had relaxed training days, where they were provided with opportunities to engage in workshops and received coach feedback regarding their ongoing performance. Coaches adopted a transformational leadership style during these camps, imbuing players with a clear vision of the actions they needed to take to perform to a consistently high level. As such, Bell et al. demonstrated how MT can be developed in a limited timeframe, through challenging players to perform to a consistently high level under pressure and supporting players to reach this consistently high level through delivery of a clear, context-specific vision.

Bell et al.'s (2013) high-challenge-high support framework typifies a shift from the individualistic approach to MT development, where onus was placed on the performer to withstand pressure (e.g., Jones et al., 2002). To expand, pursuit of consistently high performance under pressure is not solely driven by what the individual perceives as valuable, but by what their cultural context perceives as valuable (Anthony et al., 2018). However, cultural influences on psychosocial development have led to conceptual issues within the MT literature, where environments in which MT is viewed as an integral part of high performance have often conceptualised the construct in unrealistic and stereotypically masculine terms, including playing through injuries, sacrificing one's identity for the team, and hiding vulnerabilities (Coulter et al., 2016). Critics of this conceptualisation have argued that to develop the ideal mentally tough athlete requires engagement in unethical coaching practices, including bullying and threatening deselection for lack of conformity, leading to long-term mental health issues (Bauman, 2016). In our study, however, all MT development strategies were underpinned by an autonomy-supportive coaching climate, with players and staff working to create an environment where individuals held each other accountable for their actions, and players are encouraged to seek guidance to develop their MT. Therefore, MT

development entailed a relational, multidimensional process contingent on a range of intra-individual (i.e., MTbs, MT cognitions), inter-individual (i.e., relationships), organisational (i.e., adapting to a time poor environment) and cultural factors (i.e., adopting organisational values and beliefs).

Parents of international players also discussed the importance of autonomy-supportive behaviours and providing their child space to reflect after international matches. For example, parents reported when they discussed performances with their children, the most meaningful conversations occurred when they asked open-ended rather than closed questions (e.g., what did you think of your performance today?). Similarly, Thrower et al. (2022) recorded parent and child's pre-tennis tournament car conversations and found parents who asked open questions engaged in more constructive dialogue as they allowed their child to dictate the discussion. Such questions allow children to process their performances and develop self-knowledge regarding their ability to perform under pressure (Holt et al., 2021). A parent's role within their child's psychosocial development, however, gradually becomes secondary across talent development contexts (Amorose, 2016). This shift is due to the athlete moving from early years of engagement, where the focus is enjoyment, to the intermediate years, where the athlete becomes more reliant on their coach's knowledge to develop resources (e.g., MT) to control their performance-related behaviours when experiencing strain (Connaughton et al., 2010).

Adopting a peripheral role within their child's MT development was a major stressor for numerous parents in our study, as they grew concerned with their child's over-investment in their football career to the detriment of their wider social development and were often kept out of the loop by international coaches concerning their child's in-camp performances. This finding aligns with previous research in academy (youth) football, where parents reported struggling to balance supporting their child's pursuit of a football career with protecting their

child from the likely detrimental consequences of failure and felt ignored by coaches concerning their child's psychosocial development (Harwood et al., 2019). If not properly managed, the strain parents experience from the uncertainty regarding their child's international football development could detrimentally affect their child's perception of the international football environment and capacity to display the MTbs required to perform in this environment (Lazarus, 1999). Consequently, parents must learn to adapt their behaviours to their child's current emotional needs, knowing when to provide positive reinforcement or engage in healthy conflict regarding their child's performances and MT development (Thrower et al., 2022).

The notion of healthy conflict was a key MT development strategy in player-player relationships too. Specifically, during performance review sessions players were often divided into smaller groups, provided with video clips highlighting positive and negative aspects of their performance, and encouraged to feedback to each other in an honest and constructive manner. These conversations often led to differing perceptions and disagreements between players within groups and required players to work together towards a mutual understanding. Collins et al. (2015) highlighted how a team's ability to enter this *zone of uncomfortable debate* can assist in navigating the uncertainty of high-performance sport, including overcoming injuries and adapting tactics against different opposition. Given MT in international youth football involves one's capacity to persist towards consistently high levels of performance in the face of varying levels of stressors (Gucciardi et al., 2015), the ability of athletes to embrace failures and engage in healthy conflict seem fundamental to MT development. Acceptance and willingness to learn from teammates in a performance context relies on players fostering a sense of relatedness, through the creation of trusting friendships (Ryan & Deci, 2020). Mutually caring relationships between teammates can assist athletes in managing the stressors associated with high performance sport through promoting a

collaborative approach within a performance context and allowing athletes to unwind and relax away from the performance arena (Burns et al., 2019). The quality and quantity of relationships between teammates also contributes to a stronger sense of team social identity and collective efficacy (Shah et al., 2022). Our study highlights how relatedness can create an environment where players are willing to be vulnerable and honest, reframing stressors associated with international football (e.g., playing talented opposition) as a challenge and supporting each other in developing the MTBs required to consistently cope.

Previous MTb investigations have focused solely on coaches' perceptions of the MTBs athletes require to perform consistently under pressure (e.g., Anthony et al., 2020; Madrigal, 2020) or on coaches' assessments of MTb development (e.g., Beattie et al., 2019; Bell et al., 2013). By contrast, our study also explored the lived experiences of athletes and what they perceived MTb to look like, in- and outside of the performance environment. We found that players played an agentic role in their own MT development, choosing MTBs that allowed them to adapt to the varying levels of stressors they faced, but also behaving purposively, in line with their overarching goal of consistently high performance. Further, players acted responsibly off the pitch, developing the professional habits required to perform consistently under pressure on the pitch and supporting teammates to develop similar habits. Such findings extend previous research that certain athletes develop self-regulated MTBs in training, which then equip them to handle pressures of competition more consistently (Beattie et al., 2019). Our findings also build on the idea that MT is not about the characteristics one possesses, but about one's capacity to utilise their characteristics to consistently display MTBs to cope with stressors faced within their wider environment (Coulter et al., 2018). Additionally, how individuals cope, or fail to cope, using MTBs can also affect environmental conditions, personal resources, and future reactions (Lazarus, 1999). Consequently, resources such as MT are developed and maintained through reflecting on experiences and the MTBs

deployed across situations over time (Anthony et al., 2016). Specifically, individuals must reflect on the experience itself (what happened?), the wider meaning of the experience in relation to their goal of consistent high performance (so what does this mean?), and the MTbs they must display when encountering a similar experience in the future to develop or maintain MT (now what do I need to do?; Driscoll, 1994).

Engaging in reflective practice has been highlighted as a key factor in helping athlete's develop self-efficacy, interpreting competitive anxiety as facilitative, and enhancing the goal setting procedures of teams (e.g., Neil et al., 2013). Reflective practice has also been identified as essential in MT's development and maintenance (Bell et al., 2013; Connaughton et al., 2010). However, there is a lack of research highlighting *how* reflective practice impacts an individual's MT development. To fill this gap, our current study outlined how coaches taught players the reflection process, helping players make sense of their experiences and take action to improve. Coaches also learned how each player perceived the game; their understanding of tactical language and their perceptions of their own performances. The importance of engaging in reflective practice to develop players' understanding of a particular skill and ability to decisively execute that skill under competitive pressure has been well-documented (e.g., Richards et al., 2012; Koh et al., 2018). Further, team reflections on the development of psychological constructs such as MT can lead to the creation of shared mental models (Pierce et al., 2016), where players and coaches form a collaborative understanding of what MT looks like within their context. Similarly, in our study, coaches used the process of reflective practice to solidify players' on-pitch learning and contribute to a creating a common language regarding what MT looked like (e.g., training with intensity). Researchers have previously been disconnected in this regard, outlining the importance of an athlete's support network but failing to link these relationships in a coherent manner, with a clear blueprint for how MT should be developed through relationships and rationalising one's

decision-making process (e.g., Anthony et al., 2018; Beattie et al., 2019). By contrast, with a foundational awareness of MT, players in our study could develop the clarity of mind to know what MTbs they needed in critical moments and learn to execute these behaviours consistently.

Implications for Practice

Through this study, a shared understanding has been created of the MT development process within a UEFA National Football Association. Based on our findings, we advocate for a systems-led approach to support the development of a psychologically informed environment, where psychological concepts such as MT are understood and implemented by all stakeholders operating within the Association (cf. Wagstaff & Quartiroli, 2023). In this regard, creating a psychologically informed environment would involve the education of all staff within the organisation regarding what MT is and the importance of displaying autonomy-supportive behaviours to support athletes' MT development. Implementing our MT development framework would also contribute to creating an environment in which players feel comfortable when experiencing adversity and seek the support of coaches and significant others regarding both performance and personal issues, leading to an image of MT that includes embracing vulnerability (Eubank et al., 2017). Therefore, MT development can be viewed as a complex and long-term process, requiring the holistic support of a multidisciplinary team to create contextualised training programmes to facilitate consistent high performance under pressure.

During international camps, coaches could implement the MT development strategies outlined in Figure 1, with a sport psychologist observing and *nudging* coach behaviours, as well as checking and challenging coaches regarding the psychological outcomes of on-pitch training and off-pitch review sessions. Through this process, coaches would learn to consistently recognise MTbs in critical moments in training and competition and reinforce the

display of these MTbs in players. Players could attend workshops highlighting the importance of displaying context specific MTbs to perform consistently under pressure. Within these workshops, players could be shown videos of other players from across different international age groups displaying the required MTbs in training (e.g., active listening) and competition (e.g., constant observation). Coaches would also have a key role to play here, through role modelling MTbs (e.g., staying calm during matches) and assisting players to develop a rational decision-making process for the display of MTbs under pressure. Given the extensive time youth players spend interacting with and learning from their parents, relative to time spent in an international football environment, it is also important to educate parents on what MT is and the fundamental role they play in developing their child's MT at home. Further, parents should be provided with potential MT development strategies to implement, such as engaging in healthy conflict when needed to support their child's holistic development. Implementing these recommendations within international football settings would make a significant contribution towards creating a shared understanding of how MTbs can be reinforced, and how MT can be developed through various processes and contexts over time.

Summary, Limitations, and Future Directions

From a MT development perspective, it is evident that athletes rely on a complex, interactive social network to develop the capacity to cope and consistently perform under pressure, with individual roles and relationships in this network varying across contexts and time (Bronfenbrenner & Morris, 2006; Lazarus, 1999). Consequently, MT development is relational and multidimensional, relying on the creation of shared mental models regarding the MT development process (Gucciardi et al., 2020). Moreover, the notion that an individual's MT capacity is developed through their transactions with stressors dovetails with the development process of similar psychological resources, such as resilience (cf. Sarkar &

Page, 2022). By providing a thorough outline of the MT development process and the strategies required for players to both initiate and maintain their MT development via MTBs, we have provided a shared mental model for *who* should be developing MT (athletes, coaches, staff, parents), *when* and *where* MT should be developed (e.g., off the pitch in individual or team meetings), *what* should be developed (e.g., performance MTBs) and *how* MT should be developed through the environment (e.g., autonomy support, open communication). Nevertheless, our findings fall short of understanding how an individual uses reflective practice to make sense of their own developmental journey and the role MT plays within that journey (Coulter et al. 2018; Clark et al., 2022). For example, understanding an athlete's capacity to persist and remain motivated under varying levels of strain (i.e., their MT), the strategies required to foster this persistence, and the behaviours they might exhibit during this persistence (i.e., MTBs) fails to explain why they seek this persistence in the first place (cf. Coulter et al., 2016). However, the major aim of our study was to investigate and map out the relational process of MT development within a National Football Association. In so doing, we have answered recent calls in the literature to ascertain the MT development strategies athletes require to develop the MTBs necessary to perform under pressure (Anthony et al., 2020; Gucciardi et al., 2020).

The majority of MT literature has been situated within one layer of personality, trait-based dispositions, and examined this 'thing' called MT with little regard for how an individual develops MT within different contexts (e.g., Jones et al., 2002). Our research expanded this narrow focus, through investigating MT as a characteristic adaptation; namely, how international footballers developed their underlying MT through relationships across different contexts, learning and adapting their MTBs where relevant. Therefore, researchers building on our findings are encouraged to move beyond the MT characteristics and MTBs athletes possess or develop through environmental interaction, and to instead explore

athlete's narrative identity regarding MT (Coulter et al., 2018). This idiographic approach to MT development would signify a shift away from the traditional nomothetic focus of MT research, and allow researchers to make sense of an athlete's goals, values, and beliefs in driving their desire to develop MT. Further, individuals' narratives in developing MT could be used to map out the transactional pathways of the stressors they experience on their developmental journeys, and make greater sense of their appraisal mechanisms, (i.e., relational meaning), their perceptions of their capacity to cope (i.e., MT) and the coping strategies they deploy (Lazarus, 1999). Finally, in the current study a clear MT development framework for international youth football was outlined, illustrating *what* MTbs are required by players in training, competitive, and developmental contexts, and *how* MT can be developed by players, coaches, and parents. Therefore, future research should focus on how this framework could be implemented in practice. Namely, *when* and *where* coaches could implement the outlined MT development strategies to clarify and reinforce MTbs for players, within international training camps (i.e., on-pitch training, off-pitch review sessions) and across age groups. Conducting such applied research will help to inform practice through highlighting how mechanisms for development of psychological resources, such as MT, can be integrated alongside technical, tactical, and physical development strategies.

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CHAPTER 6

STUDY THREE

*“What can you see? What can you hear?” The
implementation of a behaviour-based mental
toughness framework within international youth
football*

Abstract

Through an applied intervention, this study explored how *mentally tough behaviour* (MTb) displays can lead to MT development. Working with a National Football Association, I adopted the role of practitioner-researcher to implement a behaviour-based MT development framework during a seven-day international camp and support international coaches ($n = 2$) in facilitating youth international footballers' ($n = 22$) MT development. The narrative of this intervention is divided into a first-person account regarding the realities of working as a practitioner-researcher in international youth football, and a third-person account of coaches' and players' perceptions of the intervention's effectiveness. The intervention involved: (1) pre-camp coach education on behaviour-based MT development and pre-camp testing of players' MT using the MT Index; (2) in-camp coach support to implement behaviour-based MT development and personal reflections on intervention delivery; and (3) post-camp social validation interviews to assess coaches' ($n = 2$) and players' ($n = 12$) perceptions of the intervention's impact on MT development, and post-camp testing of players' MT. Coaches' self-efficacy regarding MT development increased after participating in pre-camp coach education sessions due to improved clarity over what MT is and how it can be developed. Further, players' MT levels significantly increased from pre- to post-camp. Coaches highlighted the impact the in-camp phase of the intervention had in supporting them to develop players' MT, through checking and challenging them to frame and reinforce MTbs appropriately. Players attributed their MT development to how coaches clarified, reinforced, and reviewed the MTbs they should display under pressure. It is recommended that practitioners work with sport organisations to create bespoke MT development frameworks that can be integrated within their development processes (e.g., player development, coach education, coaching session planning), with the practitioner having a clearly defined role in implementing this shared understanding of MT development.

Introduction

Until recently, mental toughness (MT) was one of the most well-researched yet conceptually ambiguous constructs within sport psychology. Typifying this conceptual confusion, a variety of MT definitions were created in the early 2000s, rooted in personality theories, such as hardiness (e.g., Clough et al., 2002) and personal construct theory (e.g., Jones et al., 2002). Each definition was accompanied by a list of MT characteristics and measures, reflecting the supposed multidimensional nature of the construct, yet did little to advance understanding of what MT is (see Gucciardi, 2017). Nevertheless, there is an emerging consensus among research groups regarding the conceptualisation of MT. Specifically, MT allows individuals to cope with the variety of stressors they face, and consistently perform towards their optimal level. Drawing on this conceptual overlap, Gucciardi et al. (2015) described the nature of MT and its relationship with associated characteristics (e.g., optimism), coping processes, and outcomes (e.g., behaviours). Defining MT as “a personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (p. 28), Gucciardi et al. clarified the nature of MT within the stress process. Studying individuals within multiple performance contexts, including sport, business, and education, Gucciardi et al. found those who possessed higher MT levels were more adept at appraising stressors in a challenging rather than threatening manner and could strive towards their goals despite these demands (Lazarus, 1999). Gucciardi et al. also argued that the conceptual confusion regarding MT arose from viewing it as a multi-dimensional rather than unidimensional construct. Consequently, they developed an eight-item unidimensional measure of MT – the MT Index (MTI), underpinned by seven key attributes of MT (e.g., context knowledge, optimism) and tested it on a similar sample of individuals within sport, business, education, and the military. Gucciardi et al. found high correlations between MT attributes (e.g., self-

efficacy, success mindset), meaning individuals within these performance contexts did not view MT as a constellation of characteristics but as a single resource that allowed them to cope with situational demands, thus lending support to a unidimensional model of MT. Gucciardi et al.'s MT definition and MTI measure has received increasing support within the MT literature, through broadening the conceptualisation of MT to performance contexts beyond sport, clarifying the relationship between MT and related processes (e.g., stress), and providing a direct measure of MT for use in applied contexts (McKay et al., under review [see Chapter 5]; Piggot et al., 2019).

According to Gucciardi et al.'s (2015) definition, MT comprises the ability to display high levels of subjective or objective performance and allows individuals to adapt to stressors ranging from mild to adverse. Thus, MT development relies on the identification and reinforcement of observable *mentally tough behaviours* (MTBs; Anthony et al., 2020). Typically, MTBs entail verbal or physical acts that allow athletes to engage their capacity to produce consistently high performances when faced with pressure (Anthony et al., 2018). Therefore, coaches and practitioners looking to facilitate the development of players' MT should create MT development programmes where performance staff work collaboratively with players to identify (e.g., educational workshops), clarify (e.g., framing MTBs effectively during pre-training meetings), reinforce (e.g., positive feedback during training), and review MTBs (e.g., watching video clips of players displaying MTBs post-training) both on and off the pitch. Nevertheless, despite the important role MTBs play in helping athletes to develop MT, there is a dearth of research interventions exploring how coaches and athletes can work collaboratively to help players learn the MTBs required to perform consistently despite varying levels of stressors. One exception is Anthony et al. (2018), who identified a clear set of MTBs (e.g., composed performance actions) they sought to develop in AFL players. Specifically, the researchers employed a GROW (goal, reality, options, way forward; see

Anthony et al., 2018) behavioural coaching intervention to increase player's display of MTbs via coaches' practices. The researchers conducted educational workshops, observed coach behaviours in training, and provided advice regarding how to develop players' MT during certain events, including one-to-one meetings and team review sessions (Anthony et al., 2018). The effectiveness of the behavioural coaching programme in increasing players' displays of MTbs was assessed by coaches completing the MT behavioural scale (MTbS; see Anthony et al., 2016) at several time points during the intervention. MTbS scores indicated an initial rise in players' display of MTbs, before decreasing steadily until the end of the season once the intervention was complete.

Anthony et al.'s (2018) work demonstrated high ecological validity through using the coach as the delivery mechanism for MT development. Moreover, by identifying MTbs that could be developed across competitive, training, and development contexts, Anthony et al. provided coaches with a behavioural approach to MT development that allows athletes to *just do* a desired behaviour, regardless of the cognitions involved (cf. Anthony et al., 2018). Focusing on what can be seen, trained, and evaluated is highly valuable for environments such as elite sport, where execution of behaviours is crucial, but time is extremely limited to change underlying cognitions (Gucciardi, 2020). However, Anthony et al. conflated a behaviour-based approach to MT development with behaviourism itself. Traditional behaviourism views the environment as solely responsible in shaping an individual's actions through reinforcement of desired behaviours and punishment of undesirable behaviours to produce certain outcomes (Bandura, 2001). By contrast, a behaviour-based approach to MT development recognises the individual cannot be separated from the context in which their behaviour is occurring. By identifying individuals' observable actions in response to stressors and whether they successfully cope or not, we can gain a better understanding of how behavioural responses, or lack thereof, can affect environmental conditions, development of

personal resources (i.e., MT), and future reactions (Lazarus, 1999). Further, by encouraging athletes to reflect on their decision-making process that leads to MTb selection, coaches and practitioners can increase an athletes' range of coping strategies and coping flexibility across pressure situations (e.g., a football player tackling an opponent versus trying to score a goal; Kent et al., 2021). Thus, one's reflection on and rationalisation of the thought processes behind MTbs are essential to MT development and should be incorporated within MT development programmes.

There is also a need to consider the cultural context in which MT interventions are situated and how this may affect MT development. For example, Anthony et al. (2018) conducted follow-up interviews with AFL coaches participating in their study to understand the decline in players' MTb displays post-intervention. Here, coaches attributed this decrease in players' MTbs to coaches' lack of adherence to the GROW framework employed during the intervention, citing time constraints and a need to filter relevant information from multiple sources (e.g., medical staff, performance analysts). Mahoney et al. (2016) experienced similar adherence issues when seeking to develop elite rowing coaches' autonomy-supportive behaviours to enhance MT development within their rowers, with participating coaches highlighting time pressures as a catalyst for reverting to a more controlling coaching style. As such, there is a need to create MT development interventions that can overcome the issues associated with time poor environments and focus on the identification and display of context specific MTbs. Dealing with these contextual issues requires the creation of practitioner-researcher roles, where the researcher is embedded within the organisation and possesses both the relevant academic and practical experience to reinforce the importance of MT development (Collins et al., 2019; Eubank et al., 2017). These roles would facilitate researchers to bridge the research-practice gap through developing relationships with key stakeholders (e.g., coaches, athletes) and utilising these

relationships to create a common language regarding how MT is viewed and developed, as well as what MTbs are valued by the organisation.

An Account of a Behaviour-Based Approach to MT Development: Narrative Style

The following account is of an applied intervention which involved supporting youth international football coaches to facilitate players' MTb displays and subsequent MT development over the duration of a seven-day international camp. Such an intervention design is highly complex with a multitude of intra-individual (e.g., cognitions), inter-individual (e.g., relationships) and environmental components (e.g., cultural norms) contributing to MT development (McKay et al., under review [see Chapter 5]). To accurately reflect the complexity of intervention delivery, there is a need to distinguish between my individual role and personal perceptions of the intervention's effectiveness in supporting coaches to develop players' MT, and the perceptions of those in the wider environment (i.e., players, coaches). Therefore, the narrative of this study occasionally switches between two distinct styles. A first-person narrative is used initially to setup the study; to discuss previous work I have conducted and relationships I have developed with key stakeholders in the FAWT and detail my role as a practitioner-researcher during the intervention. A first-person narrative is also adopted to reflect on my personal experiences regarding the reality of delivering an applied MT intervention in the time-limited context of international youth football, as well as to discuss the personal tensions of operating as a practitioner-researcher in high-level sport. A third-person narrative is used to discuss the research design, quantitative results, and players' and coaches' perceptions of the interventions' effectiveness, as well as some of the broader implications for individuals attempting to work as practitioner-researchers in time poor, solution-focused sporting environments.

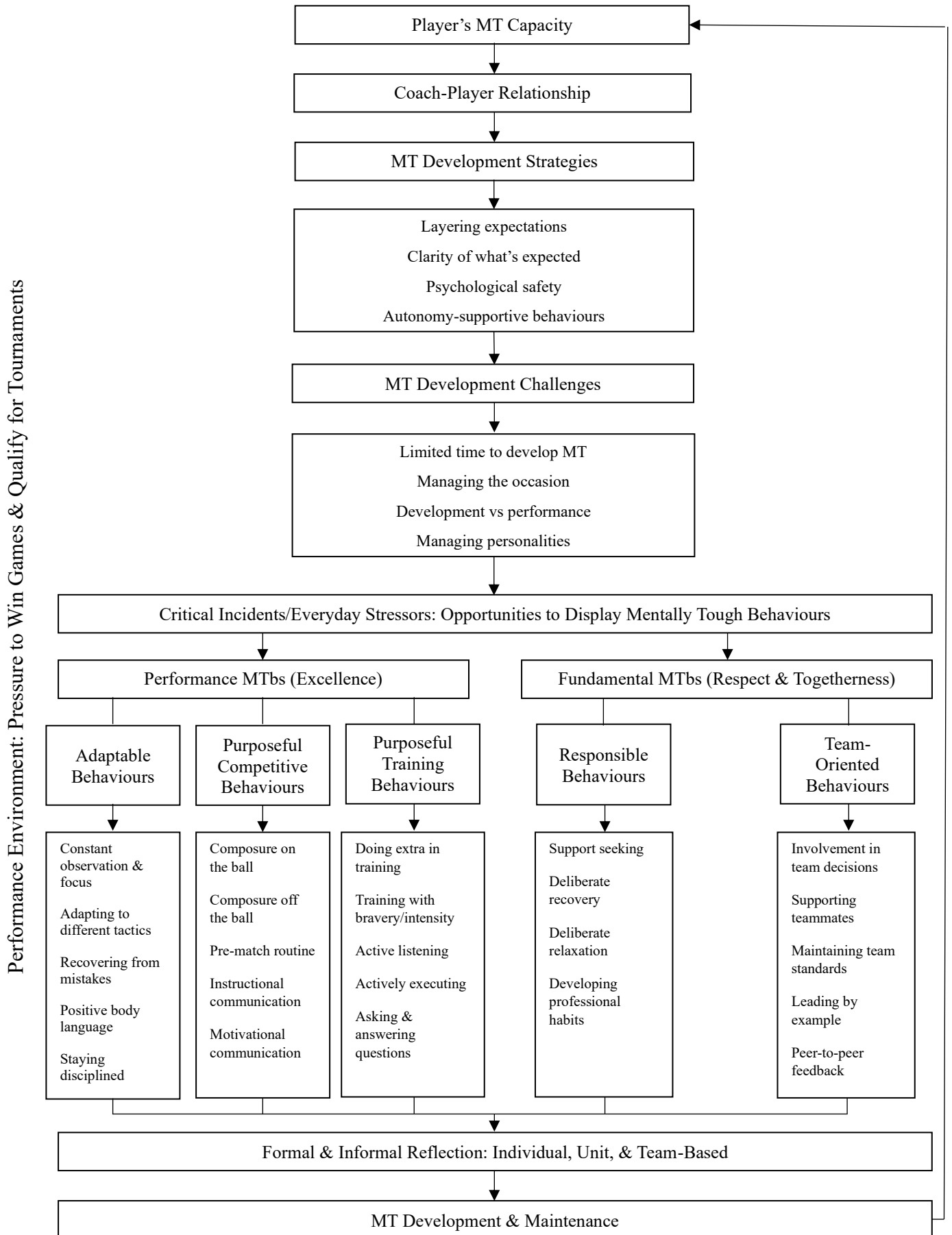
Implementing a Behaviour-Based Approach to MT Development: Intervention

Background

In the current study, I have adopted the practitioner-researcher role as part of a wider research project in collaboration with a UEFA National Football Association, attending multiple training camps, developing relationships with coaches and staff, and delivering workshops to key stakeholders. This research initially involved identifying the major demands players faced when transitioning from club-to-international level, and highlighted MT as a key resource players need to develop to overcome these demands (McKay et al., 2021 [Chapter 2]). I then explored players, coaches, support staff, and parents' perceptions of what MTBs are required by international youth footballers, both on and off the pitch, to develop MT and the capacity to perform under strain on a consistent basis (McKay et al., under review [Chapter 5]). Collecting multiple stakeholder perceptions allowed me to create a behaviour-based MT development framework for the participating National Football Association (see Figure 1). Specifically, I collated a shared understanding for how MT should be developed through specific strategies (e.g., autonomy-supportive coach behaviours), display of performance (e.g., composure on the ball) and fundamental MTBs (e.g., deliberate recovery) in key moments, and reflection on these behavioural displays and associated cognitions (e.g., what were you thinking in this moment?) to reinforce MTBs and enhance players' MT development. This work addresses issues reported in, and expands on, previous research, where MTb conceptualisations were based solely on the perceptions of coaches (Hardy et al., 2014) and researchers (Madrigal, 2020), and where no clear link was provided between the display of MTBs and athlete's MT development (Anthony et al., 2020).

Figure 1.

Coach-Athlete Mental Toughness Development Process



Having created a behaviour-based MT development framework for the participating National Football Association outlining *what* MTbs are required by players and *how* MT can be developed by coaches and players in international youth football, the next step was to implement this framework within international camps. Implementing this framework would provide international coaches with a clear strategy for *when* and *where* these MTbs could be clarified and reinforced within existing international training camp structures and across age groups. To expand, international youth football is an extremely time poor environment, with international camps occurring approximately four to five times per year, typically lasting between four days to two weeks. These camps are intense, as schedules are packed with training sessions, competitive matches, team meetings, coach review sessions and social activities to maximise player's international football education and engagement (McKay et al., 2021 [Chapter 2]). Therefore, it appeared prudent to utilise coaches as the delivery mechanism for MT development to avoid disrupting existing camp structures.

The current intervention was conducted over the course of a seven-day international camp involving under-15s international players, who participated in a UEFA development tournament, hosted by the participating Football Association, against three other European countries. During this international camp, coaches were supported in identifying, clarifying, reinforcing, and reviewing players' performance and fundamental MTbs, with myself, the practitioner-researcher, in attendance to observe coach-player interactions, as well as to check and challenge coaches regarding their behaviours and the psychological outcomes of on-pitch training and off-pitch review sessions. Through this process, coaches learned to consistently recognise MTbs in critical moments in training and competition and reinforce the display of these MTbs in players. Therefore, the main aims of this study were to: (1) educate international coaches regarding MT, MTbs and a behaviour-based approach to MT development; (2) educate international coaches regarding how to facilitate players' MT

development via identifying, clarifying, reinforcing, and reviewing MTbs; and (3) develop players' MT via supporting international coaches to identify, clarify, reinforce, and review MTbs both on and off the pitch over the duration of an international training camp.

Implementing a behaviour-based MT development framework to address the organisational needs of the studied National Football Association can help to bridge the research-practice gap in the MT literature, through providing coaches with a greater understanding of the importance of MT within international youth football and equipping them with strategies to develop this capacity in players (Keegan et al., 2017).

Method

Research Design

This study was part of a larger research project conducted in conjunction with a National Football Association. Having created a behaviour-based MT development framework in Study 2, the current study's aims were geared towards solving the practical problems of the Football Association. That is, how international coaches can adapt their behaviours to facilitate MT development in their players during international camps, rather than providing conceptual clarity to the constructs of MT and MTbs. Therefore, when trying to conduct an applied intervention to develop MT in this context, it was important to adopt an intervention design that integrated effectively within the existing processes and structures of these international camps. Consequently, a brief contact intervention design was implemented to achieve the aims of this study. Brief contact approaches have been advocated previously within the sport psychology literature as an effective method for establishing rapport with coaches and athletes, creating significant behavioural change in a short timeframe through informal interactions and minor adaptations in a client's thinking patterns (Giges & Petitpas, 2000; Arthur-Cameselle & Giges, 2020). Brief contact interventions are part of a larger group of single-session therapies, where focus is placed on reframing client's language regarding

long-standing psychological issues and *nudging* individuals towards effective solutions (Pitt et al., 2020). This approach is particularly pertinent in elite sport settings such as international football, where time to intervene is limited, due to the short duration of camps and packed training schedules, but meaningful behaviour change is required (Wagstaff, 2019). In the context of international youth football, a brief contact approach was deemed appropriate as coaches relied on short interactions with fellow staff and players throughout international camps to deliver solution-focused strategies for performance enhancement (i.e., focus on what can be done to enhance MT in the next coaching session rather than overanalysing past mistakes). Moreover, a brief contact approach allowed the practitioner-researcher to attend the international camp as a member of staff. This role provided greater opportunities to nudge coach behaviours and facilitate them to identify, clarify, and reinforce MTBs, on and off the pitch.

To effectively engage in a brief contact approach requires the practitioner to be “versatile, innovative, and pragmatic” (cf. Hoyt, 1994, p.141). Consequently, while the current intervention had planned activities (e.g., observation of how coaches integrated MT development into their coaching sessions) and underlying delivery mechanisms (e.g., checking & challenging coaches’ MT development strategies) designed to support coaches in adapting their behaviours to facilitate players’ MT development, the applied nature of the intervention meant these activities often had to be changed or adapted last minute. This flexible approach to intervention delivery is essential in the dynamic world of high-level sport, where schedules and timetables regularly change to meet current athlete needs (Pitt et al., 2020). The applied nature of this intervention is also in contrast with previous MT interventions, which have focused on a traditional baseline-intervention-follow-up approach, designed to develop MT or a group of MTBs within high level sport, but with little consideration for the fluid nature of these environments (Anthony et al., 2018; Mahoney et

al., 2016). Further, and aligned with a brief contact approach, I had to be constantly vigilant of opportunities to engage in “teachable moments” (Giges & Petitpas, 2000, p.177) during the international youth football camp. Such informal interactions cannot be planned for within a traditional research intervention design but are fundamental in reframing coaches’ thought processes regarding MT and adapting their behaviours to facilitate players’ MT development.

Researcher Background and Philosophy of Practice

Given the central role I played in data collection and interpretation as a researcher, and in engaging with key stakeholders as a practitioner, it is important to offer a reflexive account of my own research background and philosophical approach to behaviour change and the impact this may have had on the research process undertaken within this study (Schinke et al., 2012). Further, as a practitioner-researcher, it is important to discuss the ethical responsibilities, as well as the potential ethical and methodological conflicts of these two roles (Casey et al., 2018). Having completed an undergraduate degree in psychology and master’s degree in sport psychology, I possessed a detailed understanding regarding psychological theories of cognition and behaviour change, and their application to sport. However, I had a limited competitive background in football and no previous applied experience in an international youth football environment beyond the training camps I had attended and the relationships I had developed with coaches during the earlier stages of my PhD research. This meant that I arrived in the international camp setting for this study as a *cultural outsider* (cf. Devaney et al., 2018) with little experiential knowledge of the processes involved in supporting an international camp. Nevertheless, the self-doubts I felt regarding this outsider status forced me to closely observe coach behaviours during their interactions with players and provided a fruitful avenue for me to check and challenge coaches during the camp, particularly regarding the psychological outcomes of their sessions (i.e., how they were developing MT), to enhance my contextual knowledge.

My practitioner approach is primarily rooted in a client-centred philosophy (Rogers, 1967). That is, I believe the necessary requirements for psychological change and the achievement of one's potential (self-actualisation) exists within the client, rather than the practitioner. For this change to occur, the practitioner must create an empathic, open, and warm relationship with the client, while also accounting for the client's context and its impact on potential behaviour change. Given this current study is part of a wider PhD research project I am conducting with a UEFA National Football Association, the clients were the coaches and staff members responsible for player development within this organisation. As such, my focus was to work with the international coaches in the National Football Association to create a player-centred MT development intervention they could deliver in situ. Further, I had to educate the international coaches on how to implement a behaviour-based approach to MT development, and thus violated the philosophical norm of the qualitative researcher as the neutral observer (Zeni, 2009). At times I found myself ethically conflicted between my goal as a researcher to create an effective intervention that would significantly enhance players' MT levels, and my role as a client-centred practitioner to support the coaches in implementing this intervention, regardless of its overall effectiveness. To account for these biases, I engaged in reflective practice each evening during the study, a seven-day international camp. Using Driscoll's (1994) model of reflection, I reflected on my daily experiences as a practitioner-researcher in an international football camp (*what?*), what these experiences meant personally and in terms of my perceived impact in supporting coaches to develop player's MT in line with my MT framework (*so what?*), and how I could use these experiences to appropriately modify my support in preparation for the following day (*now what?*). My PhD supervisor then acted as a critical friend to challenge my interpretations of each day's events (Smith & McGannon, 2018). Where appropriate, these

reflections are included as part of the findings of this study to draw together the outcomes of the intervention and the process of delivering it.

Participants

The current study was conducted with a UEFA National Football Association who had a strategic priority for creating an identity regarding how football is played by their international teams. This strategy was underpinned by developing players' technical and tactical excellence on the pitch and supporting players to engage in reflection and self-development off the pitch. Through delivering this strategic priority, the Association aimed, at the time of this study, to identify and develop the next generation of youth players to achieve long-term success and continually qualify for major international tournaments across all competitive age groups (under 16s to the senior international team). To achieve these outcomes, the Association instigated a player development framework that emphasised the technical, tactical, and physical pillars of performance. However, the psychosocial pillar of performance remained a priority area for consideration, with the development of players' MT identified as a key focus. That is, a player's ability to learn the MTbs required to produce consistently high performances when faced with both everyday challenges and more significant adversities.

Study 2 of this PhD thesis focused on the creation of a behaviour-based MT development framework for a National Football Association that detailed the MT development strategies coaches within this organisation should implement (e.g., clarity of expectations), what MTbs players should display (e.g., effective communication), and how display of these MTbs can lead to further MT development through reflective practice (McKay et al., under review [Chapter 5]). Therefore, the current study sought to support coaches in implementing this MT development framework before, during, and after a seven-day international camp. Specifically, the intervention involved the international coaches of

the under 15s international squad ($n = 2$). Coaches were aged between 40 and 49 years old ($M = 45.1$, $SD = 3.97$) and had between four- and 11-years' international coaching experience. The intervention also involved players from the under 15s international squad ($n = 22$). Players were aged either 13 or 14 years old ($M = 13.55$; $SD = 0.51$) and it was their first international football experience. The camp itself was based around an under 15s international development tournament hosted by the participating Association against three other European countries. This was deemed an appropriate setting for the intervention as it was this age group's first experience of an international camp, and so MT development strategies could be integrated without the need to disrupt existing camp processes. Further, the camp involved players' first experiences of competitive fixtures against high-level international opposition, providing players with the opportunity to learn and display MTbs when faced with stressors in both a training and competitive context.

Procedure

Following university ethical approval (see Appendix N), data collection was divided into three phases (see Table 1): (1) a brief player introduction regarding the nature of the study; pre-camp coach education regarding my MT development framework, including MT, MTbs, and strategies for MT development; and collection of pre-intervention MT Index (MTI; Gucciardi et al., 2015) data from players; (2) in-camp player education regarding MT development, support for coaches as they implemented my MT development framework during on-pitch training sessions and off-pitch review sessions, and daily engagement in personal reflection regarding my role as a practitioner-researcher within the research setting; and (3) post-camp collection of follow-up MTI data for players, and social validation interviews with coaches ($n = 2$) and players ($n = 12$) to assess the impact of the intervention on MT development.

Table 1.*Timeline of Intervention Activities*

Intervention Stage	Activity	Process	Rationale
Pre-Camp (July – mid-August 2022)	2 x 60-min MT Coach Education Workshops via Teams	Discussed implementation of MT development framework in international camps.	Educational workshops provide coaches with a greater understanding of how to support the autonomy of others (e.g., facilitating players to learn MTBs through autonomy-supportive coach behaviours; Su & Reeve, 2011; Mahoney et al., 2016).
	Player Introduction via Zoom	Held pre-camp meeting to introduce players to the nature of the study.	Pre-camp introductions are essential to develop rapport and trust; the platform for effective sport psychology interventions (Woolway & Harwood, 2020).
	Pre-Camp MTI Data Collection	Recorded players' MT levels pre-camp.	The MTI is a short, direct measure of MT easily used in applied contexts (Gucciardi et al., 2015; Piggot et al., 2019)
In-camp (21st – 28th August 2022)	<i>1 x 20-min MT Player Education Workshop and 5-min MTb video</i>	<i>Introduced players to MT, MTbs and illustrated MTb displays in international football. Providing role models for MTbs.</i>	Athletes who are motivated to engage in an activity due to being inspired by seeing others successfully perform the activity or due to their harmonious passion (i.e., intrinsic motivation) for the activity are more likely to engage in MTBs of their own volition (Gucciardi, Jackson et al., 2015). The player education workshops sought to instil this inspiration and passion in players through showing a video of MTb displays across international age groups and asking players what MTBs were important to them to perform effectively.
	<i>Observation of Pre-Training Preparation, Training Sessions, and Post-Training Review Sessions</i>	<i>Checked and challenged coaches on integration of MT development strategies to identify, clarify, reinforce and review MTbs</i>	Challenging coaches to set goals (e.g., what MTBs will I introduce in this training session?), frame MTb's importance, clarify what MTBs they want players to display (what can you see & hear?), and reinforce players' strengths can enhance coaches' self-awareness of how to integrate MT development into their training sessions (Anthony et al., 2018; Arthur-Cameselle & Giges, 2020).
	<i>Coach-Led Workshops</i>	<i>Supported coaches to integrate MT development within other educational workshops.</i>	Showing a consistent presence across training and education sessions is crucial to enhance coach and player perceptions of the practitioner-researcher as a member of staff, develop rapport, increase intervention buy in, and stay vigilant of unplanned opportunities to facilitate players' MT development (Tod et al., 2022).
	<i>Informal Conversations</i>	<i>Brief, unplanned opportunities to clarify MT development strategies with coaches.</i>	Supporting coaches to reframe perceived issues (e.g., player discipline) as opportunities for MT development is a fundamental aspect of brief

	<i>Personal Reflections</i>	<i>Daily review of the intervention's impact via reflective practice.</i>	contact interventions (Arthur-Cameselle & Giges, 2020). Engaging in reflective practice regarding the ethical tension and emotional reality of working as a practitioner-researcher enhances experiential knowledge and helps to reduce some of the self-doubts regarding effective intervention implementation (Cropley et al., 2016).
Post-Camp (September 2022)	Post-Camp MTI Data Collection	Recorded players' MT levels post-camp.	See above rationale for MTI.
	Social Validation Interviews	Examined coaches' and players' perceptions of the intervention's effectiveness.	The collection of social validation data is critical in intervention studies to assess whether the intervention mechanisms (e.g., support provided to coaches to facilitate players' MT development) have had a meaningful impact on the context in which they were delivered (i.e., international football camps; Page & Thelwell, 2013). Social validation data was particularly important in the current applied intervention to assess whether the practical problems of the studied Football Association, identified within the aims of the study (i.e., how can coaches be supported to develop players' MT?), had been achieved.

Pre-Camp Intervention Activities and Data Collection

Following the granting of access from the FAWT (see Appendix O), coaches were initially contacted by email regarding the nature of the study. They were provided with an information sheet containing a detailed explanation of the study's purpose. Coaches who agreed to participate ($n = 2$) provided their informed consent and attended two educational workshops on Microsoft Teams, approximately one month prior to the under 15s international camp. These workshops focused on introducing the coaches to the MT development framework created in Study 2 (McKay et al., under review), and how this could be implemented within international camps to support coaches in facilitating players' MT development. Specifically, the education workshops involved: (1) introducing coaches to a behaviour-based approach to MT development, the MTbs that underpin MT within an international football context, and linking these MTbs to the National Football Association's

existing game model; and (2) outlining how MT can be developed through players' learning and selecting the correct MTBs when faced with varying levels of stressors, and coaches clarifying and reinforcing these MTBs both on and off the pitch. Conducting these educational workshops one month prior to camp provided the coaches with time to digest and reflect on the information provided, engage in ongoing critical discussions with the research team around the topic of MT, and liaise with myself, the practitioner-researcher, regarding the integration of the MT development framework within the existing camp schedule. At the end of the second workshop coaches were asked to complete a self-efficacy scale to rate their confidence in their ability to develop mental toughness (MT) in their players across several dimensions (e.g., I work with my players to develop the behaviours they need to pursue and achieve their goals in training; see Table 2) based on what they had learned during the workshops (see Appendix P). Each dimension was rated on a scale of 0 (cannot do at all) to 10 (highly certain can do). Bandura (2006) outlined how there can be no "one size fits all approach" to creating self-efficacy scales (p. 307). Rather, self-efficacy scales must be tailored to the psychological construct or object of interest. As such, given the growing consensus regarding the measurement of MT as a unidimensional rather than multidimensional construct using single-item measures such as the MTI (Gucciardi et al., 2015), I decided it was most appropriate to measure coaches' self-efficacy in developing players' MT through a single item scale.

Players who were selected for the under 15s international camp were contacted via email and informed of the nature of the study. As all players were under 18 years of age, their written assent to voluntarily participate was sought alongside the informed consent of a parent/guardian. All 22 selected players (and their parents/guardians) assented/consented to taking part. Approximately one week prior to the commencement of the international camp, an online meeting was held with the players and coaches via Zoom to outline the

expectations, rules, and structure of the international camp. This Zoom call provided me with a good opportunity to introduce myself in person to the players and inform them of the nature of my involvement in the upcoming camp. At the end of this meeting, I asked all 22 players to complete the MTI (Gucciardi et al., 2015; see Appendix Q for MTI example) to measure preliminary MT levels. The MTI is an 8-item measure of MT where participants are asked to respond to a series of statements (e.g., I believe in my ability to achieve my goals) on a 7-point Likert scale ranging from 1 (false 100% of the time) to 7 (true 100% of the time). Its psychometric properties were developed and validated by Gucciardi et al. (2015) through testing participants across performance contexts including sport, education, and the military, and displayed high factor loadings and excellent composite reliability scores ($\rho = 0.86$ to 0.89). Based on an earlier conversation with the head coach, I refrained from discussing MT and its importance in greater detail at this stage to avoid overwhelming the players with information.

In-camp Intervention Activities and Data Collection

Over the course of the seven-day international camp, MT was developed through four main strategies. First, I led a brief MT education workshop with players. In this workshop, I outlined what MT is and is not, what behaviours players can display that demonstrate and develop MT on and off the pitch, and how these MTbs positively impact performance. This workshop was supported by a five-minute video I had created with the Association's performance analysis team, which showed international players from across the Association's international age groups displaying these MTbs in training and competition. Second, I supported coaches in the delivery of other educational workshops throughout the camp and attempted to integrate MT development within these sessions. For example, players initially engaged in a workshop with staff regarding 'what does it mean to be an international footballer?' where they were asked to write down key characteristics and behaviours. Here,

several players wrote 'mental toughness' and so I challenged them to describe what this term meant to them and how they might display it on and off the pitch.

Third, I checked and challenged coaches regarding the integration of my MT development framework within the international camp, with a focus on MT development strategies the coaches utilised during sessions on and off the pitch. For on-pitch sessions, these check and challenge conversations primarily took place during pre-training staff meetings, where coaches would discuss the main tactical and technical outcomes for that day's training session. My role was to nudge coaches regarding the importance of having a clear psychological outcome, with a particular focus on implementing football training activities that would aid the development of performance MTBs (e.g., quick recovery from mistakes). I then observed coach behaviours during training, to see how effectively they were reinforcing these MTBs through their framing of each training activity and their ongoing dialogue with players. During breaks between training activities, I continued to nudge coaches regarding the specific MTBs they were trying to develop in that session. Off-pitch sessions involved the review of training footage with the coaching team, with the goal of identifying three to four video clips that showed players demonstrating desired MTBs effectively alongside the technical and tactical outcomes. These clips were then shown to players in review sessions and their importance in MT development and overall performance were reinforced. When preparing for these review sessions, I encouraged coaches to consider effective strategies for reinforcing desired performance MTBs in players, with a particular focus on Action Observation Motor Imagery (AOMI; Shearer et al., 2020). Here, emphasis was placed on getting players to watch video clips of themselves displaying MTb while recreating the sensations associated with the behaviour as an image, so as to link players' MTb displays (or lack of displays) to underlying cognitions and enhance their decision-making process under strain. Staff debrief sessions were also introduced at the end of each

day, where we reviewed the effectiveness of that day's sessions (e.g., is MT being developed effectively? Does anything need to change in our delivery methods?).

Finally, I supported staff in developing players' MT through informal conversations during mealtimes, on the bus to and from training/matches, and around the team hotel. These conversations were usually short, but highly effective in clarifying coaches' perceptions regarding the MT development strategies they were trying to implement.

Post-Camp Data Collection

Approximately two weeks post-international camp, 19 out of 22 players (86%) completed a post-intervention MTI to assess any potential MT development during the international camp. Coaches ($n = 2$) and players ($n = 12$) also took part in social validation interviews to discuss their perceptions of the effectiveness of the MT development intervention. Coach interviews focused on: (1) their perceptions of the MT coach education workshops; (2) their overall perceptions of the MT intervention; (3) their improved understanding of MT and MTbs due to participation in the intervention; (4) their confidence in their ability to develop MT in their players due to participation in the intervention; and (5) their players improved understanding of and ability to display MT and MTbs due to participation in the intervention (see Appendix S for the full interview guides). Player interviews focused on: (1) their perception of the player education workshops; (2) their understanding of MT and ability to demonstrate MTbs due to intervention participation; and (3) the role of their international coach in helping them to display MTbs more consistently and to develop MT (see Appendix T for the full interview guide). Interviews lasted on average 31 minutes for players ($SD = 4.94$) and 60 minutes for coaches ($SD = 3.54$). All interviews were conducted remotely via Microsoft Teams, audio-recorded, and subsequently transcribed verbatim, yielding 271 pages of single-spaced text.

Data Analysis and Methodological Rigour

Tests of normality were carried out prior to MTI data analysis and revealed that pre-MTI scores, $W(22) = , p = 0.36$, post-MTI scores, $W(19) = , p = 0.94$, and differences between pre-MTI and post-MTI scores, $W(19) = 0.13, p = 0.21$, were normally distributed.

Consequently, a paired sample t -test was conducted to test for significant differences ($p < 0.05$) in players' MT scores from pre- to post-camp. Pre- and post-camp MTI data were analysed using SPSS Statistics version 28 and the findings are reported below (see Appendix R for raw SPSS data output).

Reflexive thematic analysis (TA; Braun & Clarke, 2022) was employed to analyse and interpret the findings of the social validation interviews. Aligned with my philosophical approach, I utilised TA with an *experiential orientation* to highlight the participants' contextually situated experiences regarding the perceived effectiveness of the MT intervention (cf. Braun & Clarke, 2022). The multiple realities of participants in the intervention were further outlined through the provision of detailed quotes (Smith & Sparkes, 2019). Following Braun and Clarke's (2019) recommendations, the TA process followed a six-step, recursive process. First, all interview transcripts were read and re-read by my PhD supervisor (DoS) and I, to ensure familiarity and identify any initial patterns within the data. Second, I began to generate codes that I felt both captured interesting concepts within the data but also had meaning independent of the data itself (e.g., challenging coaches' perceptions regarding MT, creating player buy in). However, in recognition of the potential biases I brought to the data analysis process due to my theoretical orientation, beliefs regarding the MT development intervention, and desire for the intervention to have an impact on MT development, a critical friend approach was adopted (Smith & McGannon, 2018). Here, my supervisors acted as the critical friends, challenging me regarding the codes I had developed, and whether they accurately captured semantic (i.e., surface level) or latent (i.e., underlying assumptions) elements within the data. Adopting a critical friend approach is

necessary when engaging in reflexive TA; a recursive form of data analysis where the ongoing generation of codes is a dynamic, rather than fixed process and so requires ongoing examination of one's underlying biases and assumptions. Third, my supervisor (DoS) and I organised the generated codes into themes which I felt encapsulated key ideas within the data set (e.g., proactively integrating MT development, checking and challenging coaches). During this process, my supervisor (DoS) regularly challenged me on my created themes to ensure they continued to make sense in relation to the underlying codes and overall narrative. Fourth, we reviewed these themes to ensure they linked together to tell a coherent story and made sense in relation to the research aims. Fifth, once I had settled on my themes, I worked with my supervisor (DoS) to accurately define each theme, ensuring it could be linked back to the raw data (e.g., 'checking and challenging coaches' referred to how I questioned the coaches regarding their implementation of MT development strategies). Sixth, with the overall themes produced and defined, they were inserted in the final report and used in conjunction with my reflections, as well as my SE and MTI data to ascertain the effectiveness of the intervention.

Results

Results are divided into three sections. First, intervention effects on MT development are considered, focusing on players' overall MT development from pre-camp to post-camp, and changes in coaches' self-efficacy levels regarding developing players' MT from pre- to post-coach education. Second, social validation data from coach and player interviews are discussed to gain insight into participants' perceptions of the intervention's effectiveness in improving coaches' ability to facilitate players' MT displays. Third, my personal reflections working as a practitioner-researcher during the international camp are presented to assess where I may have had an impact on MT development during the intervention.

Intervention Effects on MT Development

MTI Analysis

Results from the paired samples *t*-test indicated that, on average, players' overall MT scores significantly increased from pre-international camp ($M = 47.89$, $SE = 0.75$) to post-international camp ($M = 49.74$, $SE = 0.73$), $t(18) = -2.11$, $p < 0.05$, $r = .20$. These findings indicated that players significantly increased their MT levels from pre- to post-camp, but the intervention had a small-to-medium effect on the increase in these scores. Therefore, while the intervention had an impact on players' MT development, it cannot be completely separated from other key factors that occurred within the same time frame and may have had a positive impact, such as forming new relationships with coaches and teammates, developing a greater tactical understanding within international football, and buying into the National Football Association's vision of the future.

Coach Self-Efficacy

Coaches reported moderate-to-high levels of self-efficacy regarding developing MT in their players after participating in both coach education workshops ($M = 61$; $SD = 2$; see Table 2). Coaches scored highly on questions two ("I am confident I can work with my players to develop the behaviours they need to pursue and achieve their goals in competition; $M = 8.5$) and four ("I am confident I can work with my players to develop the behaviours they need to take responsibility for their own goals and development"; $M = 8.5$). However, coaches scored notably lower on question six ("I am confident I can work with my players to develop the behaviours they need to adapt to significant adversities"; $M = 6.66$). Such findings indicate that the coaches felt comfortable working with players to display the MTBs required to take ownership over their psychological development and overcome the competitive demands associated with international youth football to achieve their goals. This is perhaps due to coaches' familiarity with the challenges of international football, owing to their years of experience within their current roles, as well as the importance placed on

player’s fundamental MTbs (i.e., learning efficiently and thinking rationally) within the workshops. However, coaches appeared less confident in their ability to develop players’ capacity to overcome significant adversity within international football. This may be attributed to the workshops focus on helping coaches to learn to clarify and reinforce MTbs associated with performing under pressure, rather than the MTbs associated with more significant developmental challenges.

Table 2

Coaches’ Self-Efficacy to Develop Mental Toughness

Self-Efficacy Scores	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total
Participants									
Coach 1	8	9	8	9	7	7	8	8	63
Coach 2	8	8	8	8	8	5	7	7	59

Social Validation – Participants’ Perceptions of Intervention Effectiveness

To investigate the experimental effects of the intervention, participants (coaches and players) were asked to engage in an in-depth social validation procedure designed to explore the mechanisms by which the intervention might have brought about changes in players’ MT and coaches’ efficacy for improving players’ capacity to demonstrate MTbs on and off the pitch. Social validation data is divided into three sections, aligned with the research aims: (1) value of coach education in developing coaches understanding of and ability to develop MT in players; (2) effectiveness of in-camp support in helping coaches identify, clarify, reinforce, and review MTbs in players; and (3) players’ perceptions of the impact coach behaviours had on their MT development. Each section is supported by themes based on participants’

contextually situated experiences of the intervention. These themes are further illustrated through the provision of detailed participant quotes.

Value of Coach Education in Developing Coaches Understanding of and Ability to Develop MT in Players

Coaches highlighted a range of benefits from the coach education sessions, divided into three key themes. Coaches discussed the impact the coach education sessions had in helping them to: (1) clarify the definition of MT as a ‘clarity of mind’ under pressure (2) challenge their assumptions regarding MT development; and (3) realise the importance of integrating a MT development framework within their camps. Coaches voiced their appreciation regarding how, over the course of the two education sessions, they were provided with clarity regarding what MT is and what MT is not, settling on a definition that was applicable to their practice:

I really liked the MT definition you provided as that clarity of mind to make the right decisions under pressure... I think a big part of this MT piece is players getting comfortable with the processes of playing for their country. You know, stepping out onto the pitch, singing the national anthem, having that expectation of playing for your country on your shoulders and being able to cope with that emotional baggage.

They need to get used to all that, so that they can learn to park that and think about the game (Coach 2).

It is evident from this quote that the coaches in this study had already spent a great deal of time studying how players acquired the mental capacity to cope with the performance demands of international football and focus their attention on performing optimally.

Therefore, the coach education sessions built on coaches’ understanding through clearly defining this capacity as MT and presenting my behaviour-based MT development

framework which highlighted how MT can be displayed via MTbs, and developed via reflection on and learning from these MTb displays.

Participating coaches discussed how, prior to the education sessions, they had largely assumed players developed their MT capacity through experiences alone, “We want players, on average, to play 28-30 games at youth international level, so that they experience the euphoria of qualifying for tournaments, and the challenge of suffering heavy defeats ... That’s where they learn to cope” (Coach 2). Coaches spoke about how the MT education workshops opened their eyes to the need to deliberately develop MT in international camps, “I don’t want to sound flippant, but sometimes you take it for granted that psychological skills like MT will be developed ... So the workshops were good because they raised awareness of MT and some of the key development strategies” (Coach 1). Coaches also described how the education sessions were “thought provokers” (Coach 2) and challenged the notion that MT was a complex psychological construct that coaches struggled to develop, “Some of the [MT development] strategies you talked about, I thought, ‘Oh, that’s really good, cos we’re already doing that.’ But the sessions allowed us to engage in discussions about how we continue to improve those strategies” (Coach 2). Coaches reported they enjoyed these discussions as it gave them an opportunity to, “See what MT meant to different people, and how that might challenge my understanding of the concept” (Coach 1).

Based on these discussions, coaches felt buoyed to begin integrating the outlined behaviour-based MT development framework within international camps. From their perspective, it was no use simply having a conversation about the importance of MT development. The key findings needed to be used to inform coaching practice:

Coming out of those education sessions, I thought, ‘We now need to push on from this [MT education]’. We need to use this MT framework to develop our version of the 5 C’s [communication, confidence, concentration, control, commitment;

Harwood, 2008] psychosocial model, but for MT. What does being an international footballer look like, from a MT perspective? (Coach 1).

The key aim of the coach education sessions was to outline a clear MT development process in international youth football, based on the behaviour-based MT development framework I had previously created. This process involved helping players learn to display MTbs when faced with varying levels of stressors via a range of MT development strategies (e.g., autonomy supportive coach behaviours), underpinned by a common MT language that all stakeholders (e.g., players, coaches, parents) could use. As the above quote illustrates, such a process had previously been absent within the National Football Association, creating a fractured view of the psychological mechanisms underpinning consistently high performances in international youth football and leading to limited advances in coaching practice.

Effectiveness of In-Camp Support in Helping Coaches Identify, Clarify, Reinforce, and Review MTbs in Players

Coaches reported the positive impact the in-camp phase of the intervention had in supporting them to identify, clarify, reinforce, and review players' MTbs and prompting them to reflect on how MT may be better integrated in future camps. Specifically, the in-camp phase of the intervention facilitated coaches to support players' MT development through: (a) checking and challenging coaches; (b) reinforcing the importance of role modelling MTbs; and (c) reinforcing the need to implement psychology proactively rather than reactively. Both participating coaches had several years' experience delivering technical and tactical sessions at international level. Nevertheless, coaches discussed how they enjoyed having a psychology practitioner in-camp to check and challenge their delivery style in pre-training meetings:

I enjoyed you questioning me and the other coaches around the psychology side of training ... When you questioned, 'What are you noticing about their mentality? What

are you trying to develop in terms of their MT in training? What MTbs are you looking for?’ (Coach 1).

Coaches outlined how these conversations caused them to reflect on how they, “Need to appreciate what I’m going to deliver [regarding MT] and why I’m delivering it” (Coach 1).

The process of *check and challenge* also took place in post-training reviews and debrief meetings. Coaches discussed how the conversations we engaged in during these sessions led them to reflect on the interactions they had with players, and how the language they used to frame these discussions could have a significant impact on a player’s MT development. For example, one coach recalled one debrief meeting, where we chatted through an impulsive decision he had made at half time during that evening’s match:

In international football, there’s an element of [when talking to players] ‘If you don’t step up to this level quickly, then you’re not going to be selected for these games.’ So, do you give them [players] a harsh lesson and take them off or do you support them tactically and give them a chance to rectify their mistakes? I made the rash decision to take those players off (Coach 1).

Having reflected on it, he realised that to support players’ MT development he needed to “help them understand what the problems were at half time” and “give them an opportunity to learn to manage that situation better” (Coach 1). In this way, the check and challenge conversation allowed the coach to reflect on his need to be more autonomy-supportive; to assist his players in coming up with tactical solutions, and to provide them with the space and time to implement these solutions. Only through engaging in and learning from these experiences could players develop the capacity to perform consistently despite varying levels of stressors.

Coaches also mentioned how the in-camp phase of the intervention highlighted the importance of effectively role modelling desired performance and fundamental MTbs to aid

players' learning and MT development. Specifically, coaches voiced their appreciation for how MT was visually represented in my MT education workshop through providing players with examples of the older age groups and the senior level international footballers engaging in performance and fundamental MTBs: "I enjoyed how you did it [educational workshop], providing MTb examples that resonated with the players... and helped them identify how they can manage situations that are a little bit out of their control" (Coach 2). This modelling of MTBs was also adopted within review sessions, where coaches mentioned how the collaborative approach adopted between the coaches, analyst, and I led to the reinforcement of key performance MTBs:

Working with [analyst] to clip what we believe were key MTBs, and modelling those behaviours alongside Premier League players, or ideally senior international or older age group players... That makes MT so much more relatable for the [under 15s] players (Coach 1).

Coaches also discussed how engaging in the MT intervention made them more self-aware of their own behaviours, and how they needed to effectively model MTBs when faced with challenging situations to set an example for their players. For example, one coach highlighted how he reacted after making a mistake regarding team selection during camp:

I selected the team for the first game, but then put the wrong player in one position on the team sheet when announcing it to the players... I made a mistake, but it was a great opportunity to show my vulnerability with the players and say, 'Look, I've messed up'... I practised what I preach to the players and I'm modelling that MTb [recovery from mistakes]. That's the type of environment I want to create (Coach 1).

Through learning to role model these MTBs, coaches were portraying an image of MT to players that was not the opposite of vulnerability but involved embracing fallibilities, as well as accepting that "it's ok to make mistakes" (Coach 2) provided they are reflected on and

learned from for future challenges. Indeed, coaches detailed how through providing players with role models to model their behaviours on, whether it be the coaches or the senior international players, the in-camp phase of this intervention gave players a motivational incentive to enhance their MTbs displays from camp to camp as they continue to navigate the international development pathway:

We can take those learnings [regarding MT development] into the next camp... Show them [players] what they did well [in terms of MTbs]... Show them the older squads doing it [MTbs], and how that links to the pathway to the senior team (Coach 2).

Coaches indicated the importance of implementing psychology proactively rather than reactively as part of international camp preparation. Specifically, coaches spoke about how psychological support on topics such as MT development needed to be integrated into the planning phase of international camps, “I think the most successful psychology model is when the psychologist is working through the coach ... But I think it’s about the psychologist having that input at the planning stage” (Coach 2). According to the coaches, in-camp support is about “reacting to the things you see” (Coach 2). While the coaches outlined how I did this effectively through challenging them regarding MT development, my presence on camp also triggered coaches to think about how my support services could be more effectively deployed in future camps. As Coach 2 outlined, “I think it’s important when you’re planning sessions for the international camp that you have that psychological input, so you can maybe build in some MT development strategies and feel supported with it.” Coaches emphasised how having a psychologist present during the planning phase would bring a “calmness and clarity of mind [to the international camps] as everything would be pre-planned” (Coach 2) and would encourage coaches to think about the strategies they would use to develop players’ MT, “I can tell you based on the different coaching sessions I run and the way I frame it what

MTbs should come out, but I probably should plan that more ... A psychologist could support me to plan that better” (Coach 1).

Players’ Perceptions of the Impact Coach Behaviours had on their MT Development

Players widely reported that the support received from the coaches throughout the international camp played a significant role in their MT development. Specifically, players emphasised how coaches supported their MT development through: (a) collaborating to create a clear understanding of the fundamental MTbs players should display off the pitch; (b) collaborating to create a clear understanding of the performance MTbs should display on the pitch; and (c) collaborating to enhance players’ ability to select and execute MTbs despite varying levels of stressors. Players spoke about how the international coaches created a clear understanding of the fundamental MTbs they should display off the pitch through developing a professional environment. This environment was established at the beginning of the camp, with players and coaches holding a workshop to discuss what it takes to be an international footballer and the non-negotiable behaviours for the camp. According to one player, “I think it was important to put those non-negotiable behaviours in place early on in camp, or some of the players wouldn’t have behaved the best around the hotel” (Player 6). Players mentioned how, during this workshop, coaches filtered in messages around fundamental MTbs that players needed to display off the pitch to take responsibility for their MT development, “We talked about having ownership over my MT development; my recovery, my pre-match routine, having an ice bath after games, and stuff like that. That week of being with Wales really helped to bring me on as a player” (Player 9).

Players spoke highly about how they were “treated like adults” (Player 9) by the coaches and played a collaborative role in identifying and clarifying the fundamental MTbs they needed to display off the pitch. As such, players indicated that they became more comfortable seeking coaches’ advice off the pitch regarding their MT development, rather

than waiting to be told what to do, “It was nerve wracking talking to them at the start, but as camp went on, they became more like a friend, and you could talk to them about any performance issues with ease” (Player 4). Players indicated that this level of ownership over off-pitch behaviours was something they had never been exposed to at their clubs and had the potential to be overwhelming within the novel environment of international youth football, “The workshops were useful because I think it reminds you how big your responsibility is and how much you have to learn in international football” (Player 11). However, players mentioned how the coaches provided them with clarity regarding what fundamental MTBs were and linked the display of off-pitch fundamental MTBs and on-pitch performance MTBs, which helped players to deal with any uncertainty:

We spoke in the workshops about being brave off the pitch – asking questions, talking to coaches – and being brave on the pitch in how we play. When I heard all that information, I thought it would be hard taking it into the game, but the coaches helped me to focus, and I remembered it all (Player 11).

Players also highlighted how coaches collaborated with them to create an understanding of the performance MTBs players should display on the pitch. These performance MTBs were linked to three key team roles: *starters*, *finishers*, and *supporters*. Players discussed how, prior to the first training session, coaches clarified these three roles and the performance MTBs associated with each:

The coaches helped us to understand our roles and the MTBs associated with each. As a starter you need to be composed, not be afraid of making mistakes, and lead by example. As a finisher, you know the day before the game you won’t start, so you need to help the lads who are starting to get in the right mindset ... If you’re a supporter and not playing at all, you’ve still got to drive the team on (Player 2).

Players explained how the coaches also used training sessions to clarify other performance MTBs, such as staying constantly focused during set pieces, “The coaches spoke about always being aware of your surroundings ... Like when attacking and defending set pieces, knowing where you’re meant to be and your responsibilities” (Player 4), and adapting to a new position on the pitch:

Normally I play as a striker, so it was a new position for me, playing on the right wing. The coaches spoke about being disciplined, knowing when to close a player down and when to drop off... They were very clear in walking through those [MTBs] in training... Playing the next day, I knew exactly what my role was (Player 5).

Players also praised how coaches reinforced their display of performance MTBs in training. Here, coaches emphasised how it was ok for players to make mistakes, allaying any anxieties players had about executing the MTB correctly. As one player outlined, “In training, they [coaches] wouldn’t say ‘oh you’ve done this [MTB] wrong.’ They’d say it in a positive and supportive way, and they’d really get you understanding what you were supposed to be doing quite easily” (Player 11). Coaches’ positive reinforcement also helped players adopt the performance MTBs they learned in training during competition, as described by one player, “I came on at half-time, and he [Head Coach] reminded me about my role. After the game, he came over and said, ‘Well done for following instructions’ and I felt good. I had transferred the MTBs from training to game” (Player 3).

Players also discussed how the international coaches assisted them develop their capacity to select and execute the correct MTBs under pressure. Specifically, players outlined how coaches helped them solidify the MTBs they learned on the pitch through engaging in review sessions. Here, coaches often divided players into small groups and provided them with clips from that day’s training session. They asked each group to review these clips and feedback examples of where they had successfully and unsuccessfully attempted to execute a

specific MTb related to the session's aims (e.g., positive reactions to mistakes). As one player outlined, "I think we had four good clips and four bad clips of us trying to react positively to mistakes ... They [coaches] wouldn't say anything bad, just the positive stuff and what you needed to improve" (Player 11). Further, players mentioned how coaches challenged them on the clips they had selected, "If you chose a certain clip, they'd question you like, 'Why have you brought that clip up? Why didn't you do that instead?' You'd have to explain why you chose that clip and why you made that decision" (Player 6). Through this rationalisation process, players acknowledged how the coaches helped them link the MTbs they displayed to their underlying thought process, leading to more consistently high performances under pressure, "The encouragement we got and the feedback we got has made my mindset better. In my mind during the game, I could anticipate what was going to happen in a certain situation, based off the review sessions" (Player 8). Players explained how, through the review sessions, they developed their MT capacity and became more comfortable utilising this capacity to make key decisions on the pitch and select the correct MTbs under pressure:

As the camp went on, I improved as a left-back. [Through the review sessions] I began to realise when to go forward, when to stay back... Sometimes you'd think, 'Do I do this [MTb] or do I do that?' and then they'd cover it in the review sessions. They [coaches] really helped me understand what my role was (Player 9).

Further, coaches encouraged players to briefly reflect at the end of each review session through closing their eyes and asking them to think of one thing they did well and one thing they needed to improve. According to the players, engaging in this process helped them to visualise the MTbs they needed to display in the next training session or the next game and enhanced their capacity to execute these MTbs under pressure, "The review sessions got me thinking about past and future games. I tried to picture images in my mind of how I was going to play in the next game, maybe getting a goal or assist, and that really helped my drive

to improve” (Player 4). For players, the review sessions provided a great opportunity to clarify the MTBs they were expected to display, learn from their mistakes, and enhance their capacity to select and execute these MTBs under pressure. However, the players recognised that through engaging in this reflection process, repeatedly failing to select and execute MTBs was not acceptable, “Reflection definitely helped cause when you actually see it [MTb display] and reflect on it, you’re writing down what you can do better. It gets in your brain when you’re actually playing, and you can’t make the same mistake twice” (Player 9). In this way, players were supported to be brave on the pitch and have the courage to make mistakes in displaying MTBs but were challenged to learn quickly from these experiences and develop the clarity of mind needed to consistently execute the correct MTBs under pressure.

Personal Reflections: Assessments of Practitioner-Researcher Impact on MT

Development

Given the applied nature of this intervention, which involved supporting youth international football coaches to facilitate players’ MTb displays and subsequent MT development, it is appropriate to supplement participant (coach and player) findings with my (practitioner-researcher) personal reflections (cf. Faull & Cropley, 2009). Below, I present a summary of my in-camp reflections to highlight my practitioner-researcher experiences. The intention here is to highlight key, albeit brief, moments of contact during the intervention where I supported coaches to integrate MT development within sessions (Giges & Petitpas, 2000). Further, I outline some of the tensions I experienced working in the practitioner-researcher role. Specifically, I had to be a supportive *insider* to develop working relationships and have an impact on coaching practice, while also remaining a detached *outsider* to observe and subtly nudge coach behaviours (Devaney et al., 2018).

Creating a Common MT Language. Having conducted two coach education sessions prior to the international camp at which I acted as practitioner-researcher, it was

clear that the coaches were already familiar with several of the MTBs required by players to perform consistently under pressure, as well as the autonomy-supportive behaviours coaches should display to facilitate players' MT development. However, what was lacking was a common language for how coaches identified MT via behaviours, clarified MTBs with players, and reinforced MTBs during training and review sessions. Therefore, I was able to understand that my in-camp support needed to focus on helping coaches to create this common MT language and to integrate it within the framework of their coaching sessions.

The focus of what I needed to do consumed my thinking while I was on the team bus as we travelled to the camp. While I tried to focus on what I needed to do I began worrying about the applied, and potentially messy, nature of my intervention. Questions I asked myself included: What did effective in-camp coach support look like? How could I get coaches to integrate MT development within this camp, without disrupting the existing camp schedule? I began to feel like an imposter, a fraud almost, and very much like a 'fish out of water.' Such feelings are common within the sport psychology discipline, particularly for early career practitioners. However, rather than viewing these feelings as a sign of my limitations as an early career practitioner, I embraced my insecurities and sought to make myself busy during the international camp to learn as much as I could about the environment and where my intervention could have a meaningful impact. The in-camp phase of my intervention was due to start with a pre-planned interactive session with the players regarding the importance of MT in international football during the first evening. However, I was thrown a 'curveball' immediately upon arrival at the international camp when the Head Coach pushed my session back to the following day, to make room for other workshops. While understanding the need to avoid overloading the players with information, I grew concerned about the coach's perception of my presence on the international camp. It had been difficult to organise the intervention study and while several of the coaches had attended my MT education

workshops, I got the impression they viewed my research as a ‘nice have’ supplement rather than a ‘need to have’ addition that could be integrated within their existing camp delivery. Nevertheless, I acknowledged that as a new practitioner-researcher working within this high-level environment I needed to be adaptable to changing schedules and player needs and sought to provide support in that evening’s workshop instead.

The workshop that evening involved asking players, “What does it take to be an international footballer?” and getting them to work in groups to write down key characteristics and/or behaviours associated with players who are successful on the international stage. Immediately, I saw this as an opportunity to engage players in discussions around the importance of engaging in the right behaviours to perform consistently under pressure. To my delight, one group immediately wrote down ‘mental toughness’ and so I asked them to explain to me what they thought MT meant. I received a several blank expressions in return. Similarly, other groups wrote down ‘mentality’ or ‘resilience’ but were unable to explain what these characteristics meant or how you would know if someone was displaying them. This got me thinking, why were these players so sharp at naming the buzzwords coaches want to hear but incapable of relating these words to their own experiences? Is MT a capacity players have a desire to develop for their own personal gain, or something that is ingrained in them as important by coaches? Philosophically, do players need to display MTBs to develop MT or is it more that they need to do this to demonstrate to coaches they are MT? Is MT just an impression management exercise? Reflecting on these questions that evening, I realised I needed to raise this issue with coaches the next day. I had to check how they intended to move beyond the *what* of the behaviours required to be an effective international footballer, towards the *why* of how these behaviours link to a player’s ability to perform consistently under pressure. I also needed to challenge them on how we would frame these conversations within the context of MT and MTBs.

Based on these check and challenge conversations with the coaches, I realised that the players needed to learn to walk before they could run. The coaches spoke about how it was imperative to first ask players what's important to them. What does playing international football mean to them, in terms of behaviours? For example, some of the behaviours players highlighted as important in international football were 'being patient on the ball', 'being brave enough to accept mistakes', and 'actively listening to coaches'. Once the coaches understood what the players valued, this then shaped how the coaches presented key information throughout camp; the language they used, the way they framed discussions in training and review sessions, how they positively reinforced these behaviours on and off the pitch and got players to review their behavioural selection and execution to enhance their decision-making process under pressure. Although not explicitly stated, the coaches already had a framework to identify (e.g., through workshops), clarify (e.g., through framing sessions), reinforce (e.g., through language used in training) and review (e.g., through video analysis) key behaviours on and off the pitch. I quickly realised that if I had delivered my MT talk that first evening, I would have skipped over what being mentally tough means to the players and what MTBs are important to them (i.e., identify) and instead would have used my presentation time to discuss a pre-conceived list of MTBs and what these MTBs looked like (i.e., clarify). I also began to appreciate the important role my intervention could play within the camp. Several players had identified being mentally tough as important for an international footballer. Therefore, I could use MT as the golden thread to link the behaviours players had identified as important to the language used by coaches to clarify and reinforce these behaviours within training sessions. Further, I could then support coaches in facilitating players to reflect on these behaviours post-session (e.g., what was I thinking in that moment? What do I need to improve?). In other words, to develop the capacity to perform consistently despite varying levels of stressors, players needed to know what behaviours to display, why

displaying those behaviours was important, and how to learn from mistakes to improve their behavioural selection and execution. I could use my forthcoming interactive session to reinforce the importance of players displaying these MTbs in competition, using them as cues to stay focused on their process under pressure. Having reflected on these conversations, I felt a greater sense of clarity in how I should frame my MT introduction session with players and looked forward to delivering it later that day.

Educating Players on MT and MTbs. I divided my MT introduction session into three sections: (1) what MT is and its importance in performing consistently under pressure; (2) how players can display MT through behaviours on the pitch; and (3) how players can develop their MT through reviewing and reflecting on the MTbs they did or did not display under pressure. Within the session, as a way of modelling MTbs, I showed players a video I had developed with the analysis team, displaying players from across age groups in the National Association demonstrating MTbs on the pitch (e.g., composure on the ball). We then linked these MTbs to the behaviours players had highlighted as important in the previous evening's workshop (e.g., being brave on the ball). Further, I emphasised the importance of players engaging in off-pitch MTbs, such as support seeking and active listening, to develop and maintain their MT over time.

I felt a sense of relief in finally having the opportunity to deliver my introductory session to players on MT. This session had already been bumped off the schedule twice by the Head Coach, and while I could understand his rationale for not wanting to overwhelm the players with information, I was starting to get a sense of where I sat in the food chain of practitioners delivering on the international camp. I was also gaining a greater understanding of the fluid nature of the camp schedule, with my session reduced from a 30-minute pre-training slot to a 15-minute slot situated between lunch and the second training session of the day. Therefore, as the players took their seats in the meeting room, I became concerned that

their minds would be drifting towards that afternoon's training and making a good impression on the coaches, rather than focusing on the task at hand. I was also conscious that taking a group of teenage boys whose sole focus that week was to eat, sleep, and breathe football and asking them to sit in a classroom for any period to discuss MT may trigger memories of school and cause them to switch off. On top of this, I felt foolish; from previous conversations I had had with coaches throughout my research project, they had often emphasised the importance of keeping meetings short and sharp to keep players present. I, on the other hand, was focusing on my MT presentation through a researcher lens and prioritising getting all the key information I wanted across, without considering the needs of the audience. I had allowed my concerns as a researcher cloud my judgement as a practitioner. Having discussed with coaches at length the importance of being adaptable in how they support player MT development, and the importance of developing psychologically flexible players, I was now having to display some of this adaptability myself in streamlining my presentation, which I did successfully.

I tried to present MT in language that the players would understand and buy into, changing words such as 'stressors' and 'adversities' to 'challenges' and 'obstacles.' However, as I engaged in these discussions with players, I started to feel uncertain and conflicted within my practitioner-researcher role. My practitioner-self felt obligated to adapt MT to the context in which I was operating, to show players the link between displaying MTbs, reflecting on these displays, and enhancing performance under pressure. At the same time, my researcher-self grew concerned that if I was simplifying the terminology around MT and diluting the construct's meaning, then was I really educating the players on MT at all. Was I simply helping them to learn to cope more broadly with environmental demands? On reflection, the main purpose of my intervention was to support coaches in developing players' MT, not to educate players on the importance of MT development. I had worked with

coaches during the education sessions to enhance their understanding of MT and how it could be developed via MTbs. My role on camp was to support coaches to integrate MT development within their coaching sessions and support them in clarifying this process for players. This education session was simply a part of that clarification process. Therefore, I had to fight the urge to be seen to be making an impact with the players and accept my bit-part role in clarifying MT for players within the limited time I was assigned.

Checking and Challenging Coaches to Identify and Clarify MTbs. While the coaches operated from an ‘identify-clarify-reinforce-review’ framework for player behaviours, I primarily sought to integrate language around MT development within the clarify stage of this process. Specifically, through checking and challenging coaches during pre-training preparation meetings while on camp. Here, coaches clearly outlined the technical and tactical outcomes for each training session but regularly overlooked any psychological outcomes. This presented a great opportunity for me to remind the coaches of the importance of MT development, and the need for players to develop the capacity to cope with the many pressures they faced while playing international football. Through repeated questioning (e.g., what MTbs are you looking for from players during this session?), we implemented a common language of MTbs, based on the behaviours players had previously highlighted as important. Coaches could then clarify with players during pre-training meetings and reinforce during post-training review sessions. For example, the psychological outcome of one training session was *positive reactions to mistakes* (e.g., players’ reactions when losing possession of the ball). I encouraged the coaches to observe players’ body language and communication skills – key MTbs - given this was the players first camp training together. For example, which players were comfortable giving instructions in this new environment to other players they had only just met and didn’t really know? The coaches then held a pre-training meeting with the players, where they highlighted the importance of player’s maintaining a *clarity of*

mind (i.e., MT) during the session, understanding their role, and not being afraid of making mistakes, provided they reacted positively. In the review session that evening, coaches showed video clips of good and bad reactions to mistakes by players to reinforce this MTb and differentiate between making a poor mistake and being a poor player.

I felt satisfied that I had managed to overcome my early camp imposter syndrome and to challenge the coaches on how they deliberately integrated MT development into their sessions. I began to realise that, rather than assuming the coaches already had all the answers and I had little to offer, the coaches enjoyed being challenged and this had led to some productive discussions regarding MT development. Having previously advocated the need for coaches to clarify and reinforce MTBs for players, I began to realise I needed to do the same for the coaches' behaviours. Only through being authentic and willing to challenge the status quo regarding psychological development was I going to be capable of making an impact on this camp. However, I still found it difficult to check and challenge coaches on a regular basis during the camp, with training preparation sessions being short and *ad-hoc* in nature. I often found that coaches had a pre-planned idea for what they wanted out of sessions, leaving limited time for discussions, and leaving me to figure out where else on camp I could impact coach behaviours and players' MT development.

Creating Role Clarity. Two days into the international camp, I was starting to grow anxious about my lack of impact on coach behaviours and MT development. I was trying my best to check and challenge coach behaviours before and after training sessions. However, at times, I felt like a spectator who had simply been invited along to observe the daily processes of an international youth camp, rather than a practitioner-researcher who had some meaningful role in enhancing those processes. On reflection, I realised that this anxiety stemmed from an uncertainty around my role within the camp. While I was fully aware of my role as a practitioner-researcher and had identified areas where I could have an impact (e.g.,

workshops, review sessions), I realised that I had not spent much time clarifying this role with the coaching staff. This was reinforced by the assistant coach asking me, “So, what are you doing here then?” upon my arrival at the camp. I reminded the coach of my role on the camp, to support coaches in developing players’ MT, but in that moment, I felt all my insecurities regarding my research project bubble to the surface. How could I expect to shape coach behaviours and impact players’ MT development, if the coaches did not understand what my role was? Moreover, I felt like the odd one out. Everyone else on the camp had a defined role with clear responsibilities – the coaches, the strength and conditioning coach (S&C), the doctor, the physiotherapist, and the kitman. The coaches even provided the players with role clarity by conducting a workshop identifying the three roles all squad members would adopt – starters, finishers, supporters – and the behaviours expected of individuals within each of these roles. These feelings of isolation were reinforced during the first two days of camp, as coaches regularly forgot to inform me when team meetings were taking place. I felt like an outsider looking in and found myself regularly trying to catch coaches around the hotel to find out what that day’s schedule was, what the aims for that day’s training were, and when we would be meeting to discuss these in greater detail.

After two days of feeling isolated, I decided to approach the Head Coach to suggest organising twice daily meetings; to set out the day’s agenda in the morning and debrief the day’s events in the evening. The Head Coach was open to the idea, and we organised the first debrief session for that evening. During this session, I took the opportunity to ask the coaches to reflect on the players’ MT development so far and the behaviours they as coaches had implemented to try and create a psychologically informed environment for the players. The coaches discussed some of the challenges of international football, including trying to condense a bank of information that would be drip fed over six weeks in a club environment, into a week or less in an international environment. While delivering this information was

possible and even effective using a streamlined approach, it also brought with it challenges; balancing autonomy-supportive behaviours with simply getting your message across, using language that challenged players or made them feel somewhat uncomfortable (e.g., “who is going to mess this drill up?”) while also supporting them to develop the MT required to cope with these challenges.

Engaging in this conversation with coaches brought me a great sense of relief. I realised that while I was predominantly having short and sharp interactions with coaches regarding players’ MT development, that did not make these conversations any less impactful. In fact, coaches acknowledged the need for all practitioners operating within the time limited environment of international football to adapt their principles to a more solution-focused approach. Further, I felt validated in my decision to organise daily staff debriefings. These provided opportunities through which I could discuss coaches’ ongoing MT development processes away from the noise of sessions and helped to reinforce my understanding of how sometimes the small, informal discussions can have as big an impact as formal presentations. Perhaps a more significant lesson from this interaction was the need to establish clarity in my role prior to camp. This was the first international camp I was attending as a member of staff rather than an observer, but what I had forgotten is that the coaches had conducted these camps effectively without me for several years; I was just one small cog in a much larger machine. By not proactively establishing my role with coaches beforehand, I was left to reactively provide support to coaches’ in developing players’ MT on camp, trying to embed myself and justify my presence, while fighting the insecurities that come with a lack of contextual knowledge.

Reflecting on MTbs. A key aspect of the pre-camp coach education sessions was highlighting how players’ display of MTbs could be linked to MT development via reflective practice. That is, players needed to rationalise the decisions they made on the pitch (i.e., why

did you choose that MTb?) during post-training review sessions to enhance their capacity to perform consistently when faced with various levels of stressors. Coaches helped players to engage in this process in camp through dividing players into small groups to review video clips of that day's training session and feedback on what they did or did not do well in relation to the sessions aims (e.g., positive reactions to mistakes, aggressive counterattacking). Having observed these review sessions for a couple of days, I noticed how these unit reviews were beneficial for player-to-player collaboration, which enhanced player relationships both on and off the pitch. However, these sessions were still dominated by the louder players in each group, leaving quieter ones to simply conform, inhibiting their understanding of key MTbs and MT development. Therefore, for players to take greater autonomy over their MT development, an element of individual reflection needed to be incorporated.

I discussed my observations with the Head Coach and suggested implementing a form of action observation motor imagery (AOMI) whereby players observe a video clip of a specific behaviour (e.g., playing a successful pass under pressure from the opposition) while trying to visualise and recreate the sensations and cognitions associated with that movement (see Shearer et al., 2020). In this way, players could individually reflect on their decision-making process and display of MTbs under pressure. My goal here was not simply to bring an issue to the table, but to adopt the solution-focused approach the coaches had previously advocated during our debrief meetings. Such an approach would facilitate coach buy in, and thus have a meaningful impact on coach behaviour and player MT development. As a result, I was conscious that I did not have the time to run an in-depth workshop with players, creating individual imagery instructions to enhance their decision-making recall, as is suggested in the AOMI literature (cf. Wright et al., 2021). Further, the purpose of my intervention was to support coaches in how they identified, clarified, and reinforced players MTbs, not engage in

this process directly with players. Therefore, I proposed a streamlined version of AOMI to the international coaches. In this shortened AOMI task, players would be provided with a selection of video clips by the coaches and asked to choose two clips of themselves performing a MTb. Players would then be asked to visualise the sensations associated with performing the MTb from each of these clips, and write down what they were thinking while selecting and executing the MTb. My suggestion was met with some resistance from the Head Coach, who was reluctant to set aside time in an already packed schedule for players to engage in this activity. Instead, he suggested asking players to simply close their eyes at the end of the review session and to reflect on one behaviour they executed well during training, and one behaviour they needed to improve. Here, focus was placed on the MTb of *seeking support* and coaches encouraged players to not be afraid to ask for advice or guidance regarding any aspect of their performance. While this was better than nothing, I felt my frustrations and anxieties regarding the intervention begin to rise once again. How could the coaches expect me to have a meaningful impact if they were not willing to integrate opportunities for MT development within their camp structure? Nevertheless, I tried to empathise with the time pressures the Head Coach was under to bring all players up to speed in their international football education. His focus on this camp had to be clarification and reinforcement of key MTbs – did players understand what they were being asked to do? Players’ abilities to reflect on their selection and execution of these MTbs consistently under pressure took a back seat; something to be developed on future camps. Therefore, I decided to focus my support on checking and challenging how coaches clarified and reinforced MTbs in pre- and post-training sessions for the remainder of camp.

Reframing Problems. The primary purpose of my intervention was to support coaches in adapting their behaviours to facilitate players’ MT development. However, the opportunity also arose to provide guidance to support staff regarding their impact on players’

MT development. For example, the morning after the second game of the tournament, the S&C approached me to discuss a player behavioural issue. The S&C had been running a meditation session with players that morning as part of a recovery session. The players were all on a high, having won their game the previous night in a penalty shootout to record their second win of the tournament. However, this positive atmosphere quickly turned to ill-discipline as one player repeatedly interrupted the session, laughing, joking, and disrupting his teammates' concentration on the task at hand. Consequently, the S&C coach felt like the session had been a waste of his time and the players did not respect his role within the support team. I suggested that rather than repeatedly calling out the player for their behaviour, which seemed to be having little effect, the best course of action would be to reframe the problem with the player. Based on my previous research within this international football environment, I had found that a key set of MTbs players need to display is the ability to develop professional habits, such as *engaging in deliberate recovery*. Players who can link the benefits of what they do off the pitch, including physical conditioning and tactical review sessions, to what they do on the pitch will be motivated to engage in these behaviours on a consistent basis and utilise the skills they learn to enhance their on-pitch performances when facing varying levels of stressors. Therefore, I encouraged the S&C coach to illustrate to the disruptive player how his inability to concentrate off the pitch during a recovery session could affect his future on-pitch concentration. If he could not learn to stay present and control his emotions during a meditation exercise, how could he ever expect to stay present and control his emotions on the pitch in a stressful situation. The S&C thanked me for the advice and stated that he would try to reframe the problem in this manner during his next session.

Having effectively talked through this disciplinary issue with the S&C I felt both satisfied and guilty. Satisfied because I was starting to embed myself effectively within the environment, with staff seeking out my advice on how to affect behavioural change to

enhance players' MT development. Aligned with a brief contact approach, through getting the S&C coach to stop viewing the player discipline issue as solely intra-individual (i.e., the player doesn't want to listen), but also inter-individual (i.e., I need to reframe the importance of this session), we devised a quick yet effective solution that would illustrate to the player the importance of off-pitch MTbs. I was conscious that the Football Association wanted to develop players who were capable of taking ownership over their behaviours, and that the solution I proposed to the S&C coach added extra steps to this process. However, based on interactions such as the one outlined, I found that to get athletes to a place where they are self-regulating their MTbs, you first need to create a psychologically informed environment. Staff should be capable of challenging players to learn the professional habits required to perform consistently, but also support players through linking off-pitch MT development to on-pitch performance, leading to greater player self-regulation over time. This is where my feelings of guilt came in. I felt guilty because I had narrowly focused my intervention on the coaches and supporting them to develop MT in players, when in reality, all support staff require psychoeducation for an environment to be truly psychologically informed. While perhaps it was not realistic to provide support to all staff within the timeline of the current project, I recognised that my practitioner-researcher role may need to expand to support these individuals when conducting future work. Specifically, I could support staff at an organisational level and discuss the importance of explicitly linking the MTbs required for tactical and physical work off the pitch to the MTbs required for consistent performances on the pitch.

Tensions between practitioner and researcher roles. From my experiences conducting this intervention, the role of *the practitioner* and the role of *the researcher* in informing practice often conflicted, and I regularly experienced tension within this dual role. To effectively inform practice as a practitioner required me to adopt a client-centred

approach, creating empathic, open, and warm relationships with the clients, in this case the international coaches. Creating such relationships were fundamental to gain coach buy in to my brief contact intervention and were predicated on my ability to earn the coaches' respect and acceptance, through helping where possible during the camp (e.g., carrying kit) and putting the needs of staff and players ahead of the needs of my own intervention. At times, this meant amending the length, content, and timing of my intervention delivery, adapting to the *ad-hoc* and time-limited nature of the camp schedule, and accepting that I was bottom of the support staff food chain.

Going into the international camp, I was conscious that my brief contact intervention relied heavily on me being able to engage coaches in meaningful, albeit often unplanned, interactions to instigate coach behaviour change and thus facilitate players MT development. Yet before I engaged in meaningful conversations with coaches or athletes, I felt that I first needed to better understand the context in which I was operating. Having never previously worked in situ as a practitioner for the duration of an international camp, I was attempting to gain the contextual knowledge required to navigate the complexities of applied practice while impacting the context itself, through nudging coach behaviours regarding MT development. I found myself asking questions like, "How do these camps operate?" and, "Where is my best opportunity to engage coaches in conversations regarding their behaviours and MT development?" I felt like I was 'chasing my tail' as I sought to familiarise myself with the international football context. My practitioner-self strived to stay patient and calm during this process, acknowledging that it takes time to develop the contextual knowledge and trusting relationships required to have a lasting impact on practice. By contrast, my researcher-self grew increasingly anxious and impatient to figure out where I could have the biggest impact on coach behaviour change and subsequent player MT development within the intervention's short timeframe. My practitioner-self aspired to become an insider through the development

of collaborative working relationships that would contribute to meaningful, long-term behaviour change in coaches and players. But my researcher-self aspired to remain an outsider, to gain a broader understanding of the international football context and to subtly nudge coaches towards engaging in autonomy-supportive behaviours that would facilitate players' MT development. Where my practitioner-self viewed personal involvement with the coaches as an inevitable step in the process of collaborative behaviour change, my researcher-self considered such involvement to be a form of bias that needed to be reflexively accounted for. As an insider working in this environment, how could I ensure any behaviour change displayed by coaches or players was enduring and not simply due to my presence at the camp?

The self-doubts around my practitioner-researcher role caused me to focus more intently on being present and led to a more cautious approach to my intervention delivery. From a practitioner perspective, I engaged in conversations with coaches regarding MT development, actively listened to what they had to say, and paraphrased to clarify the points they made and to show I was listening. From a researcher perspective, I tried to drip feed my knowledge regarding MT development into these conversations with coaches in a manner that was streamlined yet informative for practice. This cautious approach initially led to me to worry about the lack of tangible impact I was having. I felt I needed to be seen to be making a difference to justify my presence. However, as the camp progressed, I reflected that impact could come in many different forms. By regularly engaging in both formal and informal discussions with coaches and staff regarding MTbs and MT development on camp, I was both “a part and apart” (cf. McDougall et al., 2015, p. 270) of the international football environment. I was developing relationships with coaches, while also keeping enough of a distance to challenge these coaches on the language they used to clarify, reinforce, and

review MTbs with players. As such, I was doing my utmost to embrace the tensions of my practitioner-researcher role and maximise the external impact of my research.

Discussion

MT development interventions have previously focused on coaches' abilities to identify players' MTbs through checklists and reinforce these MTbs through coach behaviour frameworks, with little regard for the time-limited context in which coaches operate (e.g., Anthony et al., 2018; Mahoney et al., 2016). As such, there is a need to supplement coaches' knowledge of *what* MTbs athletes should display to enhance MT with a greater understanding of *when* and *where* coaches can effectively facilitate athletes' MT development in situ. To address this gap, I sought to embed myself as a practitioner-researcher in a National Football Association and implement a behaviour-based approach to MT development. Having previously worked with this National Football Association to conceptualise the MT development process in international youth football (see McKay et al., under review [Chapter 5]), this behaviour-based approach involved educating and supporting international coaches to facilitate players' MT development via MTbs over the duration of an international camp. Overall, coaches' self-efficacy regarding MT development increased due to participating in the pre-camp coach education sessions. Participating coaches highlighted the impact the coach education sessions had in helping them to clarify what MT is, challenge their assumptions regarding MT development, and realise the importance of integrating a MT development framework within their camps. Further, players' MT scores significantly increased from pre- to post-camp. Coaches highlighted the impact the in-camp phase of the intervention had in supporting them to develop players' MT, through checking and challenging their own behaviours, reinforcing the importance of role modelling MTbs, and reinforcing the need to implement MT development proactively. Players attributed their MT development to the support they received from coaches, emphasising how coaches clarified

and reinforced the MTbs they should display on and off the pitch, and helped players to reflect on how they selected and executed MTbs under pressure. Based on these findings, practitioners should adopt a proactive approach to developing MT in the time-limited context of high-level sport. Specifically, they should focus on supporting coaches in planning their sessions, establishing clear mechanisms for MT development and opportunities for players to display MTbs within training drills. Further, practitioners should be encouraged to collaborate with international coaches to implement a behaviour-based approach to MT development. Players can learn to focus on the process of selecting and executing MTbs when facing varying levels of stressors, before reflecting on and learning from the outcomes of these behavioural displays in post-session reviews, thus enhancing their MT capacity when making similar future decisions.

MT education sessions provided international coaches with a behaviour-based framework for developing players' MT that built on coaches' pre-existing knowledge of both the psychological demands of international football and the mental capacity required to navigate these demands successfully. Based on previous research with this National Football Association (McKay et al., under review [Chapter 5]), this MT development framework was centred on a conceptualisation of MT as the *clarity of mind* needed to focus one's attention on relevant performance demands (e.g., intensity of international football), control one's emotions, and select and execute the correct MTbs for consistently high performance. Eubank et al. (2017) advocated the need for MT development frameworks to be rooted in the terminology of coaches and athletes rather than imposed on a sport environment by researchers and practitioners. Adopting this bottom-up approach to MT development can create a context-specific understanding of MT, as well as provide a set of MT development strategies and MTbs that coaches recognise and can implement effectively (McKay et al., under review [Chapter 5]). Therefore, the education sessions in the current intervention

provided coaches with a MT development process underpinned by the common language they used regarding MT development strategies, MTbs, and MT maintenance. Researchers have previously been disconnected in this regard, outlining what MT development strategies athletes and coaches can implement (Bedard-Thom et al., 2021) and what MTbs athletes should develop (Anthony et al., 2020), but overlooking how coaches and athletes collaborate to develop athletes' MT through the language they use and how coaches frame MT development opportunities. By contrast, the shared MT model provided in the current intervention helped to ensure coach understanding and to facilitate the integration of MT development within the structure of an international camp.

Given that the outlined MT development framework was grounded in the context of international youth football, I also needed to consider the unique aspects of this context when implementing this framework. Namely, MT had to be developed within an international camp that was time-limited and *ad-hoc* in nature. To elaborate, the participating under 15's age group were engaging in their first international camp. Over the course of a week, they had to take on board a wealth of new technical and tactical information, as well as trying to develop relationships with new teammates and coaches (McKay et al., 2021 [Chapter 2]). Therefore, the participating international coaches emphasised putting the players' needs first, regularly changing that day's schedule to provide players with downtime and opportunities for relaxation (e.g., meditation sessions) to recover effectively. Engaging athletes in deliberate recovery can help them learn fundamental MTbs regarding self-control and help to replenish one's depleted MT capacity (Bedard-Thom et al., 2021; McKay et al., under review [Chapter 5]). Nevertheless, the fluid nature of the camp schedule meant having to implement a flexible approach to MT development, leading to inner conflict between my role as a researcher and role as a practitioner (Collins et al., 2019).

From a researcher perspective, the need to quickly gain an understanding of when and how I could effectively support coaches to develop MT, as well as overcome my lack of practitioner experience in an international football setting caused me to feel highly anxious. The ability of sport psychologists to learn how to display appropriate external behaviours and emotions despite incongruence with internal emotions is fundamental when learning how to deliver theoretical knowledge on a topic like MT in a novel context (i.e., emotional labour; Hings et al., 2020). Yet in the current study, I also had to balance my internal-external emotional struggles as a practitioner (“I don’t know what I’m doing, but I can’t let the coaches see that”) with my internal-external emotional struggles as a researcher (“I need to nudge coaches regarding players’ MT development, but I can’t show my frustration when I get ignored”). Consequently, I had to resist the urge to “reduce the uncertainty and ignore the complexity” (Winter & Collins, 2015, p. 12) I felt regarding my role within the international camp and overcome my desire to justify my presence and develop players’ MT at all costs. This ongoing role conflict left me feeling emotionally exhausted at the end of each day of camp, and I relied heavily on reflective practice and daily debriefs with my supervisors to make sense of the emotional reality of working as a practitioner-researcher and reduce some of the uncertainty I felt implementing my MT development framework (Cropley et al., 2016).

From a practitioner perspective, it is important to embrace the messiness of practice and use feelings of self-doubt to focus one’s attention on helping others and develop the contextual intelligence required to operate effectively within a certain environment (Andersen & Stevens, 2007). Only through taking the time to embed oneself within an organisation’s culture can a practitioner develop trusting, mutually respectful relationships with coaches and athletes, providing the platform for meaningful behaviour change, such as MT development (Collins et al., 2019). Previously, researchers who have implemented MT interventions have largely overlooked the importance of embedding oneself in the culture of the target sport and

developing working relationships prior to engaging in MT development activities. For example, Bell et al. (2013) portrayed how coaches should provide cricketers with a clear vision of the future and support cricketers in developing the MT capacity to pursue this vision, regardless of the challenges they encountered. Yet they failed to consider what MT looked like for individuals in this context or how the researcher developed and utilised relationships with key stakeholders to gain buy in regarding MT as a key resource for performing under pressure. Similarly, Mahoney et al. (2016) outlined how rowing coaches criticised the investigators' MT intervention, which focused on developing rowing coaches' autonomy-supportive behaviours to aid MT development, for not being bespoke to a rowing context. Consequently, embedding myself within the culture of international youth football meant respecting the player-centred, solution-focused approach adopted by the coaches on camp. Specifically, I needed to provide the coaches with space to get to know the players and to understand the behaviours players associated with being a successful international footballer. However, in so doing, I often found myself pushed to the periphery of camp delivery. Anthony et al. (2018) outlined similar issues during their MT intervention with AFL coaches and recommended that practitioner-researchers seek alternative opportunities to reinforce coaches' understanding of MT and application of MT development strategies within their training schedule. Therefore, moments of brief contact I had with coaches throughout the camp became critical opportunities to have a meaningful impact on coaches' behaviours regarding MT development in players, without disrupting the structure of the international camp (Arthur-Cameselle & Giges, 2020).

Moments of brief contact were typically unplanned and relied on me acquiring the experiential knowledge to understand when and how to appropriately check and challenge coaches regarding MT development. Practitioners gain such experiential knowledge through learning from the experiences of others (e.g., how coaches feedback to one another), as well

as reflecting on their own experiences and learning to trust their intuition when making decisions in applied practice (cf. Cropley & Williams, 2023). Moreover, sport psychology researchers have recently begun to highlight the importance coaches and other key stakeholders place on the personal qualities of the practitioner, such as their relationship development skills and past experiences, when conducting interventions in applied practice (e.g., Thelwell et al., 2018; Woolway & Harwood, 2020). Therefore, I looked to target team meetings, review sessions, and bus journeys to and from training sessions, as these provided structured opportunities to engage in unstructured moments of brief contact with coaches. Aligned with recent guidelines regarding the implementation of brief therapeutic interventions in sport, these moments of brief contact helped support coaches in developing players' MT through four main mechanisms: (1) goal setting for an upcoming coaching session; (2) reframing coaches' perspectives on MT; (3) emphasising the language coaches used to outline MT and MTbs to players; and (4) supporting coaches in identifying players strengths (Arthur-Cameselle & Giges, 2020; Pitt et al., 2020). To expand, moments of brief contact typically involved discussing the coaches' goals for a session (e.g., to help players tactically prepare for their next game), using their language (e.g., being brave, staying switched on) to develop rapport and demonstrate understanding of the task-relevant cues required for performance. Once this understanding had been established, I was then in a stronger position to advise on how to integrate MT development strategies within these sessions. Specifically, I used my behaviour-based approach to MT development to help coaches reframe the challenges they were facing in a facilitative manner. For example, past research has demonstrated how players transitioning to the international football environment for the first time want to make an impression on international coaches to ensure they are repeatedly selected in future international squads (McKay et al., 2021 [Chapter 2]). In the current study, this desire to make an impression often caused players to play within

themselves as they tried to be perfect in everything that they did (i.e., I must not make any mistakes or else I'm not good enough for this level). Therefore, the international coaches sought to help players accept that everyone makes mistakes. Rather, it is about how you respond to these mistakes via your behaviours and learn from these mistakes via reflection that matters. I supported coaches to integrate language from our behaviour-based MT development framework into these discussions, emphasising how MTbs, such as positive reactions to mistakes, assist players to strive towards consistently high performances under strain and their goal of continually making international squads (Gucciardi & Hanton, 2016). Integration of this language was intended to enhance the psychological flexibility of players, allowing them to utilise MTbs to adapt to adverse situations in the moment and move away from rigid, absolute thinking regarding the need to be perfect (Lundgren et al., 2020). Such reframing sessions can help coaches support their athletes in adopting a more process-focused approach to performance, getting athletes to focus on what they can control (i.e., their MTbs), and reduce anxiety regarding social comparison with others (Arthur-Cameselle and Giges, 2020; McKay et al., 2021 [Chapter 2]).

To integrate a behaviour-based approach to MT development in international youth football, it was also important for coaches to clearly outline to players the MTbs required to perform to a consistently high level. Past research into brief therapies in sport has highlighted how coaches often define psychological concepts as entities to be possessed (e.g., “he needs to find some confidence”) rather than something athletes can demonstrate through behavioural acts (e.g., communicating effectively with a teammate; Lindsay et al., 2014; Pitt et al., 2020). Similarly, MT has often been viewed as a ‘thing’ athletes have (e.g., Jones et al., 2002) rather than a capacity which allows an individual to engage in contextually appropriate behaviours in pursuit of high performance. Such vague conceptualisations need to be challenged by practitioner-researchers conducting brief contact interventions through using a

directive approach and asking coaches, “What can you see/hear on the pitch that lets you know when a player is displaying a MTb?” This approach was used to great effect by Anthony et al. (2020) in an AFL context, where coaches identified several categories of specific, observable MTbs players should display when faced with situational demands (e.g., consistent training conduct). Similarly, this directive approach was used during moments of brief contact (i.e., training preparation & review sessions) in the current study to help coaches identify the MTbs they wanted players to display, recognise when players displayed these MTbs on and off the pitch, and clarify and reinforce these MTbs appropriately with players before and after training sessions.

As outlined, research groups have started to clarify the link between underlying MT, MTbs, and effective performance, and assist coaches in recognising these MTbs and increasing their display by players (Anthony et al., 2018; Diment et al., 2014). However, prior to this PhD thesis, no previous study had ever provided a clear link between an individual’s MTb displays and subsequent MT development. By contrast, in the current study coaches reinforced desired MTbs through getting players to review and reflect on their MTb displays, either individually or in groups. Coaches had already worked with me, the practitioner-researcher, to develop a clear understanding of what MTbs they were looking for from players and how focusing on these MTbs within sessions would provide players with a greater sense of control over their decision-making process and coping ability. Consequently, prior to review sessions I encouraged coaches to reinforce the decision-making process players engaged in to select the correct MTb for a situation (e.g., playing a difficult pass when being encouraged by coaches to play forward quickly), regardless of the outcome (e.g., the pass being intercepted by an opponent). In so doing, coaches supported players to distinguish between the MTbs they displayed (or failed to display) and their beliefs about their MT capacity, highlighting that just because a player made a mistake, it did not make

them a bad player. Reinforcing a players' desire to display the correct MTb rather than the performance outcome aligns with a strengths-based approach to behaviour change, where emphasis is placed on identifying and enhancing an athletes' strengths (e.g., ability to learn quickly from mistakes) rather than reducing their weaknesses. Strengths-based approaches have been advocated within both the MT (e.g., Gucciardi & Gordon, 2011) and brief contact intervention literature (e.g., Pitt et al., 2020) as an effective method for getting athletes to stay present and focus on solutions to their current issues, rather than getting caught up in past mistakes. As such, supporting coaches in adopting a strengths-based approach to MT development, where focus is placed on quickly overcoming setbacks and solving challenges was pertinent in the time poor environment of international football. Moreover, this perception of MT development aligns with recommendations in the literature that organisations should aspire to create a MT image that includes mental vulnerability (Uphill & Hemmings, 2017). Specifically, to support players to continuously strive towards consistent high performance in the face of adversity, international coaches demonstrated unconditional positive regard towards their players, regardless of the mistakes they made (Wachsmuth & Jowett, 2020). Coaches encouraged players to embrace the fallibilities of their psychological make-up, allowing stronger coach-player relationships to form, and helping players feel comfortable to seek the support of their coaches as they sought to develop their MT capacity.

Implications for Practice

A behaviour-based approach to MT development builds on previous MT interventions which focused on an athlete's ability to *just do* MTbs regardless of underlying cognitions but failed to provide a link between one's display of MTbs and subsequent MT development (Anthony et al., 2020). Aligned with an acceptance and commitment-based philosophy (Gardner & Moore, 2017), practitioners should support coaches in teaching players to clarify and accept their thoughts in a given context (e.g., what were you thinking in that moment?)

and commit to the display of MTBs, rather than viewing negative thoughts as detrimental to one's underlying MT beliefs and subsequent performance. In this way, players can develop the psychological flexibility required to stay present and focus on the process of performing to a consistently high level under pressure, rather than getting caught up in past events or potential future outcomes (Gucciardi et al., 2021). A MT development process that focuses on how a player transacts with and learns from personal experiences with adversity (e.g., trying to maintain your place in the international squad) also aligns with Anthony et al.'s (2016) integrated model of MT development. Here, individuals have the capacity to use past adverse encounters to shape similar future transactions and behavioural responses through the processes of coping and reflecting on their MTb displays, clarifying the underlying thought process behind their MTb displays, and adapting their MT capacity accordingly (Anthony et al., 2016; Lazarus, 1999). Therefore, MT involves one's capacity to consistently select and execute MTBs under pressure, as well as reflect on their display of these MTBs, to support personal and professional development when encountering varying levels of stressors over time.

Summary, Limitations, and Future Research Directions

An ecologically valid approach to MT development accurately reflects the complexity of behaviour change and the multitude of intra-individual (e.g., cognitions), inter-individual (e.g., relationships) and environmental factors (e.g., cultural norms) that contribute to the pursuit of consistently high levels of performance despite varying levels of stressors (Anthony et al., 2016). Therefore, to effectively develop MT in an international youth football context required the integration of a behaviour-based approach to MT development aligned with existing cultural norms (e.g., National Football Association's values and game model) and in-camp support for international coaches as they tried to build relationships with players and facilitate players' MT development. Through supporting coaches during

moments of brief contact to *identify, clarify, reinforce, and review* players' MTb displays, players developed a greater understanding of the MTbs expected of all squad members (e.g., team-oriented) and a greater capacity to attempt and reflect on their display of MTbs under pressure in training and competition. Such an approach builds on past MT interventions, where a singular focus was placed on increasing players' MTbs displays, with little consideration for *how* MTb leads to MT development through practitioner-coach and coach-player interactions (Anthony et al., 2020).

Nevertheless, the reliance of in-camp support on unplanned moments of brief contact highlighted a missing link in the intervention, the inclusion of coaches in the development of the intervention layout. Researchers have previously illustrated the importance of collaborating with coaches prior to MT interventions to develop an effective working alliance and implement a MT development programme centred around their needs (Mahoney et al., 2016). Despite educating coaches on the MT development process within international youth football (see McKay et al., under review [Chapter 5]) at the intervention outset, I overlooked the need to support coaches in planning how MT development strategies would be implemented into camp and how I would support them to aid players in learning to display MTbs under pressure. Incorporating MT development mechanisms and outcomes into coach session plans and naturally integrating these mechanisms as part of each day's training session would allow the practitioner-researcher to work proactively through the coach without disrupting the already hectic international camp schedule (Diment, 2014). Such a role would help to create a clarity of process regarding *when* and *where* these MTbs can be developed during an international camp. This clarity of process would also provide the practitioner-researcher with role clarity on camp (i.e., to implement planned MT development strategies) and dissuade any anxieties regarding the need to be seen as an effective researcher (Champ et al., 2020).

Given that MT is developed through interactions between an individual and their environment, across contexts and over time (cf. Anthony et al., 2016), future research looking to explore the development of this capacity in greater depth should adopt a longitudinal design. In an international football context, this would involve a practitioner-researcher supporting coaches to develop players' MT capacity across several camps. The practitioner-researcher could monitor the progress of a specific age group from the outset of their international football developmental journey at under 15s level, through to under 21s level and the senior international team. Adopting this longitudinal approach would allow the practitioner researcher to gain a broader understanding of the National Football Association's culture (i.e., its values, beliefs, traditions) and the impact this culture has on developing a specific type of mentally tough player (Coulter et al., 2016; Eubank et al., 2017). Further, it would allow the practitioner-researcher to monitor the "rocky road" of challenges (e.g., trying to qualify for international tournaments) players encounter as they transition - or fail to transition - through the age groups (Collins et al., 2016, p.2). In this way, a conceptualisation of MT could be formed that is not based on survivor bias (i.e., those who make it to the senior level are mentally tough), but on a player's capacity to adapt to the organisational and cultural demands of international football and focus on the process of delivering consistently high performances in the face of varying levels of stressors.

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CHAPTER 7

GENERAL DISCUSSION AND CONCLUSION

Introduction

The final chapter of this thesis aims to illustrate the contribution to knowledge and practice made by this programme of research. Specifically, the findings from each study of my PhD will be evaluated and a broader view will be taken to assess the conceptual, theoretical, and practical implications of my research in relation to the overall objectives of my thesis and the topic of mental toughness (MT). To achieve these aims, this chapter will be divided into five sections: (1) a summary of the aims and findings of each study in relation to the thesis' overall objectives; (2) a discussion of the conceptual, theoretical, and practical implications of my PhD findings; (3) an assessment of the impact of my PhD findings on my company partner, the Football Association of Wales Trust (FAWT), with a focus on the dissemination of knowledge leading to the enhanced education and support of players, coaches, and parents within the organisation; (4) a summary of the strengths and limitations of my PhD thesis and an overview of potential future directions for researchers seeking to build on the research findings presented in this thesis regarding the MT development process; and (5) a conclusion that summarises the contributions of this programme of study to both applied research and practice.

Evaluation of PhD Research

The overall aim of this PhD thesis was to develop a behaviour-based MT development framework to support the youth international talent development pathway within the FAWT. Prior to commencing this research project, the FAWT had a clear talent development philosophy, underpinned by the “Welsh Way” national syllabus, which centred on the technical, tactical, and physical pillars of high performance, but overlooked the psychosocial pillar (see summary in Chapter 1). Consequently, the FAWT identified this psychosocial pillar as a priority area for development, and a key facet in delivering the Association's aim of identifying and developing the next generation of international players

to achieve long-term success and continually qualify for international competitions. Specifically, the FAWT wanted to enhance their knowledge regarding: (1) how to integrate psychological development within their coaching framework, with a specific interest in MT development; (2) how players perceived the international development pathway and the demands they encountered during this journey, as they continually transitioned from club to international level; and (3) how enhanced player support and psychological development could be used to improve this journey and overall player performance. As a result, it became clear there was an initial need to clarify *what* psychosocial demands players faced making the club-to-international transition (CIT) and *why* they were demanding. Once the major demands within an international youth football context had been clarified, I could then examine *how* players developed personal resources, such as MT, and utilised these resources through the display of mentally tough behaviours (MTBs), to help them cope with such challenges. Moreover, I could provide the FAWT with a greater understanding of how to clarify and reinforce the display of these MTBs in players and support them in implementing these MT development strategies during international camps.

To address these organisational needs, the objectives of this thesis were to: (i) identify the psychosocial demands youth football players face when making the transition from club-to-international level and being an international footballer; (ii) identify the processes through which international youth football players appraise these psychosocial demands; (iii) identify key mentally tough behaviours youth football players need to display to perform consistently under pressure in international football; (iv) identify and examine the strategies coaches, support staff, and parents use to clarify and reinforce the display of these mentally tough behaviours in youth football players both on and off the pitch; (v) create, implement, and measure the effect of a mental toughness development programme within the FAWT; and (vi) contribute knowledge to the psychosocial pillar of the FAWT's national syllabus and

player development pathway. The following section provides an overview of each PhD study and how these objectives were accomplished.

Study 1: Psychosocial Demands and Situational Properties of the Club-to-International Transition in Male Youth Football

Over the past decade, there has been considerable growth in research exploring the multitude of situationally dependent demands athletes experience during dynamic within career transitions (e.g., the junior-to-senior transition [JST]; dual career transitions; Henriksen et al., 2020; Morris et al., 2017) and the need to provide holistic support to athletes during these transitional events (Drew et al., 2019). Provision of this holistic support is particularly pertinent in a football context, where players at club level are expected to make multiple transitions through age groups in academy systems (e.g., foundation [8-12-year-olds], development [12-16-year-olds], and professional [16-18-year-olds] phases; see Elite Player Performance Plan [EPPP], 2011) prior to making the JST. Yet one demand within career transition that has remained unexplored within football is the club-to-international transition (CIT). The CIT is temporary and ambiguous in nature, and so it warranted investigation through a theoretical lens that reflected this ongoing interaction between the individual and their environment. Therefore, using the cognitive-motivational-relational theoretical framework of stress (CMRT; Lazarus, 1999), Study 1 examined: (i) player and coach perspectives of the psychosocial demands players experience when making the CIT; and (ii) how the situational properties of these demands affect players' appraisal of the CIT. A qualitative methodological approach was adopted to accurately portray participants' lived experiences regarding CIT demands and situational properties. Fourteen international players and ten coaches (four club; six international) were interviewed, with a range of performance (e.g., playing higher level international opposition), organisational (e.g., developing new relationships), and personal demands (e.g., making social sacrifices), and associated

situational properties (e.g., novelty of the transition; duration of the transition) contextually aligned with the CIT being illustrated.

Players highlighted the demands of trying to “make an impression” and demonstrate their value to coaches through acclimatising to the new values, tactics, and behavioural expectations of the novel international football environment. Due to the time-limited nature of international football camps, players had to quickly develop relationships with new teammates and coaches, take on board their international football education, and adapt from the development-focused environment of club football to the results-based culture of international football. The temporary nature of the CIT also left players questioning their identity as an international footballer, having committed to the pursuit of becoming an international footballer and the social sacrifices this entails, while also having to acknowledge the uncertain outcome of their chosen career path. International coaches also discussed the importance of players adapting quickly to the culture of international football, but both club and international coaches highlighted how this acculturation process was inhibited due to a lack of transparent communication between clubs and the National Football Association. This broken feedback loop, coupled with the differing developmental philosophies at club versus international level, meant that club coaches felt they received very limited feedback on the progress of their players, while international coaches believed club coaches were reluctant to implement the feedback they were provided. Consequently, players were often left feeling uncertain about their performances at international level or where they needed to improve to earn selection for future international squads.

Several practical implications were highlighted based on these findings. First, players, coaches, and parents needed to be educated on the nature of the CIT; namely, what demands players are anticipated to face during this event and why they may find the CIT demanding. Such education programmes could provide relevant stakeholders with an understanding of

how to support players in managing their appraisals of CIT demands (e.g., will I get this opportunity again?). Second, to reduce player ambiguity regarding their performances on international duty, clearer communication channels needed to be established between club and international coaches regarding player needs on international duty and areas for improvement when they have returned to their clubs. Finally, to help players cope more effectively with CIT demands, coaches needed to be upskilled on delivering strategies for developing appropriate personal resources which would facilitate players to successfully make the CIT on a consistent basis. One such resource that participants interviewed in Study 1 identified as key to coping with the demands of international youth football was mental toughness (MT); that is, the capacity to produce consistently high levels of subjective or objective performance despite varying degrees of situational demands, ranging from everyday stressors to significant adversities (cf. Gucciardi et al., 2015). Participants outlined how those players who possessed MT had a higher level of emotional maturity and so were able to take greater ownership over their development, including quickly taking on board new technical and tactical information and utilising it under pressure in training and competition. For the participating coaches, MT was an unobservable characteristic that was naturally developed by certain players, allowing these players to manage the demands of international youth football more effectively than their less mentally tough counterparts. However, the participating National Football Association lacked a clear and collective understanding regarding how MT may be developed by international youth footballers with the support of coaches and wider staff. Therefore, there was a need to explore the MT development process within the FAWT and create a shared understanding of the key MT development strategies and mentally tough behaviours (MTbs) required to develop this resource within the organisation.

Study 2: Developing a ‘Clarity of Mind’: Exploring A Behaviour-Based Approach to Mental Toughness Development in International Youth Football

According to participants in Study 1, MT was an unobservable characteristic that separated those who could manage the demands of international youth football from those who could not. However, to understand what being mentally tough looks like and how MT allows players to perform to a consistently high level under pressure requires researchers, coaches, and practitioners to focus on players’ observable MTbs (Gucciardi & Hanton, 2016). Moreover, through selecting and displaying MTbs consistently, players could develop the underlying cognitions associated with performing under pressure (Diment, 2014). Nevertheless, prior to this study, no clear link had been provided in the MT literature between the display of MTbs and subsequent MT development (e.g., Anthony et al., 2020; Madrigal, 2020). This lack of understanding was also evident within the FAWT, where coaches expressed uncertainty regarding the specific MTbs players were expected to display consistently on and off the pitch, and the coaching strategies required to clarify and reinforce these MTbs in players, leading to MT development. Study 2 therefore sought to clarify and create a shared understanding of the MT development process within international youth football and inform the creation of a MT development programme within the FAWT. Specifically, the aims of Study 2 were to identify: (i) MTbs in international youth football; (ii) the specific contexts (e.g., training, competition) that require MTb in international youth football; and (iii) how key personnel (e.g., coaches, support staff, parents, teammates) might develop players’ MTbs in international youth football.

A qualitative methodological approach was adopted to accurately portray participants’ lived experiences regarding the MT development process within an international youth football context. Through focus groups ($n = 2$) with six international coaches, and interviewing six international players, seven international support staff, and six parents of

international players, MT development in international youth football was found to closely align with the stress process outlined in CMRT (Lazarus, 1999). Specifically, MT development involved players transacting with individuals and their environment. During these transactions, players appraised the stressors they encountered (e.g., playing a higher level of opposition) and attempted to display performance MTbs on the pitch (e.g., recovery from a mistake) and fundamental MTbs off the pitch (e.g., seeking support) to cope with these stressors and facilitate consistently high, goal-directed performance outcomes. Players then reflected on these behavioural displays (what was I thinking in that moment?) to enhance their MT capacity when faced with similar future adversities. As such, MT is developed intra-individually (i.e., thoughts, MTbs), inter-individually (i.e., relationships), organisationally (i.e., adapting to a results-based, time-limited environment) and culturally (i.e., adopting organisational values and beliefs) across contexts and over time (Anthony et al., 2016). Consequently, MT was not simply taught by key stakeholders (e.g., coaches, parents) and displayed by players via MTbs, but was also learned by players through reflecting on their display, or lack of display, of MTbs and associated cognitions under pressure (i.e., what was the thought process behind that decision?). Through reflecting on their decision-making process under pressure, players enhanced their psychological flexibility and developed their capacity to adapt and select the appropriate MTbs when faced with similar future adversities. A key implication of Study 2 was that given the context-specific nature of, and the lack of shared understanding regarding MT development, the implementation of the outlined MT development framework required a tailored intervention programme within the FAWT. Therefore, in Study 3, coaches were supported to consistently recognise MTbs in critical moments in training and competition, as well as reinforce the display of these MTbs in players. Through supporting coaches in this process, players could

develop the clarity of mind required to execute key MTbs to a consistently high level under pressure and reflect on these behavioural displays to develop and maintain MT over time.

Study 3: “What Can You See? What Can You Hear?” The Implementation of a Behaviour-Based Mental Toughness Framework within International Youth Football

Previously, researchers seeking to implement a MT development process in sport have overlooked key elements, such as the specific MTbs required to demonstrate MT (e.g., Bell et al., 2013), how the display of MTbs leads to MT development (Anthony et al., 2018), and consideration of the cultural context in which MT is being developed (i.e., time-limited; Mahoney et al., 2016). By contrast, through creating a behaviour-based MT development framework in Study 2 an understanding was provided of *what* MTbs were required by players to demonstrate MT and *how* display of these MTbs contributed to MT development via reflection and learning in international youth football. Therefore, the main objective of Study 3 was to implement this MT development framework over the duration of a seven-day international camp and support international coaches ($n = 2$) in facilitating international youth football players' ($n = 22$) MT development. The implementation of this MT development framework involved three phases: (1) pre-camp coach education workshops to enhance coaches' understanding of MT development and self-efficacy in delivering a behaviour-based approach to MT development, and pre-camp testing of players' MT levels using the MT Index (MTI; Gucciardi et al., 2015); (2) in-camp support for coaches in implementing this behaviour-based approach to MT development; and (3) post-camp social validation interviews to assess coaches' ($n = 2$) and players' ($n = 12$) perceptions of the impact of the intervention on MT development, and post-camp testing of players' MT levels using the MTI.

Overall, coaches' self-efficacy in delivering a behaviour-based approach to MT development increased after participating in the educational workshops. Coaches highlighted

how the sessions provided them with a clear understanding of MT as the “clarity of mind” needed to select and execute the correct MTBs when faced with a challenging situation (e.g., staying composed on the ball when under pressure from the opposition). Further, the sessions helped coaches to realise that players’ MT is not automatically developed through their experiences in international football. Rather, MT must be deliberately developed by coaches through getting players to review and reflect on their display, or lack of display, of MTBs to enhance their decision-making processes and coping flexibility when facing similar future challenges. Having been provided with a clear process for how MT should be developed within the FAWT, coaches were motivated to try to implement this framework during the following international camp.

Players’ MT levels also significantly increased from pre- to post-camp. Coaches highlighted the impact the in-camp phase of the intervention had in supporting them to develop players’ MT. Aligned with a brief contact approach that integrated effectively within the busy schedule of the international camp (Arthur-Camiselle & Giges, 2020), coaches outlined how they were checked and challenged by the practitioner-researcher on their goals for each session (i.e., what MTBs are you looking to develop in this session) and the language they used to frame MT during meetings with players (i.e., MTBs are within players’ control and contribute to consistently high performance). Further, coaches were encouraged to role model key MTBs (e.g., remaining composed under strain on the side-line) and to provide alternative role models for players (e.g., showing other international players displaying desired MTBs) to inspire their youth players to develop their own MT, as well as to show a clear link between displaying MTBs consistently and successful navigation of the international talent development pathway (Gucciardi, Jackson et al., 2015). Nevertheless, coaches felt that the in-camp phase of the intervention could have a larger impact on players’ MT development through being proactively integrated within the planning phase of future

international camps, rather than be reactively implemented in situ. Players credited their MT development to the assistance provided by coaches in clarifying and reinforcing desired MTBs both on and off the pitch. Moreover, players highlighted how coaches aided them in analysing and reflecting on their selection and execution of MTBs across a variety of challenging situations. However, based on my personal reflections, there were also several barriers to supporting coaches in developing players' MT during the international camp. First, my lack of role clarity meant I had to regularly justify my presence on camp. Second, the fluid nature of the camp schedule meant planned slots for coach or player support had to be regularly adapted. Third, ongoing tension between my roles as a researcher and practitioner meant I often felt caught between remaining an outsider who subtly nudged coach behaviour or being an insider who could more effectively support the coaches in developing players' MT but would be inseparable from the intervention as a result (McDougall et al., 2015). Consequently, researchers seeking to implement a MT development framework within international youth football in the future should adopt a similar approach to this PhD thesis and seek to include coaches in the planning phase of the intervention. Such collaboration can facilitate the development of a stronger rapport with coaches, create greater buy in, and ensure the implemented MT development strategies meet the needs of the organisation. Alongside this, practitioner-researchers should seek to create and implement bespoke MT development frameworks within the existing processes of sport organisations (e.g., coach education, player development) in a similar manner to the current PhD thesis, to ensure a shared understanding exists of what MT is and how it's developed through learning to execute desired MTBs despite varying levels of stressors.

Conceptual and Theoretical Implications

This section focuses on how the findings of this PhD thesis have enhanced conceptual and theoretical understanding within the explored research domains of transitions, stress, and

MT. Specifically, this section examines how the findings outlined in Studies 1-3 build on the previous transitions, stress, and MT literature, linking these three domains to better understand the demands of the CIT, how players appraise these demands, and how players can develop MT to help them cope with these demands effectively and display consistently high levels of performance under pressure.

Exploring the Club-to-International Transition: Adopting an Alternative Theoretical Framework

Study 1 made a significant theoretical contribution to the career transitions literature, through using a cognitive-motivational-relational (CMRT; Lazarus, 1999) lens to examine the transitional experiences of international youth football players and their coaches. Adopting a CMRT framework was a novel approach to exploring within-career transitions such as the CIT, and signified a shift away from the individual-focused transition models which dominated the literature (e.g., Stambulova, 2003; Wylleman et al., 2013) towards a model that facilitated greater understanding of the nature of the CIT from a person-context perspective. To elaborate, within-career transitions are typically viewed as a non-linear process, during which athletes must engage in a dynamic, ongoing interaction with their wider environment, and manage the transitional demands they encounter using their available psychological resources (Stambulova et al., 2020). Researchers have previously explored the individual (e.g., psychological characteristics) and environmental factors (e.g., development-focused culture) required for a transition to be successful (e.g., Drew et al., 2019). However, prior to Study 1 of this PhD thesis, researchers had not looked beyond *what* demands an athlete may face during a within-career transition, to focus on *why* athletes perceived these transitional demands in a facilitative or debilitating manner based on their situational properties (Lazarus, 1999). Understanding why an athlete may perceive transitional demands in a facilitative or debilitating manner was particularly pertinent when investigating the CIT,

where the uncertain nature of the transition had the potential to enhance (e.g., through repeatedly making the CIT) or hinder (e.g., through experiencing several failures to make the CIT) a player's professional development on a regular basis. Thus, exploration of the CIT warranted a theoretical framework such as CMRT which reflected this ongoing person-context interaction.

Utilising this CMRT framework, Study 1 provided novel conceptual insights into the previously unexplored CIT, illustrating this transition as a dynamic, complex acculturation process where the individual is constantly appraising the stressors they encounter (e.g., adapting to a new organisational culture) and their situational properties (e.g., the novelty of that culture) in relation to their own goals, values, and beliefs (i.e., what does it mean to play international football?), as well as wider developmental factors (e.g., balancing international football with schoolwork). Therefore, it was the relational meaning between the individual player and contextually aligned situational properties of the CIT that contributed to players' challenge, threat or harm appraisals and subsequent behavioural responses (Lazarus, 1999). These situational properties included the novelty, ambiguity, and uncertainty of the CIT, as well as the inadequate preparation of players and the timing of this transition in relation to other life events. Research groups have previously used a transactional stress approach to explore the meaning behind athletes' appraisals of competitive (e.g., Thatcher & Day, 2008) and organisational stressors (e.g., Didymus & Fletcher, 2017) more broadly. However, Study 1 of this PhD thesis was the first to explore the relational meaning athletes attributed to the demands they encountered in the context of (within-career) transitions. Study 1 also incorporated situational properties, which had received minimal attention in the transition literature (e.g., comparison of self and others, inadequate preparation) but played a significant role in understanding the previously unexplored CIT (Thatcher & Day, 2008).

The CIT was not a smooth transition where a player either successfully transitioned to international level or not but involved a player utilising their available psychological resources to navigate an ongoing series of critical moments of varying personal and contextual significance (Nesti et al., 2013). Such critical moments included both everyday events (e.g., developing a new relationship) and more significant adversities (e.g., being dropped from the international squad), and involved both positive (e.g., being made captain) and negative experiences (e.g., making a mistake leading to a defeat). These incidents were deemed critical due to their timing and impact on an individual's self-knowledge and identity (i.e., when am I definitively an international footballer?). The notion that transitions can lead to changes in an individual's identity and assumptions about the world around them was originally proposed by Schlossberg (1981) in their model of human adaptation. These identity shifts do not occur in a stage-based, progressive fashion however, as is suggested in most transitions models, but rather in a fluid manner, where the individual is never certain of the outcome (Drew et al., 2019). For example, when a player is trying to continually make the CIT, they attempt to acclimatise to the international football environment and earn a place in the international squad, while also accepting that this outcome is never guaranteed. Their identity is constantly in flux as they can never definitively call themselves an international footballer. Consequently, exploring the CIT through a CMRT framework in Study 1 facilitated greater understanding of the meaning players ascribed to playing international football and helped to advance the transitions literature, which had previously focused on the uncertain nature of transitional events with definitive outcomes (i.e., the athlete either transitions successfully, stagnates, or does not transition; Samuel et al., 2016; Stambulova et al., 2010). Moreover, the findings from Study 1 answered recent calls in the transition literature (e.g., Stambulova et al., 2020) to explore quasi-normative transitions in greater depth, and advance conceptual understanding beyond a dualistic view of transitions as either

normative (i.e., predictable) or non-normative (i.e., unpredictable) in nature. Overall, considering the nature of the CIT through the relational conceptualisation of stress offered unique insights into the personal and situational significance of the event and helped account for individual differences in ongoing transition outcomes (i.e., whether the individual continually made the CIT or not).

Creating a Shared Understanding of the Mental Toughness Development Process

Study 1 of this PhD thesis focused on specific elements of international footballer's transactional pathways. Specifically, during the CIT, players encountered situational demands with distinct contextual properties that players perceived as psychologically facilitative or debilitating based on the relational meaning they attributed to these demands (i.e., is this demand a barrier to my goals?; Lazarus, 1999). However, to fully understand players' CIT experiences, and more broadly how players navigated the various critical moments they faced on the international development pathway, required an examination of how these individuals developed specific personal resources, such as MT. MT was identified by participants in Study 1 as a key differentiator between those players who coped effectively with the demands of international football and made the CIT on a consistent basis, and those who did not. However, these coaches struggled to pinpoint what being mentally tough involved or how it might be developed in an international football context. Aligned with CMRT (Lazarus, 1999), the findings of Study 2 demonstrated how MT in the FAWT was developed through players transacting with individuals in their environment to enhance their MT capacity, utilising this capacity to display MTbs to support consistently high performance when faced with varying levels of stressors, and reflecting on these experiences to enhance their MT capacity when faced with similar future adversities. As such, the conceptualisation of MT development outlined in Study 2 supported the argument that MT is not solely a set of characteristics or a socially constructed cultural ideal, but a combination of the two; a

characteristic adaptation to one's surrounding environment that allows an individual to perform to a consistently high level under pressure (Anthony et al., 2020; Gucciardi & Hanton, 2016).

From a theoretical perspective, the conceptualisation of MT development as an ongoing, relational person-environment interaction builds on Anthony et al.'s (2016) integrative model of MT development. To recap, Anthony et al., using Bronfenbrenner and Morris' (2006) bioecological model of human development as a framework, proposed that MT is developed longitudinally through an individual's ability to foster personal characteristics (e.g., perseverance) that allow them to repeatedly cope with a range of demands across contexts (e.g., training, competition, home). However, in conceptualising how an athlete may engage in long-term MT development, Anthony et al. overlooked how individuals appraise performance, organisational, and personal demands in their immediate environment and learn to display MTBs to cope with these demands. Acknowledging the stress process in MT development is pertinent in international youth football, where time to support players in learning desired MTBs is extremely limited, but the consistent display of these MTBs is crucial for selection and high performance (Pitt et al., 2020). Therefore, through aligning the MT development process with CMRT, a time sensitive behaviour-based MT development framework was created for the FAWT. This framework provided coaches with solution-focused MT development strategies (e.g., autonomy supportive behaviours) that could be immediately implemented within international camps.

The relational conceptualisation of MT development also aligns with recent talent development literature that adopts a holistic ecological perspective to studying athletes, where the individual is viewed as inseparable from the context in which they are operating (e.g., Henriksen, 2020). Therefore, any intervention seeking to develop athletes' psychosocial resources, such as MT, should not focus solely on athlete behaviour change (Anthony et al.,

2016). Rather, it is recommended that MT interventions focus on the behaviour change of individuals who have a meaningful impact on athletes' psychosocial development, as well as improving the quality of interactions between players and key stakeholders in their immediate environment (Bronfenbrenner & Morris, 2006; Larsen et al., 2014). However, past MT interventions have focused solely on enhancing athletes' displays of MTbs (Bell et al., 2013) or the behaviour change of coaches to support athletes' MT development (Anthony et al., 2018; Mahoney et al., 2016), with little consideration of the interaction between the two. As such, the findings of Study 2 made a significant conceptual contribution to the MT literature through the creation of a holistic MT framework that approached MT development from a person-context perspective.

From an organisational perspective, collaborating with key stakeholders within the National Football Association (i.e., players, coaches, support staff, parents) to create this framework resulted in a shared understanding of what MT looks like and how MT can be developed. This collaborative process can be applied within other sport organisations seeking to create similar MT frameworks. Specifically, it is recommended that sport organisations create psychologically informed environments, where all stakeholders responsible for athlete development are educated on the nature of psychosocial resources, such as MT, and provided with MT development strategies they can implement within their domain of expertise (Wagstaff & Quartiroli, 2023). Through this systems-led approach, a shared ownership of psychological development is undertaken. Players are included in creating a clear understanding of what being mentally tough looks like, and MT's crucial role in consistently high performances under pressure (Green et al., 2020). Indeed, a MT development programme driven solely by the sport psychologist is far less likely to lead to meaningful changes in organisational policy regarding the integration of psychological skills or to have a long-term positive impact on athlete's psychosocial development (Daley et al., 2020).

Without including players' views in creating a shared understanding of what MT constitutes within a sport organisation, MT development risks becoming an impression management exercise. That is, players may view MT as an illusory capacity that they must show at all costs to demonstrate their worth to coaches and secure their place within a team or performance squad, but not a resource they inherently understand or value (Clark et al., 2022).

The Acculturation Process of Learning to Perform Under Pressure in International Youth Football

Through studies 1 and 2 of this PhD thesis, a clearer understanding of MT and its development within the time-limited context of international youth football was developed. However, aligned with the bio-ecological approach adopted in these studies, when considering the development of psychological resources such as MT, it is also important that practitioner-researchers look beyond person-environment transactions to explore the wider organisational culture in which players and coaches are operating (Wagstaff & Burton-Wylie, 2018). In youth sport settings, a strong organisational culture is demonstrated through congruence between an organisations' espoused values (e.g., viewing the athlete as a person, supporting long-term development over short-term success) and actions (e.g., supporting athletes in the development of psychosocial skills both for sport and their wider lives; Henriksen et al., 2017).

In the context of MT, researchers have previously explored the impact of organisational culture on the MT development of athletes, warning that MT is "not what the researchers say it is, but rather it is what the subcultures in sport say it is" (Tibbert et al., 2015, p. 70). Within these studies (e.g., Coulter et al., 2016; Tibbert et al., 2015), MT has been typified by stereotypically masculine values such as playing through injuries, sacrificing personal identity for the good of the team, and concealing any vulnerabilities. It is

exemplified by an individual's capacity to survive significant adversity. As such, research groups have heavily criticised use of the term *toughness* within performance environments due to its apparent polarity with mental health, well-being, and holistic development (Bauman, 2016; Uphill & Hemmings, 2017). Therefore, to create an image of MT that is psychologically healthy and entails an individual embracing their fallibilities in pursuit of consistently high performances under pressure, it is important to understand the assumptions and values key individuals in sport organisations hold regarding MT (e.g., MT is innate vs developed over time) and how these beliefs can impact the development of the construct in athletes (Coulter & Thelwell, 2019). However, such cultural understanding of MT cannot be gained by simply asking players, coaches, or other key individuals in a performance environment what the key attributes of MT are, as has been the case in the majority of previous MT research (e.g., Jones et al., 2007; Gucciardi et al., 2008; Hardy et al., 2014). As outlined by Maddux (1999), a psychological construct is not "an entity whose true nature remains undiscovered; it is an abstraction whose definition remains socially unconstructed" (p. 223). Consequently, meaning must precede measurement (cf. Eubank et al., 2017) and researchers must take the time to familiarise themselves with the context in which MT is to be developed, prior to assessing any perceptions of MT within that environment. I adopted this 'bottom-up' approach to MT development within the current PhD thesis by attending international camps and observing player and coach behaviours and interactions prior to conducting each of my PhD studies. Doing so allowed me to develop relationships with key individuals within the performance environment, such as the FAWT technical director and coaches. I also managed to gain an understanding of the language these individuals used regarding psychological development prior to conducting any work regarding MT development. Previous sub-cultural analyses of MT in sport have presented a concerning image of how the construct is viewed in stereotypically masculine terms and developed solely

by those who survive adversity (e.g., Tibbert et al., 2015). However, within the current PhD thesis I found that FAWT stakeholders' shared understanding of MT and its development were positively influenced by the organisations' cultural values and beliefs.

To elaborate, the findings of Study 2 of this PhD thesis highlighted the key values of FAWT stakeholders – *excellence, togetherness, and family*. Specifically, MT was portrayed by players through their ability to demonstrate excellence on the pitch via their performance MTbs (i.e., training and competing with purpose), and demonstrate togetherness and cultivate a family-oriented environment off the pitch through their fundamental MTbs (i.e., taking responsibility for their own development, supporting teammates; McKay et al., under review [Chapter 5]). Further, these organisational values were a key driving force behind coach behaviours during the international camp in Study 3, where coaches were encouraged by the practitioner-researcher to provide players with opportunities to display novel MTbs during both training and competition and to support players to learn quickly from their mistakes during review sessions (see Chapter 6). International coaches were quick to separate the process of striving to enhance one's MT (e.g., spotting an opening and playing a risky pass) from the outcome (i.e., just because a risky pass was intercepted doesn't make it the wrong choice). Therefore, according to FAWT coaches, MT development involved players' ability to adapt to the organisational culture of international football through being willing to make errors and learn quickly from those errors. In so doing, players developed the "clarity of mind" (i.e., MT) to select the correct MTbs under pressure, a resource that was essential as players transitioned through the international age groups from the development-based culture of the under 15s, to the results-based culture of the under 17s where they were expected to win games and qualify for tournaments (McKay et al., 2021 [Chapter 2]).

In this way, a tailored MT development framework was created in Study 2 of this PhD thesis that was grounded in the FAWT's organisational values and beliefs regarding MT

development and portrayed MT as the capacity to strive for excellence, take responsibility for one's actions, and speak up about any performance-related or personal issues. Adopting this bottom-up approach offered unique insights into the cultural reality of MT development within the FAWT (i.e., what does MT development look like in this context?) and provided international coaches with a set of MT development strategies, rooted in their terminology, that they could integrate alongside technical, tactical, and physical development strategies during the international camp in Study 3 of this PhD thesis. As such, the findings of this PhD thesis built on the work of previous MT development interventions which narrowly focused on supporting coaches in sport organisations to enhance their players' displays of MTBs without taking into consideration the wider systems, values, and beliefs these organisations had regarding MT and its development (Anthony et al., 2018; Mahoney et al., 2016).

Moreover, the MT framework created in this thesis provides a clear set of behaviours that each set of stakeholders should engage in to create a strong organisational culture centred on holistic player development within the FAWT. Given that coaches in particular are gatekeepers in athletes' psychological development and key architects in the shaping of any sport organisation's culture, it would appear pertinent that practitioners looking to develop MT in athletes within these organisations seek to collaborate with coaches, as well as athletes and significant others, to understand why MT is a valued resource within that organisation and the role each stakeholder can play in MT's development (Eubank et al., 2017). This shared accountability for psychological development could also help prevent the creation of toxic 'winning' cultures where onus is placed on the individual athlete to survive adversity and coaches are afforded the opportunity to engage in unethical practices to toughen up their athletes, including bullying or forcing athletes to play through injury (Bauman, 2016; Uphill & Hemmings, 2017).

'Closing the Loop' Between MTb and MT Development

The findings of this PhD thesis built on the work of previous research groups (e.g., Anthony et al., 2018; Gucciardi et al., 2015) through outlining how, aligned with CMRT, MT is a resource international youth football players can utilise to respond to context-specific stressors (e.g., managing the CIT) via selecting and executing MTbs, leading to consistently high performances under pressure (Lazarus, 1999). Yet while research output regarding what MT is and how it is displayed via MTbs has grown exponentially over the past 20 years (see Gucciardi, 2020), prior to Study 2 of this PhD thesis a lack of understanding existed regarding how these MTb displays lead to further MT development (Anthony et al., 2020; McKay et al., under review [Chapter 5]). In the wider stress literature, researchers have advocated for the enhancement of athletes' capacity to perform under pressure via the deliberate manipulation of demands (e.g., limited time to score a goal) and consequences (e.g., punishments for poor performance) within the training environment, and reflective practice, where athletes review their performances to solidify their experiences and establish next steps for behaviour change (e.g., Kegelaers et al., 2021; Stoker et al., 2017). It has been argued that by creating challenging yet supportive training environments, where coaches help athletes to understand why they are being challenged and to take ownership over their responses to these challenges, coaches can facilitate athletes to develop the psychological resources required to perform optimally under pressure, including MT (Kent et al., 2021).

Despite researchers broadly agreeing that MT can be conceptualised as one's personal capacity to perform consistently under pressure (e.g., Gucciardi et al., 2015; Jackman et al., 2020) and that MT can be developed through high challenge-high support approaches (e.g., Piggot et al., 2019), few have sought to develop MT through asking athletes to reflect on their coping experiences under these conditions. In one of the few exceptions, Bell et al. (2013) conducted a pressure training intervention in an elite cricket context designed to increase players' displays of MTbs, and thus enhance their capacity to perform under pressure in

training and competition. Alongside pressure training, a key part of this intervention was that players were regularly provided with opportunities to reflect on their performances (i.e., what worked well? What needs to be improved? How might this be achieved?) and set new targets for the following day's training sessions. Players were also frequently reminded of why they were being challenged in this manner, as coaches and staff imbued players with a clear vision of the actions they needed to take to perform to a consistently high level and navigate the talent development pathway successfully (Bell et al., 2013). As a result of this intervention, players significantly improved on their cricket batting performances and coach-rated MT levels (e.g., able to maintain a high level of performance when the opposition are using aggressive tactics) in both training and competition. However, Bell et al. failed to outline the specific MTbs players were expected to display, or reflect on displaying, to further develop their MT levels. Therefore, while players were successful in increasing their objective performance in the short-term, without a deeper understanding of the MTbs they need to control and display under pressure, players may typically struggle to produce this high level of performance on a consistent basis when facing varying levels of situational demands.

Consequently, the MT development framework outlined in Study 2 of this PhD thesis built on the previous research (e.g., Anthony et al., 2020; Bell et al., 2013), as it was the first framework to provide a distinction between MTbs as an indicator of one's current MT capacity and how MTbs contributed to further MT development. Specifically, through reviewing and reflecting on the decision-making process behind their chosen MTbs during a challenging situation (i.e., what was the thought process behind that decision?), it was found that players enhanced their capacity to adapt and respond appropriately when faced with similar future adversities (see Chapter 6). Therefore, an athlete's ability to engage in reflective practice appears a key pre-requisite to developing the self-awareness required to regulate thoughts and emotions when attempting to cope with stressors, as well as enhanced

situational awareness of how to cope with both everyday challenges and more significant adversities (Crust et al., 2016; Cowden & Meyer-Weitz, 2016). Equipped with this enhanced self and situational knowledge, athletes possess a greater MT capacity, allowing them to remain calm, flexible in attention, and make rational decisions, typically leading to display of appropriate MTbs under pressure and consistently high levels of goal-directed performance (Cook et al., 2014). Such psychological flexibility was highly sought after by international coaches in Study 3 of this PhD thesis, who highlighted the importance of players learning to focus on task-relevant cues (e.g., being constantly aware of what is going on around them during a game) and ignoring task-irrelevant cues (e.g., the crowd, the weather) to develop the ‘clarity of mind’ (i.e., MT) required to perform effectively under pressure (see Chapter 6).

Research groups have previously highlighted how athletes develop psychological resources, such as MT, through being exposed to high-pressure situations or encountering traumatic events, triggering them to engage in self-regulatory behaviours, such as self-reflection, and develop appropriate coping responses (Beattie et al., 2019; Crane et al., 2019). By contrast, in Study 3 of this thesis, international coaches advocated a proactive approach, encouraging players to reflect individually, in small units, or as a team on their MTb displays during post-training and game review sessions, rather than waiting for a significant adversity to occur (see Chapter 6). Through adopting this behaviour-based focus to reflection, international coaches portrayed MT development as contingent on players’ abilities to display, reflect on, and consistently reproduce a series of controllable behaviours on and off the pitch (i.e., performance and fundamental MTbs; McKay et al., under review [Chapter 5]). Further, coaches displayed autonomy-supportive behaviours to support players in taking agentic action over their MT development, through players reviewing their own video clips in groups and presenting back to the coaches regarding their display or not of MTbs. Coaches then challenged players on their presentations (e.g., “why have you chosen that clip?”) to

solidify the learning process. Therefore, the findings of Study 3 provided the first clear conceptual link in the MT literature between coach behaviours, player MTbs, reflective practice, and players' subsequent MT development. Such findings build on previous MT interventions which focused solely on adapting coach behaviours (e.g., Mahoney et al., 2016), increasing player MTb displays (e.g., Bell et al., 2013) or the role of reflective practice (e.g., Connaughton et al., 2010) in enhancing athlete MT development. Moreover, the findings of Studies 2 and 3 align with Collins et al.'s (2016) applied practice observations. Specifically, athletes should be supported to develop psychological resources (e.g., MT) and skills (e.g., reflective practice) that equip them to cope effectively with the adversities they will face on talent development pathways, rather than waiting for those adversities to occur and seeing who learns from the experience.

Engaging athletes in group reflection with input from coaches can encourage athletes to become more autonomous in developing their MT capacity and, in team sport contexts, more supportive in helping their teammates to cope with performance and personal challenges (i.e., team oriented MTbs; McKay et al., under review, [Chapter 5]). Such a relational-based approach to MT development also acknowledges that while athletes are responsible for adapting to the performance demands in their immediate environment (e.g., physical demands of training), coaches and significant others have a role to play in helping athletes navigate the wider organisational (e.g., adapting to a new organisational culture), and personal demands (e.g., balancing school and sport) associated with high level sport (Bowley et al., 2018). As such, practitioners working with organisations in high-level sport should focus on ensuring all athletes and staff have a clear understanding of their roles within the environment regarding developing psychological resources such as MT (Fransen et al., 2020). In particular, all athletes and staff should be made to feel comfortable engaging in open communication and honest reflection regarding players' MTb displays, recognising that it is

only through entering these *zones of uncomfortable debate* and challenging athletes to push themselves to the boundaries of their current performance levels that MT can be developed and maintained effectively (Collins et al., 2015; Taylor et al., 2022). Moreover, creating an environment where athletes are encouraged to engage in honest, albeit uncomfortable, debates regarding their performances can also help sport organisations foster a psychologically healthy image of MT that is built on striving for consistent, optimal performances under pressure but where athletes are not afraid to speak up about performance-related or personal issues (Eubank et al., 2017; Uphill & Hemmings, 2017). Such a conceptualisation of MT as the ability to embrace one's fallibilities would also help to dissuade some of the critiques of MT development in elite sport cultures, where the construct is associated with hypermasculine values, such as playing through injuries and hiding one's emotions, and with toxic 'win at all costs' cultures where the process of MT development, which often includes coach bullying and abuse, is held up as a necessary evil to develop the next generation of elite athletes (Tibbert et al., 2015).

Summary of Contributions

Overall, the body of work presented in this thesis has made a series of theoretical and conceptual contributions to the existing transitions, stress, and MT literature by:

- Offering the first holistic overview of the transactional pathways of international youth football players, detailing the stressors they experience as they make the CIT, how they appraise these stressors, and how they develop their MT capacity to cope with these stressors.
- Providing conceptual insight into the previously unexplored CIT, using a novel CMRT lens to identify *what* stressors players experience during this transition and *why* they may interpret these stressors as demanding due to their situational properties.

- Identifying the key components of the MT development process through creating a bespoke behaviour-based MT development framework for the FAWT, detailing strategies for how MT can be developed by players through relationships with key stakeholders, the MTbs players are expected to display, and how players can enhance their MT capacity further through reflection and learning over time.
- Extending understanding regarding the multidimensional nature of MT development, through detailing how MT can be developed intra-individually (i.e., thoughts, MTbs), inter-individually (i.e., relationships), organisationally (i.e., adapting to a results-based, time-limited environment) and culturally (i.e., adopting FAWT organisational values and beliefs) across contexts and over time.
- Adopting a novel approach to developing MT, through conducting an applied intervention where FAWT coaches were educated on how to develop players' MT via MTbs, and then supported by the practitioner-researcher in facilitating players' MT development during an international camp.
- Advocating for a proactive approach to MT development, where players are encouraged to make mistakes as they learn new skills, embrace their fallibilities, and take ownership over their personal and professional development in pursuit of consistently high performance under pressure.

Practical Implications

The overall aim of this PhD thesis was to create and implement a bespoke MT development framework at the FAWT. Nevertheless, while the findings of this body of work are primarily applicable to youth international football settings, there are also several practical implications regarding how to design, plan, and deliver such behaviour-based frameworks when working with key stakeholders across sports. Potential challenges related

to the integration of psychological development in football and how practitioners can overcome such barriers are also discussed.

First, it is recommended that sport organisations and sport National Governing Bodies (NGBs) seeking to develop MT in their athletes should adopt a holistic ecological approach (Bronfenbrenner & Morris, 2006) to establish a framework for what MT looks like (i.e., MTbs) and how it's developed within their own performance context. An ecological approach has previously been advocated within the sport talent development literature (e.g., Larsen et al., 2014, 2020) and recognises that the individual and their environment cannot be separated. Thus, an individual's psychological development relies not only on effective one-to-one work with the athlete but the integration and education of key individuals who support the athlete daily. Therefore, gaining an understanding of the environment in which the athlete is situated, their interactions with key stakeholders, and how these interactions affect their psychological development is a crucial initial step in any MT development programme (Anthony et al., 2018). As a result, prior to both Studies 1 and 2 of the current PhD, I attended several youth international camps and observed coach and players' behaviours to gain a better understanding of the FAWT environment. Namely, the psychosocial stressors players appeared to encounter in an international youth football context and the behaviour coaches and staff displayed to support players in managing these stressors to perform effectively. A holistic ecological approach also acknowledges that the performance environment is situated within a much larger organisational culture (Larsen et al., 2020; Wagstaff & Quartiroli, 2023). As such, practitioner-researchers working within high-level sport organisations to create MT development frameworks need to consider the impact of organisational beliefs, values, and traditions on how stakeholders, particularly coaches, describe MT and how it is developed within their context (Coulter et al., 2016). For example, in Study 2 of this thesis, the FAWT values of *family*, *togetherness*, and *excellence* impacted

the creation of two categories of MTbs, performance MTbs and fundamental MTbs, within the MT development framework. This linking of values and behaviours was beneficial for Study 3, as coaches' and players' perceptions regarding 'what it takes to be an international footballer' largely revolved around these three values, thus enhancing stakeholder buy-in to the concept of behaviour-based MT development. Through adopting a cultural sensitivity to the NGBs they work with (e.g., preserving coaches' language regarding MT), practitioner-researchers can create strong working relationships with key figures (e.g., technical director) and play a meaningful role in shaping stakeholders' perceptions of MT as a personal capacity to learn from and adapt to challenges, rather than a superhuman trait that allows an individual to overcome all obstacles (Coulter et al., 2018; Eubank et al., 2017).

Second, once a sport organisation or NGB has created a MT development framework with clear strategies for MT development, a structured plan must be formulated outlining how this framework will be implemented within the performance environment. For example, in Study 3, coaches highlighted how, while they found the in-camp support phase of the MT intervention beneficial, the practitioner-researcher would have had a more meaningful impact on MT development during the planning phase of the international camp. As such, practitioner-researchers seeking to develop MT in sport NGBs need to work with coaches and other key stakeholders to create job specifications that clearly outline their roles and responsibilities regarding psychological development within the organisation (Nesti, 2010). Creating such roles would go some way to alleviating applied practitioner's concerns of being "caught in the headlights" (cf. Wren et al., 2021, p.79) regarding the often-reactive nature of service delivery. Instead, having a clear role within the support team would allow the practitioner-researcher to work with coaches prior to training sessions or international camps to plan field-based sessions which focus on the development of specific MTbs (e.g., composure on the ball, instructional communication). During these planning sessions, the

practitioner-researcher could ask coaches to create field-based drills and exercises which centre around the identified MTbs and provide the overall structure for coaching sessions. This ecological approach has previously been advocated by researchers seeking to upskill coaches regarding psychological skills and to support coaches in developing athletes' psychological skills during sport-specific drills (Diment, 2014; Harwood et al., 2008; Wixey et al., under review). Therefore, in the time poor environment of international youth football, or indeed high-level sport, incorporating MT development within the planning phase of international camps or training sessions makes contextual sense.

From a broader perspective, supporting coaches to understand the behavioural facets of psychological resources such as MT, and to articulate and implement development strategies to help players learn to display MTbs provides a fruitful avenue for integrating psychological development within coaching practice (Anthony et al., 2018). Coaches play a fundamental role in youth athlete's psychological development and yet often lack the confidence to integrate psychology within their coaching practice due to the lack of guidance provided by researchers and governing bodies (e.g., Elite Player Performance Plan, see the Premier League, 2011) on how to develop key psychological resources (Wixey et al., under review). Moreover, the integration of psychology into coaching practice has typically involved a 'top-down' approach, with psychological resources highlighted as fundamental to effective performance couched in the academic language of researchers rather than the contextual reality of coaches (Eubank et al., 2017). Therefore, a behaviour-based approach to psychological development allows coaches to focus on what can be seen, trained, and evaluated on the pitch and thus frame the development of psychological resources such as MT in the language of their own sport (Anthony et al., 2018; Wixey et al., under review). Moreover, adopting a behaviour-based approach to psychological development means athletes are provided with a clear set of controllable behaviours to learn, with the support of

coaches and other organisational stakeholders, that will allow them to cope with the demands they encounter and perform effectively under pressure (Anthony et al., 2020). Encouraging coaches to focus on psychological development through on-pitch coaching means that coaches can either create new or update existing field-based sessions designed to help players learn desired psychological behaviours. In this way, coaches' creativity, intrinsic motivation, and passion for their roles can be further enhanced, and behaviour-based drills can be aligned with the coaches' desired tactical style of play, thus increasing stakeholder buy-in to psychological development (Diment, 2014; Wixey et al., under review). Providing coaches with the skillset to integrate psychological development within field-based sessions also means that the practitioner is not being disruptive to existing training structures (e.g., taking players out of training to conduct workshops) but is helping coaches to adapt their own behaviours to support the development of their players. As such, coaches would no longer view psychology as outside of their remit, but a crucial aspect of their coaching practice and athlete development.

Finally, while the benefits of educating and supporting international coaches in facilitating players' MT development have been clearly outlined, practitioner-researchers must also consider the challenges of such training programmes. For example, in Study 3, I was *in situ* to support and guide coaches in implementing MT development strategies with players (see Chapter 6). However, the intervention was designed to increase coaches' self-efficacy in identifying, clarifying, reinforcing, and reviewing MTBs with players, thus providing them with the skills to continue engaging in players' MT development once the intervention was complete. As such, ongoing MT development within the FAWT is contingent on the ability of coaches to continue implementing MT development strategies within their session plans rather than reverting to their previous approaches to coaching (i.e., psychological resources such as MT are naturally developed over time). Such adherence

issues to MT development have been reported in previous MT interventions conducted in high-level sport, where coaches must filter relevant information from multiple sources (e.g., assistant coach, physiotherapist, psychologist) and use this information appropriately to develop players from a technical, tactical, physical, and psychological perspective (e.g., Anthony et al., 2018; Mahoney et al., 2016). In such contexts, development strategies for psychological facets of high performance are often the first to be removed from training programmes. Therefore, practitioner-researchers seeking to develop psychological resources such as MT within sport NGBs should not hand sole responsibility for psychological development over to coaches but continue to provide support to coaches in a part-time consultancy role (Feddersen et al., 2021). Such a role could involve regular debrief sessions with coaches' post-international camps to reflect on their objectives for the international camp (e.g., what MTbs were you looking to develop) and whether these objectives were achieved. The discussions in these debrief sessions could be used to identify MT development strategies that are effective or ineffective within specific contexts (e.g., game camp vs training camp) and age groups, allowing the organisation's MT development framework to be updated accordingly. Moreover, these debrief sessions would allow the practitioner-researcher to ensure that the conceptualisation of MT being delivered by coaches during camps is still appropriate, focused on helping players to learn how to enhance their MTb selection and execution, and associated MT cognitions under pressure through positive reinforcement and meaningful reflection (Eubank et al., 2017).

Impact on Coach Education and Player Development

As outlined at the outset of this PhD thesis, the current research project was collaborative and jointly funded by the FAWT and the Knowledge Economic Skills Scholarship scheme (KESS). Therefore, I worked with the FAWT to identify the organisation's needs and to formulate these needs into the objectives and outcomes of the

PhD project. Due to the applied nature of this thesis, one of the key objectives was to contribute knowledge to the psychosocial pillar of the FAWT's national syllabus and player development pathway. To recap, prior to this PhD thesis, the FAWT had established a detailed national syllabus providing a blueprint for player development across Wales, focused on the technical, tactical, and physical pillars of performance. However, the psychosocial pillar of performance had been largely overlooked. This gap in knowledge was reflected in conversations between the FAWT and I during the early stages of this PhD thesis. Specifically, coaches emphasised the importance of players possessing psychological resources, such as MT, to successfully overcome the challenges associated with making the CIT. However, coaches admitted to lacking a clear understanding of what these challenges were or how to develop players' MT both on and off the pitch during international camps. As such, the findings of this PhD thesis have had a meaningful impact on the FAWT's psychosocial pillar of performance through: (1) identifying the major performance, organisational, and personal stressors players encounter as they make the CIT and navigate the international talent development pathway (McKay et al., 2021 [Study 1]); (2) providing FAWT coaches with a bespoke, behaviour-based framework for developing players' MT, thus allowing players to cope with stressors effectively and perform more consistently in training and competition (McKay et al., under review [Study 2]); and (3) enhancing FAWT coaches' confidence in implementing this behaviour-based approach to MT development both on and off the pitch during international camps (Study 3).

Overall, I helped coaches to shift their perception of MT from a set of unobservable characteristics that players developed naturally over time through their international football experiences, to one of observable behaviours that coaches could support players in learning during on-pitch training sessions and off-pitch review sessions. Here, emphasis was placed not just on the MTbs players learned to display to perform to a consistently high level under

pressure, but how coaches facilitated MT development through their own behaviours. That is, how coaches set clear goals regarding MT development for each session (i.e., what MTBs do I want to develop in this session?), clarified MTBs for players through the language they used (i.e., emphasising MTBs are controllable, focusing on what can be seen and heard), and positively reinforced players' attempts to display MTBs on and off the pitch (e.g., "it's ok to make mistakes as long as you react positively"). These coach and player behaviours and their role in MT development have been disseminated back to the FAWT via infographics (see Appendices F & M), coach and player education sessions, and presentations at the FAW National Coaching Conference (2021 and 2022). Further, the identified player MTBs (i.e., performance MTBs, fundamental MTBs) have been integrated into the Welsh Way national syllabus, providing coaches across Wales with clear markers for psychosocial development alongside the existing technical, tactical, and physical pillars of performance. In this way, MT development does not have to be restricted to the performance enhancement of national age group players. Rather, key MTBs, such as responsible (e.g., support seeking) and team-oriented behaviours (e.g., supporting teammates) can be taught as life skills from the grassroots level onwards, with football used as a vehicle to help players develop the resources they need to cope with challenges in their wider lives (Bowley et al., 2018).

In recognition of the applied impact of this PhD thesis in developing coaches' self-awareness regarding their own behaviours and their role in facilitating the MT development of players from grassroots to international level, I received the University of South Wales Impact and Innovation award for a student project in May 2022. These awards celebrate research conducted across university departments which has had an impact on the local community or wider society in Wales, as well as on an international level (<https://www.southwales.ac.uk/news/news-2022/usw-impact-innovation-awards-2022/>). To elaborate, the insights of this PhD thesis have had an international level impact through

providing international youth football coaches and staff with a better understanding of the critical moments players face on the international football development pathway and a clear framework for how to facilitate players' MT development via MTBs to successfully navigate these critical moments. Given that a key aim of the FAWT, and most football NGBs, is to identify and develop the next generation of youth players to achieve long-term success and continually qualify for major international tournaments across competitive age groups, it appears pertinent to educate players, coaches and other relevant stakeholders (e.g., parents) regarding CIT stressors, and how these stressors can potentially augment (e.g., through repeatedly making the CIT) or inhibit (e.g., through repeatedly failing to make the CIT) a player's ongoing psychological and professional development. It is also arguable that establishing oneself within an international squad through repeatedly making the CIT strengthens the likelihood of a player successfully obtaining professional status within the game. As such, the findings from this PhD thesis also provide fruitful insight for youth football coaches working in club academy systems. Here, the ability to continually produce players that are well-rounded and either successfully transition to the senior team or are sold on for a profit is essential to assist their club to be financially competitive in the highly commercialised entertainment industry of modern-day football (Haugaasen & Jordet, 2012; Wagstaff et al., 2016).

Strengths, Limitations, and Future Research Directions

Strengths

Having considered the theoretical, conceptual, and practical implications of this PhD thesis, several strengths of the research can also be noted. A major strength of this thesis is the applied nature of the research and its original contribution to knowledge. To expand, I worked with the FAWT to identify the organisation's needs and to formulate them into a structured PhD project which would help create practical solutions to address these needs.

However, as the research progressed and findings were disseminated to the FAWT, the organisation's needs evolved from an initial interest in understanding the psychosocial demands youth football players encountered in an international context, to identifying and equipping players with the necessary resources (i.e., MT) to cope with these demands via the coaching staff (see Chapter 1). As such, this PhD thesis is the first body of work to merge transitions, stress, and MT-based research to explore the lived experiences of international youth football players, coaches, and significant others as these players seek to navigate the international youth football talent development pathway. In so doing, a more well-rounded view of this pathway has been mapped out. Specifically, FAWT stakeholders were provided with context-specific knowledge regarding the stressors players may encounter while making the CIT, why they appraise these stressors in a certain way (e.g., challenge; threat) based on their situational properties, and the role MT can play in helping players to deploy appropriate behavioural responses and perform to a consistently high level when encountering these stressors. Alongside these novel insights into *what* the international development pathway entails, practical solutions regarding *how* to help players develop their MT capacity to manage the pathway successfully were provided to all FAWT stakeholders, including players (e.g., reflective practice), coaches (e.g., displaying autonomy-supportive behaviours), and parents (e.g., providing emotional support), thus meeting the FAWT's organisational needs and narrowing the sport psychology research-practice gap (Keegan, 2017).

The alignment of the relational process of MT development within the FAWT with the person-context perspective of the stress process was another strength of this thesis. As outlined by Lazarus (1999) in his CMRT theory of stress, the athlete plays a central role in appraising the stressors they face and assessing whether they have the capacity to cope effectively. Despite this, prior to Studies 2 and 3 of this PhD thesis athletes' perspectives on the MTBs needed to perform to a consistently high level when faced with varying levels of

stressors had been given minimal attention within the sport psychology literature. Rather, researchers had previously focused their attention on the perspectives of coaches (e.g., Anthony et al., 2020), sport psychologists (e.g., Weinberg et al., 2018) and other stakeholders responsible for the psychological growth of athletes (e.g., support staff; Cook et al., 2014). MT development frameworks created solely from the views of coaches and staff are often rooted in socially constructed cultural ideals of what the ideal mentally tough performer should look like rather than the day-to-day reality of athletic performance (cf. Andersen, 2011). Such frameworks place the burden of responsibility on the athlete to live up to these cultural ideals (e.g., have an insatiable desire to succeed, push the boundaries of physical pain, hide emotional vulnerabilities) and can result in coaches engaging in unethical practices to integrate these cultural ideals within the performance environment (Tibbert et al., 2015). Therefore, by integrating the perceptions of multiple populations, including players, coaches, support staff, and parents in the creation of a MT development framework within this PhD thesis a holistic view of the MT development process was formed. To the best of my knowledge, no previous study has outlined the entire MT development process in such a manner, with clear strategies for MT development and maintenance that were contextually relevant and which all parties were motivated to implement. As such, the process for creating a shared understanding of MT development outlined in this PhD thesis aligns with the growing body of organisational sport psychology research (Daley et al., 2020; Green et al., 2020) that advocates the need for sport psychologists to work at an organisational level and seek multiple perspectives on phenomena of interest (e.g., MT). In this way, sport psychologists can improve the interrelationships between the complex sub-groups within a sport organisation's structure and ensure all stakeholders are aligned in building a psychologically informed sport organisation and developing psychologically healthy athletes (cf. Wagstaff & Quartiroli, 2023).

Another strength of this PhD thesis was the novel method of intervention in Study 3. Namely, conducting an applied, brief contact intervention over the course of an international camp as opposed to the traditional baseline-intervention-follow-up procedure that has been utilised in previous MT research (e.g., Bell et al., 2013). Given the applied nature of this PhD thesis, a primary aim of the MT intervention was to support international coaches in adapting their behaviours to facilitate MT development in their players during international camps. As such, an intervention design was required that provided adequate assistance for coaches as they sought to adapt their behaviours but that did not disrupt the existing structure of the international camps (McKay et al., 2021 [Chapter 2]). Further, past MT interventions which have failed to adequately consider the time-limited context in which high level coaches operate have experienced issues with adherence to implemented MT development strategies (Anthony et al., 2018; Mahoney et al., 2016). Therefore, in the time-limited context of international youth football, a brief contact approach was appropriate as it allowed me, the practitioner-researcher, to focus on establishing rapport through informal interactions with coaches and to utilise key delivery mechanisms – reframing coaches’ language, getting coaches to establish clear goals before training sessions, role modelling MTbs – to develop MT effectively (Arthur-Cameselle & Giges, 2020; Pitt et al., 2020). International coaches who took part in the intervention highlighted the importance of these moments of brief contact in getting them to reflect on how they would integrate MT development within their training session plans and consider the language they would use to frame MTbs effectively for players (i.e., MTbs are controllable and help you focus on the process of performing to a consistently high level; see Chapter 6). Conducting such an applied intervention also contributed to the narrowing of the research-practice gap in sport psychology through designing and conducting a study to address the organisational needs of the FAWT (Keegan et al., 2017; Kellmann & Beckmann, 2003). Moreover, through supporting international

coaches to identify, clarify, reinforce, and review MTbs with players during the intervention, I provided FAWT coaches with a clear process for developing players' MT and integrated psychological development alongside technical, tactical, and physical development within the organisation's coaching syllabus.

A final strength of this PhD thesis has been the dissemination of findings from several chapters to academic audiences via the publication of peer-reviewed journal articles (McKay et al., 2021 [Chapter 2]; McKay et al., under review, [Chapter 5]) and to researchers, coaches, and practitioners at national and international sport psychology and coaching conferences (see 'Associated Publications', page xiii). Further, the applied nature of this PhD thesis has meant each study was designed to address the organisational needs and solve the practical issues of the company partner, the FAWT. Findings from each study were disseminated back to players, coaches, staff, and parents associated with the organisation via infographics (see Appendices F & M) summarising the key findings of each study, and education sessions regarding the nature of the CIT, a framework for what MT being mentally tough looks like within the FAWT, and how players, coaches, and parents can adopt a behaviour-based approach to MT development and implement specific strategies to facilitate MT development within international youth football players (see Appendices F & M). As such, the findings of this PhD thesis have had a direct impact on the national syllabus for player development, the Welsh Way, with a specific focus on the psychosocial pillar and the psychological resources (i.e., MT) players need to develop across each of the foundation (9-12 years old), youth (13-16 years old) and performance (17-21 years old) stages of player development (<https://www.youtube.com/watch?v=jRO0eO1XyXY&t=1s>). Moreover, the integration of knowledge gained from this PhD thesis regarding the CIT and MT development is an ongoing process, with future opportunities to continue delivery of in-camp support to coaches in facilitating players' MT development and the implementation of MT development modules

on FAW coach education courses and qualifications further reinforcing the strength of research conducted in this thesis.

Limitations and Future Research Directions

Having discussed the strengths of this PhD thesis, the limitations of this body of work must also be considered, as well as potential avenues for future research that can address these limitations and further enhance the links between the research domains of transitions, stress, and MT. The main limitation of this PhD thesis was the use of retrospective methods and cross-sectional research designs during Studies 1 and 2 to explore the CIT and MT development. Such designs were adopted as the primary aims of this PhD were exploratory in nature. That is, to provide a detailed insight into the nature of the previously unexplored CIT and the coping resources required to navigate the CIT successfully (i.e., MT), as well as to create and implement a framework for how MT could be developed within the FAWT via MTBs. To achieve these aims there was a need to focus on the mechanisms underpinning the CIT (i.e., stressors, situational properties) and MT development (MTBs, MT development strategies) rather than the overarching experiences of these events. Nevertheless, given that MT is developed through person-environment transactions across contexts and over time (cf. Anthony et al., 2016) future studies should adopt longitudinal research designs to explore how players develop and maintain their MT from camp to camp.

In an international youth football context, longitudinal research designs could involve a practitioner-researcher monitoring the MT development of a squad of international youth football players from their initial entry to international football at under 15s level right through to the senior team. Further, through incorporating alternative research methodologies, such as ethnography or phenomenology, researchers could gain an in-depth understanding of the lived experiences of football players as they navigate the everyday challenges (e.g., poor training session) and significant adversities (e.g., deselection from the

international squad) associated with international youth football. Moreover, an ethnographic approach where a researcher can work in situ and support coaches in facilitating the MT development of players across multiple international camps could improve understanding of how the culture of football NGBs (i.e., their values, beliefs, traditions) shapes the portrayal of MT within these organisations and the MTbs coaches aim to instil in players (Coulter et al., 2016; Eubank et al., 2017). Working in situ over prolonged periods would also provide the practitioner-researcher the opportunity to work with gatekeepers within football NGBs (e.g., technical directors, heads of coach education and player development) who are influential in shaping the discourse regarding what MT is and how it is developed within their organisations. By implementing a longitudinal research design and a cultural approach to MT development that is instigated from working within the organisation, it is possible to develop a conceptualisation of MT that is not survivor biased (i.e., those who make it to senior level are mentally tough) or based on unrealistic ideals (i.e., athletes must have an insatiable desire to overcome any obstacle they face), but that emphasises a player's ability to adjust to performance, organisational, and personal challenges while displaying MTbs to maintain a consistently high level of performance (Eubank et al., 2017).

Adopting longitudinal research designs would also help future researchers overcome another limitation of this PhD thesis. Namely, the short-term nature of the intervention in Study 3, which due to time constraints took place over a single seven-day international camp. The short duration of the intervention resulted in reduced opportunities to ascertain whether the significant increases in MT levels reported by players from pre- to post-camp were due to the mechanisms of the intervention itself, or a multitude of other factors, such as players forming new relationships with coaches and teammates, developing a greater tactical understanding within international football, and buying into the National Football Association's vision of the future. Further, there was limited opportunity for a formal follow-

up to understand whether the changes reported during the study impacted on performance or were retained following study completion. When conducting applied interventions in high level sport, it is important for practitioner-researchers to “embrace the complexity” (Winter & Collins, 2015, p.12) of professional practice to develop the contextual intelligence required to operate effectively within that environment. Through implementing a longitudinal approach to exploring MT development within international football, and indeed all high-level sport, practitioner-researchers are afforded the time to embed themselves within an organisation’s culture and develop trusting, mutually respectful relationships with coaches and athletes, providing the platform for meaningful long-term behaviour change, such as MT development (Collins et al., 2019).

Another potential limitation of this PhD was the lack of integration of a clear model of behaviour change within the Study 3 intervention. To elaborate, the primary aims of this study were to educate and support coaches in implementing a behaviour-based approach to MT development (i.e., identifying, clarifying, reinforcing, and reviewing MTbs; see Chapter 6). Due to time-constraints and the subsequent short-term nature of the intervention, I decided that adopting a brief contact approach was most appropriate to instigate meaningful behaviour change within this limited period, through moments of often unplanned interaction with coaches (Arthur-Cameselle & Giges, 2020; Giges & Petitpas, 2000). I sought to use these moments of brief interaction to elicit minor adaptations in coaches’ thinking patterns regarding MT development (e.g., identifying a MTb and psychological outcome for each training session), which in turn would increase the propensity with which players displayed MTbs. While coaches highlighted the positive impact these ‘check and challenge’ moments of brief contact had on their implementation of MT development strategies and developing players’ MT, the unstructured nature of the intervention meant that these MT increases could not be definitively attributed to the intervention itself. The unstructured nature of this

intervention is also emblematic of the wider behaviour change research (Martin, 2019). Indeed, Michie et al. (2011) highlighted how, due to lack of clear guidance regarding the selection of appropriate theory for behaviour change interventions, the majority of interventions are designed without a solid theoretical underpinning (i.e., what are the key components of *all* exemplars of behaviour), leading to intervention ineffectiveness or failure. Consequently, it is perhaps prudent for researchers to more formally underpin behaviour change interventions, such as that reported in Study 3, with a model that highlights all factors required for an individual to engage in a desired behaviour and identifies which of these factors need to be adapted for that behaviour to occur (Michie et al., 2011, 2014).

One model of behaviour change that may be useful in settings similar to that associated with Study 3, is the COM-B (Michie et al., 2011). Specifically, Michie et al. outlined how individuals require the *capability* (C), *opportunity* (O), and *motivation* (M) to display a desired *behaviour*. Capability involves having the physical (e.g., stamina in training to display MTbs) and psychological capacity (e.g., understanding what MTb you are being asked to display) to display the desired behaviour. Opportunity consists of the physical (e.g., MT-based training drills) and social (e.g., cultural view of MT) opportunities to display the desired behaviour. While motivation relates to the automatic impulses (e.g., emotional control) and reflective tendencies (e.g., reflecting on MTb displays post-training and competition) one engages in to display the desired behaviour (Michie et al., 2011). Therefore, when incorporated within a longitudinal research design, the COM-B model of behaviour change provides a useful framework through which coaches and practitioners can ascertain players' ongoing capability, opportunity, and motivation to consistently engage in desired MTbs and develop their MT. Moreover, the COM-B model is situated within a broader Behaviour Change Wheel (BCW), which provides researchers and practitioners with nine intervention strategies (e.g., education, modelling, environmental restructuring) and seven

policies (e.g., legislation, service provision, environmental/special planning) for instigating meaningful behaviour change once the target behaviour has been identified (Martin, 2019; Michie et al., 2014). Consequently, the COM-B model of behaviour change provides an avenue for researchers conducting applied research studies seeking to address the needs of a sport NGB or national organisation, such as the FAWT. From a MT perspective, through utilising the COM-B model, researchers and practitioners can support NGBs to instigate meaningful behaviour change (e.g., enhancing players' motivation to display MTBs), through specific interventions (e.g., restructuring how MT is developed within the environment), and tailored policies (e.g., updating the NGB's psychosocial pillar of performance to include MT development).

A final limitation of this PhD thesis was that, due to the project's focus on the mechanisms underpinning the CIT and MT development, the relational meaning players attributed to the CIT as they strived to forge their identity as international football players, and the personal meaning players ascribed to becoming mentally tough were largely overlooked. To expand, in this PhD thesis MT was viewed as a characteristic adaptation to challenges such as the CIT and was developed by players via their relationships across different contexts, and through learning to adapt their MTBs to the stressors they encountered (Gucciardi et al., 2015; McKay et al., under review [Chapter 5]). However, understanding what stressors a player may face when making the CIT and what resources they need to cope effectively with these stressors does not explain why they seek to persevere through these adversities in the first place (cf. Coulter et al., 2016). Given the central role an individuals' goals, values and beliefs play in how they appraise and respond to the stressors they encounter (Lazarus, 1999), it appears pertinent that future research seeking to build on the findings of this PhD should explore athlete's narrative identity regarding the CIT and MT (Coulter et al., 2018). This idiographic approach would allow researchers to look beyond the

dispositional characteristics and adaptive MTbs associated with the construct and explore athlete's personal stories regarding the role MT plays within their own international football developmental journey. Exploration of athletes' narratives regarding MT development could also help to shift scholars' focus away from trying to uncover the 'true' nature of MT towards an acceptance of MT as a socially constructed cultural ideal, thus helping to resolve conceptualisation issues that still exist within the field (Clark et al., 2022; Maddux et al., 1999).

Conclusion

The aim of this PhD thesis was to develop a behaviour-based MT development framework to support the youth international talent development pathway within the FAWT. The findings of this body of work have several conceptual and theoretical implications, linking together the stress experiences of international youth football players as they make the CIT and the transactional process they undergo to develop their MT capacity. This allows them to cope with the wider range of stressors they face in an international youth football context and perform to a consistently high level. Specifically, the findings presented in this body of work have helped to advance knowledge in the stress, transitions, and MT literature by: (1) offering conceptual insight into the previously unexplored CIT and its main components (stressors, situational properties, required coping resources) from the perspective of both international youth football players and coaches; (2) identifying the key components of the MT development process and creating a bespoke behaviour-based MT development framework for the FAWT. This includes strategies for how MT can be developed by players through relationships with coaches, parents, and teammates, the MTbs players are expected to display, and how players can enhance their MT capacity further through reflection and learning over time; (3) extending understanding regarding the multidimensional nature of MT development; and (4) implementing a novel applied MT intervention, where players' MT was

developed through international coaches, and thus contextually suitable to the time-limited nature of international youth football camps.

The aims and objectives of this PhD thesis were formulated based on the organisational needs of the FAWT. Therefore, each study was designed to solve a practical issue within the FAWT (e.g., identify the main stressors players experience during the CIT). This culminated in the implementation of a research-informed, stakeholder-driven MT development framework that provided players, coaches, and parents with a clear process for MT development. Moreover, findings from each PhD study were disseminated back to key stakeholders associated with the FAWT through coach education workshops, parent education sessions, in-camp player support, and presentations at the FAW national coaching conference. In this way, my findings have helped to bridge the research-practice gap that exists within the MT development literature and contributed towards the FAWT's aims of identifying and developing the next generation of international players to achieve long-term success and continually qualify for international competitions. The findings of this PhD thesis also extend beyond the FAWT and have worldwide implications for all sport NGBs seeking to develop the next generation of international athletes. Namely, to help athletes reach their optimal level of performance on an international stage requires NGBs to have an implicit understanding of the stressors those athletes encounter, and to have a bespoke, shared framework for the development of psychological resources, such as MT, that will allow their athletes to cope effectively with these stressors in an international youth football context. NGBs could then integrate such frameworks within their coach education sessions, coach qualifications, and psychosocial programmes for athlete development to ensure coaches and staff are effectively supporting athletes to thrive in both a performance and personal sense.

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EPILOGUE

A Reflective Account of my PhD Journey: Making Sense of the Experience

“The impediment to action advances action. What stands in the way
becomes the way.”

- Marcus Aurelius

Introduction

When my lead supervisor and I first discussed the idea of me writing a piece to reflect on my PhD journey, I was reluctant. I have always considered myself to be adept at staying in the present moment; focusing on the task at hand rather than reflecting on how past events have shaped who I am and the career path I have taken, or what the future may hold as a result of the skills and qualities I have developed along the way. This ability to focus on the here and now has stood me in good stead throughout my PhD, allowing me to set clear goals for each of my chapters and to then invest fully in the process of accomplishing these goals and make an original contribution to knowledge within my field. However, a PhD should not just be viewed as a tick box exercise. Without taking time to reflect on my PhD journey, I run the risk of overlooking my accomplishments during the past four and a half years, and of viewing my PhD as a steppingstone towards a career in academia, rather than a series of critical moments that have shaped me both as a researcher and a human being. During my PhD, I have had moments of immense joy and satisfaction as I saw first-hand the positive impact my research was having on coach education and player development at the Football Association of Wales Trust (FAWT). I have also suffered some significant low points, particularly during the COVID-19 pandemic when the ability to conduct applied research ground to a halt and I had to grapple with the uncertain outlook for my project. Overall, my PhD journey has been about so much more than my PhD. During this time, I have been fortunate enough to have had opportunities to progress my career as a lecturer and applied practitioner alongside my research endeavours. I have gained invaluable experiences working on a wide range of research projects, delivered coach education sessions, and presented my work at national and international sport psychology conferences. This epilogue is an attempt to make sense of all these experiences; to discuss my background that led me to undertaking a PhD in sport psychology, to reflect on the challenges I have faced, the skills I have

developed, and most importantly to be grateful for all that I have accomplished in my burgeoning career.

Background

Some people have a clear idea of what career they want to pursue from a young age and spend their school years motivated by their dream job; I was not one of those people. While I was always a high achieving student in school, thinking about my future career was not one of my strengths. I figured I'd just pick one of the subjects I enjoyed in school, history and English being top of the list, and hope I would figure things out along the way. My parents obviously grew concerned about my lack of direction, as they sent me to an external guidance counsellor (the ones in school were useless...) and after a lengthy conversation and a series of aptitude tests, psychology was suggested as a potential career path. I had never really considered psychology as a viable career path; it was not a subject I was taught in school in Ireland so may as well not have existed, so narrow was my view of career options at the time. Yet the more I read about psychology, the more it made sense and seemed a natural fit with my personality. To elaborate, from an early age I have always considered myself to possess a natural ability to develop a strong rapport with individuals I meet in day-to-day life; a capacity to develop an open connection with others, forming friendships and gaining trust. Studying for a BSc in psychology at Dublin City University, followed by a MSc in sport psychology at Liverpool John Moores University gave me the opportunity to build on this ability, to gain a better understanding of how people think, feel, and behave in different situations, and to learn how to support people to become the best version of themselves across a variety of contexts, including clinical, organisational, educational, and sport settings.

While I felt emboldened by my chosen career path, I felt unprepared for the challenge of trying to obtain meaningful work experience within sport psychology. Reflecting on it now, I was quite naïve in thinking that because I had worked hard and obtained applied work

experience during my MSc qualification, sport organisations would pick up on this in my applications, and I would obtain the position I felt I deserved. In reality, I spent a year working part-time in the retail industry while applying unsuccessfully for countless roles in research, applied practice, and the wider sport development industry before obtaining a job as a sport psychology research assistant (RA) at the University of South Wales (USW). While this year was frustrating and at times had me questioning the viability of a career in sport psychology, it also helped me to grow as a person. I learned how to cope with failure and disappointment, and with each rejected application I felt more rather than less emboldened to pursue a career in sport psychology. I knew that when the chance finally arose to work in my chosen field, I would be fully appreciative of the opportunity and grasp it with both hands. And yet, having worked as an RA for 18 months, when the opportunity arose to apply for a PhD at USW, I felt uncertain. Did I feel ready to commit the next three years of my life (minimum) to undertaking this body of work? Did I really know the level of dedication and application required to conduct a PhD? Was I doing a PhD and pursuing a career in academia because it was what I wanted or because I had failed to explore alternate options? In the end, I decided to trust my instincts and apply for the PhD. After all, I was getting the opportunity to continue working in an applied research role I was passionate about, with supervisors who I admired and had great relationships with, and an organisation who were open to integrating research-informed practice. How many people are fortunate enough to get such an opportunity? And so, I began my PhD in April 2019, excited and anxious about where my research journey would take me.

In the Beginning, There was Uncertainty: A Letter to my Future Self

I have always struggled to reflect on past events or critical moments that have shaped my life. Therefore, at the outset of my PhD journey, I decided to write a letter to myself to preserve how I was feeling in that moment and to write down some of the (at the time)

unanswerable questions that were swirling around in my mind and causing me anxiety regarding my impending PhD journey. As I approach the finish line of that PhD journey now, I am ready to revisit that letter I wrote to myself over four years ago and feel that I am in a far better place to answer some of those questions and to provide some key learnings based on my experiences.

18th January, 2019 - A Letter to My Future Self

Over the last 18 months, I have been fortunate enough to obtain a rare opportunity to work at the forefront of research in sport psychology, a field notorious for its lack of opportunities. While I do not take this for granted, I often find myself wondering, am I fraud? I've always prided myself on working hard and thrived in an environment where I've been given multiple projects to manage, keeping myself on my toes and keeping my work varied. And yet, I feel pressure to be constantly advancing in my field – to do a PhD, to gain applied practice and lecturing experience, to be seen to be constantly advancing, perhaps out of fear of not earning a job in the field I've worked so hard to get into in the first place. Further, I feel as though my sport psychology knowledge still dwarfs in comparison to those around me. I feel like a train driver who is constantly having to lay new tracks in front of myself, unsure where the journey will ultimately take me. Is this normal for someone in my position? Will I succeed in this field with this cautious mindset?

Success is what you make of it, and hard work pays off in the end, your opportunity will come. That's what the people around me constantly tell me, but the truth is in a field like sport psychology it's not all about what you know and the hard work you put in; it's about who you know too. It's about networking and forging relationships with those at the forefront of your field and sometimes simply being in the right place at the right time for someone to take a chance on you and giving you that opportunity to flourish. Now, having been given that opportunity by my supervisors, I stand at a crossroads in my life and in my career. I am

starting a PhD in April in my field: incredible, right? And yet, I can't help but feel nervous about the choice I have made. Have I chosen to undertake a PhD and a career path in research and academia because it's what I'm passionate about or because I feel comfortable at USW and am afraid of exploring other options? Who knows, I can only make the choice that I feel is right in the here and now for my career. In this moment, it feels right to pursue a PhD and to keep developing as a researcher in this field, and when I look back in hindsight, I can draw on my concrete words on this page for support and know I made the best decision possible for my life, with the resources I had at my disposal. It sure beats working in a sofa shop!

In many ways, I feel like I have just sat down on a roller coaster ride. I'm at that point, where the safety bars around me have just locked in, and the wheels have started turning, beginning my slow ascent towards the first drop, the beginning of my PhD journey. I have had the fortune to view other PhD students in the office going through the various ups and downs, twists and turns of that roller coaster ride around me, yet I'm not sure if that makes me any better prepared for what's to come. Everyone has their own project and reacts to their own accomplishments and setbacks in various ways. Some of my fellow PhD students seem to have breezed through, while others have struggled at times to manage the workload. Who will I be more like? Neither probably. I am my own person; I can only cope as well as I am capable. I just hope I can surround myself with the right people to successfully complete the journey, and finally feel like I am embarking on my rightful career path, making a difference in the field of sport psychology and helping to normalise psychological support for athletes. Anyway, I am rambling away here for no particular reason. I will come back to this once my PhD journey begins, and monitor my thoughts throughout, as I feel it is a healthy exercise to release these thoughts somewhere other than my own head.

Reflections on my PhD Journey: Words of Advice for my Past Self

I never did come back to that initial letter I wrote to myself or formally monitor my thoughts throughout my PhD journey. Instead, I came across this letter as I started to think about writing this epilogue and reflecting on my PhD journey. As I read this letter, it struck me how anxious and uncertain I was about what the future would hold; I had little knowledge of what a PhD would involve and felt fraudulent about my capabilities as a researcher to complete such a degree. I was so focused on the PhD outcome – will I successfully complete this PhD? Where will it get me in my career? – and clearing all hurdles in my path to achieve this outcome. Successfully completing a PhD is a massive personal achievement. Obtaining this qualification demonstrates that I have become an expert in my field and an independent researcher capable of navigating the peaks and troughs of doing a PhD and making an original contribution to my field of study. However, reflecting on it now, I realise that a PhD is also about the experiences you have along the way and what you learn about yourself as a person through the successes and failures. I will now attempt to share some of the lessons I have learned over my past four years of study and to dissuade some of the anxieties my past self was feeling.

What Have I Got to Add? Making an Original Contribution to Knowledge in the MT Literature Minefield

“The more I learn, the more I realise I don’t know.”

- Albert Einstein

I remember the first meeting I had with my lead supervisor to discuss the expectations he had of me for my PhD. The first question he asked me was, “Alan, what is a PhD?” I found myself unable to answer and started to feel somewhat embarrassed. How was it possible to have gained two years of research experience and successfully gone through the PhD application process, and yet have no idea what a PhD was? It seemed like such a simple

question on paper but summarising it in just a few words appeared beyond my comprehension. Luckily, my supervisor stepped in to help, “A PhD is an independent piece of research, conducted across a series of studies with a clear, overarching narrative that makes an original contribution to knowledge. Trying to justify your research and becoming an independent researcher is a challenge, there will be times you will hate your PhD – and hate me for playing devil’s advocate in challenging your approach – but this is all part of your developmental journey.” I’m paraphrasing of course, but I came away from this conversation buoyed to find my niche within the field of MT research and to conceptualise a novel approach for helping the FAWT develop their players’ MT. Therefore, I immediately dived into reading all the MT articles and book chapters I could. One of the first extracts I came across was the following:

“Here is a list of attributes, characteristics, behaviours, constructs, cognitions and emotions that researchers (e.g. Connaughton et al., 2008; Crust, 2008; Gucciardi et al., 2009a) have come up with to describe, measure and develop mental toughness: self-belief, work ethic, determination, perseverance, having goals, meticulous preparation, time management, being inspirational, personal values, honesty, pride in performance, accountability, self-motivation, high self-esteem, competitive desire, desire to achieve, team success, vision, tough attitudes, tough character, tough thinking, discipline, commitment, control, challenge, positivity, professionalism, accepting sacrifices, concentration and focus, resilience, handling pressure, overriding negative thoughts, emotional intelligence (awareness of one’s own emotions, awareness of others’ emotions, controlling emotions, handling others’ emotions well, empathy), self-awareness, sport intelligence, team role responsibility, understanding the game, physical toughness, attentional control, generally coping better than opponents, being more consistent than opponents, accepting and embracing challenge, thriving through pressure and challenge, overcoming adversity and

pressure, using long-term goals as sources of motivation, controlling the environment, pushing oneself to the limit, regulation of performance, handling failure, handling success, having unshakable beliefs, having insatiable desires, pushing back boundaries of physical and emotional pain, regaining psychological control after unexpected events, having influential parents, childhood background predisposition to be mentally tough, opportunities to survive early setbacks, needing to earn success, independence, being self-reflective, competitiveness with self, exploiting learning opportunities, never-say-die mindset, go-the-extra-mile mindset, belief in making a difference, willing to take risks, robust self-confidence, positive coach–athlete relationships, coaching philosophy conducive to developing mental toughness, intrinsically motivated, internal locus of control, superior decision-making and conducive training environments. This list, of course, has many overlaps and redundancies. It is also incomplete. There’s more.” (Andersen, 2011, pp. 70-71).

I felt completely overwhelmed. There was already a considerable amount of research that had been conducted on MT and from what I could tell in those initial weeks of reading, it was a complete minefield. Endless different MT conceptualisations, lists of MT characteristics, MT measurement tools and inventories, with seemingly little agreement between research groups on what MT was or how it could be defined. The more I read, the more differing views there seemed to be and the less I felt I understood it all. I sensed the concerns I had about my lack of knowledge heading into my PhD programme begin to bubble up inside me once again. How was anyone, let alone a PhD student, expected to make an original contribution in the field of MT when it seemed that even the experts in the field could not decide what MT was? This was when I learned one of the first lessons of my PhD; making an original contribution to knowledge does not mean that you have to acknowledge and account for all the research in your area that preceded your own work. Rather, you

simply need to make sense of this body of literature, to figure out the story being told and where my own project might fit within this narrative.

With this in mind, I set about figuring out the narrative of the MT literature, from Jones et al.'s (2002) seminal article on MT's conceptualisation through to the present day. To do this, I created an article database in Excel, where I included key details on each article, including the title and authors, a brief summary, and a link to the article itself. Most importantly, I assigned articles to different sub-categories (e.g., MT conceptualisation, MT development, MT behaviours, MT inventories and scales) to identify which articles were closely related in subject matter. In this way, I started to see clear patterns emerging in the MT literature I read. Some researchers were interested in exploring how to define and conceptualise MT, while others were more interested in how it was measured or developed. Some researchers explored MT from a broad perspective, while others looked at MT within specific sporting contexts. Though creating this article database initially took a considerable amount of time and often caused me to grow frustrated at the variety of opinions regarding MT's conceptualisation, having done so, I no longer felt overwhelmed by the seemingly complex and ambiguous nature of the MT literature. Rather, I had begun to de-tangle and critically analyse the array of MT conceptualisations and characteristics that had been proposed and to figure out which research group's conceptualisation I aligned myself with. Further, creating this article database provided me with a strong foundation for my literature review and allowed me to identify a niche in the literature where I could make an original contribution to knowledge. That is, through creating and implementing a behaviour-based MT development framework within the FAWT. As I now embark in a new role as a senior research assistant at USW, I plan on using the organisational skills I learned during the early stages of my PhD to help identify, design, and conduct research projects that will make an original contribution to knowledge

and provide sport organisations across Wales with applied solutions to their performance problems.

Ploughing Your Own Furrow: Learning to Justify My Research and Write in My Own Voice

I have been fortunate enough to have had three fantastic supervisors throughout this PhD journey. Each of them has brought their own unique expertise to the table, challenged me when my research designs or writing were not quite up to scratch, and supported me when I was struggling to stay motivated or recruit participants, particularly during the isolation of COVID-19. Due to a change in my supervisory team during the early months of my PhD, the individuals who took on the roles of my lead and second supervisors possessed, by their own admission, a minimal background in MT research and limited understanding of the concept. Indeed, I would go so far as to say that my second supervisor openly questioned the validity of MT as a whole! However, both of these supervisors channelled their scepticism regarding MT in a positive and constructive manner, constantly challenging me in research meetings to justify the existence of MT as a construct and to distinguish it from similar psychological concepts such as resilience, hardiness and grit. These conversations often caused me to feel frustrated in the immediate term, both at my supervisors playing devil's advocate and for choosing to research a topic as complex as MT, and in the early stages of my PhD I usually left our research meetings with more questions than answers.

Nevertheless, it was through these discussions that I learned the second key lesson of my PhD; I needed to be able to justify both *why* my research was making a valuable and impactful contribution to society, and *how* I chose to go about conducting that research (i.e., methodology, methods). That is, I needed to outline why MT was a valuable resource players needed to develop to deal with the psychosocial demands of international youth football and to create a shared understanding of what MT development looks like, in the form of a MT

development framework, via conducting interviews and focus groups with key FAWT stakeholders (e.g., players, coaches, parents). This framework could then be implemented by coaches with my support during an international camp. I realised that my supervisors were not trying to tell me that MT was not a concept worth investigating, they were trying to get me to convince them why it was, and how developing players' MT may have a positive impact at my company partner, the FAWT. In the letter to my future self at the start of my PhD, one of my key concerns was that I possessed nowhere near the same level of knowledge as my supervisors; I was learning on the fly, and I would be 'found out' for this at some stage. In reality, my PhD involved taking my supervisors on a journey, updating their knowledge base regarding MT alongside my own, and learning to 'plough my own furrow' in justifying why I was doing what I was doing.

To be able to justify my research effectively I also needed to significantly improve my writing ability. Having gained first class honours in my BSc psychology degree, a merit in my MSc sport psychology degree, and written extensively for publications during my two years as a research assistant, I was confident in my academic writing ability and viewed it as one of my strengths starting my PhD. How wrong I was! I still remember getting feedback on my early work, including research proposals, ethics forms, and interview guides for my first study, and finding them covered in suggested edits and comments, leaving me crestfallen. I was already feeling fraudulent regarding my ability to make an original contribution to knowledge within my field, now my perceptions regarding my writing skills had been dealt a blow too. I decided I needed to give this area of my work significantly more attention to avoid feeling similarly despondent the next time I received feedback. Some of the repeated errors I made in my early work consisted of overly long sentences, used of incorrect sentence starters (e.g., "Firstly", "Furthermore"), use of unnecessary jargon (e.g., "concurred" – sorry David!), and formatting and presentation inconsistencies (i.e., not aligned with APA 7th

formatting – sorry Brendan!). To rectify these errors, I attended a few post-graduate writing workshops on offer at USW and started to think about how I structured each paragraph (i.e., introductory sentence, critical analysis of research, statements of any strengths/limitations, concluding sentence/link to the next paragraph). In this way, I have learned to improve the readability and flow of my writing, allowing me to justify more clearly my rationale throughout all stages of my PhD research. Similarly, from a formatting perspective, I have created a simplified APA 7th edition checklist which I have open beside me at all times, allowing me to review the presentation of my work as I go. I am by no means perfect, and the process of adapting my academic writing style to ensure balance between structure and creativity is one that I will continue throughout my academic and research career.

It was important that while trying to enhance my writing structure, I did not lose sight of my own writing style or ability to justify my research in my own voice. This lesson was made clear to me during a piece of feedback I received on my literature review from my lead and second supervisors. My lead supervisor would view himself primarily as a qualitative researcher and so I would consider his writing style to align closely with my own; longer, flowing sentences full of description and detail. On the other hand, my second supervisor would view himself primarily as a quantitative researcher, and places great emphasis on being able to justify your position and outline your arguments clearly and succinctly without any ‘waffle’ (something I admittedly still struggle with). For this particular piece of work, my lead supervisor had reviewed it first, before sending it to my second supervisor for comment, prior to sending it back to me. This was our usual review process and, as you can imagine, usually resulted in a lot of red ink and suggested amendments! On this occasion, I was reading a paragraph where my second supervisor was growing increasingly exasperated with my overuse of commas, to the extent that he commented on my use of a “comma shotgun” in my writing. I too grew increasingly frustrated reading this paragraph, adamant that I had not

used so many commas in the original draft, only to reach the bottom of the paragraph and find that it was in fact my lead supervisor who had added all the commas in! While I found this amusing at the time and was somewhat relieved it was not my error, I also took an important lesson away from this experience; everyone needs to find their own academic writing style. My supervisors all have extensive experience writing academic articles, book chapters, and disseminating findings to practitioners, athletes, and coaches at conferences and other events, and yet they all do this in their own way and correct each other's work through their own lens. Therefore, I have not learned to write in the 'right' academic format during my PhD, rather I have learned to take on board writing advice from each of my supervisors and to write in my own, authentic manner. Moreover, throughout my PhD journey my supervisors have frequently encouraged me not to simply take their comments or advice as gospel but to challenge their views when I do not agree and to justify my own point of view. As a result, through doing this PhD I have not become an amalgamation of my three supervisors, but an independent researcher with my own skillset and capable of justifying my own approach to conducting and writing research studies.

'People Need to Know You Care Before They Care What You Know': Reflections on Conducting an Applied Research PhD Before and During the COVID-19 Pandemic

One of the major strengths of my PhD thesis was that it was an applied research project, where I worked with the FAWT to establish the organisation's needs and formulated these needs into a structured PhD, with clear aims and objectives to solve practical issues within the Association (e.g., how to develop MT in players?). To achieve these objectives I was required to regularly attend international camps to get a better understanding of the international youth football environment, and to develop relationships with players, coaches, and staff to help embed myself within this environment and gain buy-in to my research, prior to beginning data collection. Nevertheless, conducting such an applied project was not

without its barriers. For example, international training camps typically occur only four to five times per season, lasting anywhere from three days up to two weeks, depending on whether it is a training or competitive camp. Therefore, players are in this environment for an extremely limited period during the season, making it very difficult to gain access to them for research purposes. Indeed, even when they are in this environment coaches are extremely reluctant to set aside time in an already busy schedule for a sport psychology PhD student to conduct interviews with their players.

Even gaining access to these camps in the first place proved to be challenging, given that the majority of FAWT administration staff work on a part-time basis, and so replying to an external PhD student regarding camp dates and times sat quite far down their list of tasks. As a result, I often found myself sending several emails to administration staff and coaches enquiring about international camp schedules, dates, and player and coach availability before receiving a reply. I grew increasingly anxious during the recruitment process for each of my studies, afraid of 'burning bridges' with FAWT gatekeepers due to being overly pushy regarding gaining access to participants, but also acutely aware that I had a limited time in which to complete my PhD and wanted to ensure that I gathered enough data to conduct a meaningful intervention. I had naively assumed at the outset of my PhD that because the FAWT were my company partner, I would have relatively easy access to players, coaches, and staff for my research (FAWT coaches, to their credit, were extremely generous with their own time throughout my PhD). Instead, I was beginning to gain a sense of what it was like to work in an elite level sport organisation, where I was just one small cog in a much larger performance machine and would have to continue justifying my presence and the importance of my work through repeated emails and, where possible, interactions with key stakeholders to keep my research moving forwards and at the forefront of FAWT staff's minds. Eventually, my persistence began to pay off, and I was invited to attend and observe both an

under 17s and an under 19s international camp by the international coaches, where each team was competing in European qualifying matches. Attending these camps provided me with invaluable opportunities to observe the daily processes of an international youth football camp; how the players and coaches interacted both during training and competition, and how the players handled the pressure of trying to win games and qualify for an international tournament. Moreover, I had the opportunity to chat to players and coaches during quiet moments in the camp to find out their perceptions regarding psychological development in international youth football, and how they viewed the role of psychological resources such as MT in performance. These insights helped to inform the design of the interview guides for my second PhD study, and also helped me to forge strong relationships with several coaches through demonstrating that I was not just a PhD researcher who sat in an office all day, but that I was willing to attend international camps and show a vested interest in how coaches engaged in their craft and integrated psychology. As I emphasised in my letter to my future self, sport psychology is not all about what you know, but who you know, and being willing to be proactive in forging new relationships to ensure my research had meaningful impact. This lesson rang true at the FAWT, where coaches wanted to ‘know that I care before they care what I know.’ Only through accepting me as a researcher, would they be willing to buy into my research.

Unfortunately, the burgeoning relationships I had with FAWT coaches, and indeed all meaningful research, ground to a halt shortly after these camps due to the outbreak of the COVID-19 pandemic and subsequent lockdown. For well over a year, I was unable to access any international camps and struggled to recruit participants for my studies, as the FAWT attempted to adapt to these new and challenging circumstances. Uncertainty often breeds anxiety, and I grew increasingly anxious during the early months of the pandemic regarding the future outlook for my project. Would I be able to continue my research? If so, in what

capacity, and for how long? Given the situation, my supervisors were unable to give me any definitive answers to the questions swirling around in my mind, and so instead, I began to put in place a contingency plan. Rather than moving forward with my second study, as had originally been planned, I would instead use this lockdown period to finish writing my literature review, a task I had been meaning to accomplish for a while but that had taken a backseat to data collection and relationship building. I was trying to reframe the COVID-19 lockdown from what had initially been a threatening situation – when I will I resume data collection for my PhD? – to a challenging one – what other tasks can I accomplish during this quiet time, when I am stuck at home? In other words, I was attempting to develop my own MT to allow me to keep consistently producing a high level of PhD work, despite the pressure I felt to keep collecting data and complete my project on time. In so doing, I learned another key PhD lesson; always expect the unexpected and be prepared to adapt or rip up your PhD progress plan and make a new one. Conducting an applied PhD is similar to the club-to-international transition. Namely, an applied PhD is fluctuating, ambiguous, and has no guarantees of a positive outcome without hard work and an ability to adapt to changing circumstances, whether that be the evolving nature of my research project from focusing on the CIT to focusing on MT development, or a pandemic bringing all data collection to a standstill.

In the letter I wrote to my future self at the start of my PhD, I expressed my concerns at the uncertain path I was taking in trying to complete a doctorate. How long would it take? How would I overcome the obstacles I faced along the way? In reality, those obstacles *were* the way. Although I would not wish the same situation upon any future PhD student, learning to adapt my PhD schedule around the COVID-19 lockdown taught me the importance of being able to work flexibly and accept the situation you have been given. Eventually, data collection for my PhD did resume, and although this process looked very different post-

pandemic (e.g., interviews conducted on Teams, strict rules on access to international camps) I felt prepared to adapt to this new way of working, safe in the knowledge that very few obstacles which crossed my path could be as disruptive as lockdown had been.

Dealing with Feelings of Fraudulence: Having a Research CPD Group to Support Me on My PhD Journey and Normalise My Experiences

Another thing that I noticed as I read back through my letter to my future self from the start of my PhD was how isolated I sounded. At the time, I was working in an office with three other psychology PhD students who were all at different stages of completing their theses and yet, having not yet begun my own PhD programme of study, I struggled to relate to their experiences. I silently questioned whether they had experienced the same doubts and feelings of fraudulence I did at the beginning of their studies, but I never plucked up the courage to ask them out of fear I might be alone in thinking in such a manner. What I really needed was to talk to other PhD students in a similar position to myself, to share my experiences and gain advice on strategies for managing the demands of a PhD effectively.

Luckily, about six months into my PhD studies my lead supervisor setup a continued professional development (CPD) group among all his PhD students. Here, once every six weeks, we would meet up either in person or online to share what our objectives were during the previous six-week period, how we were progressing with these objectives, and what the objectives were for the following six weeks. These meetings provided a safe space to share challenges we were facing with our PhD projects, as well as to celebrate each other's successes. They helped me to normalise some of the self-doubts I felt regarding my PhD progress, and I still use several of the coping strategies I received from fellow students during these meetings to help me effectively manage the demands of working in academia (e.g., creating a 'to do' and 'ta-da' list to monitor progress on tasks – thank you Hannah!). Importantly, these discussions were not restricted to PhD talk, and often ventured into

conversations about how to maintain personal well-being and the importance of taking regular breaks away from your PhD to look after yourself as a person as well as a researcher, and to allow you to return to the work with renewed clarity and motivation. Further, as the years advanced and I progressed through my PhD, I found myself moving from the role of advice taker to advice giver. Without realising it, I had accumulated several years of experience writing ethics forms, recruiting participants, conducting interviews and focus groups, writing papers for publication, and disseminating my findings, and now felt more confident in offering guidance to other PhD students going through similar experiences for the first time. I had moved from feeling fraudulent and fearing the self-doubt that comes with the uncertainty of embarking on a PhD, to embracing these feelings of self-doubt and using them to focus my attention on developing my skills as an independent researcher, and then drawing on those experiences to support others.

Based on my experiences, I would argue that a distinction needs to be made between working independently and working in isolation. A PhD is a huge commitment and requires the student to become an independent researcher capable of designing, conducting, analysing, and writing up a series of research studies to successfully pass. But to undertake this work in isolation would be detrimental even to the most resilient and dedicated of research students. A problem shared is a problem halved, and as I near the end of my PhD studies and transition into full-time work, I hope to continue to be a part of a research CPD group that supports me in navigating the ups and downs of academic life.

Moving Goalposts: Managing Multiple Roles and Getting Across the PhD Finish Line

A final thing to note from my letter to my future self was the urgency I felt to be doing everything, all the time in a sport psychology context – research, lecturing, and applied work. I'm not quite sure where this urgency came from, but it is clear from my letter that I was concerned (and incorrect) that by committing myself to a PhD degree, I was railroading

myself into a career in research, that I would come out the far end with a three to four year gap on my CV in terms of applied experience, and so would never stand a chance of working in applied practice. Truthfully, I had not decided what branch of sport psychology I wanted to go into yet and wanted to keep my options open, not realising that I would still have the same options available to me at the end of my PhD. And so, I succumbed to my urgency to ‘get ahead’ and was fortunate enough to get the opportunity to teach sport psychology modules for four years at USW, while also embarking on my British Psychological Society (BPS) Stage 2 professional qualification in sport and exercise psychology, working with a range of athletes and sport organisations thus far.

It has been through trying to balance these three differentiating roles that I have learned the final lesson of my PhD; don’t bite off more than you can chew and learn to manage your time effectively. This is not to say that I regret my decision to gain some lecturing or applied experience alongside conducting my PhD. In fact, learning how to disseminate sport psychology knowledge to varying levels of sport psychology students in the classroom, as well as to athletes and coaches in the performance arena taught me more about how to communicate my message effectively than solely presenting my research at academic conferences ever could. Moreover, working in both a research and applied practice capacity has allowed me to engage in evidence-based practice in my consultancy work (e.g., helping athletes to develop their MT) and practice-informed research in my PhD role (e.g., ensuring my MT development framework was grounded in the terminology of coaches and players). Nevertheless, while these experiences have been invaluable in my continued professional development, my key reflection is that when taking on new roles in the future, I need to realistically assess whether I have the capacity to give them my full attention, rather than simply taking them on because I feel it is what I *should* be doing. As a result of trying to manage these multiple roles, I have had to extend my PhD deadline on multiple occasions,

and a project that was originally envisioned as taking three years to complete has now extended to more than four (COVID-19 has also had a part to play in this, granted). During this time, my PhD funding has finished, and I have had to work a part-time lecturing job to support myself financially alongside completing the PhD. Despite all this, as I enter the last lap of my PhD and sprint towards the finish line, I feel appreciative of the journey I have been on, all the ups and downs, and all the lessons I have learned along the way. As I read back through my old letter and all the hopes and aspirations 2019 Alan had for his future self, I realise that, over the past four years, I have set the wheels in motion to accomplish a lot of those goals. 2019 Alan wanted to surround himself with the right people and use his PhD journey to explore the different options available to him, and to ultimately start to make an impact in the field of sport psychology. I like to think that despite the setbacks and extended deadlines, I have managed to achieve this and provided myself with the platform to flourish in a career in sport psychology. What more can I ask for from my PhD journey than that?

References

- Andersen, M. B. (2011). Who's mental, who's tough and who's both. In D. F. Gucciardi & S. Gordon (Eds.), *Mental toughness in sport: Developments in theory and research* (pp. 69-88). Routledge.

APPENDICES

Appendices

Appendix A – Ethical approval letter for study 1



Professor Julie E Lydon OBE, Vice-Chancellor
Yr Athro Julie E Lydon OBE, Is-Ganghellor

Friday 5th April 2019

Mr Alan McKay
C/o Faculty of Life Sciences and Education
University of South Wales

Dear Alan,

Faculty School Ethics Sub Group Feedback – ‘Psychosocial Demands and Cognitive Appraisals Experienced by Elite Youth Footballers: The Club- to-International Level Transition’ [19AM0301LR]

I am writing to confirm that on the 5th April 2019, the Schools of Health, Sport and Professional Practice and Care Sciences Research Ethics Sub Group, approved your submission for ethical approval.

Please note:

- i. Approval is valid for 2 years from the date of issue, you will be notified when approval has expired but you are expected to be mindful of this expiration. Upon the expiration of this ethics approval you may apply for an extension.
- ii. The approved documents are attached. If you intend on deviating from the approved protocol, research team, or documentation you will need to seek approval for any changes.
- iii. This approval does not confirm that indemnity or insurance are in place for this project.
- iv. Please confirm when your research project has closed (a one page closure report highlighting any recruitment issues, adverse events, publications etc. should be appended).

If you have any queries about the committee’s decision, please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Peter M'Carthy'.

Professor Peter M’Carthy
Chair of Faculty Ethics Committee

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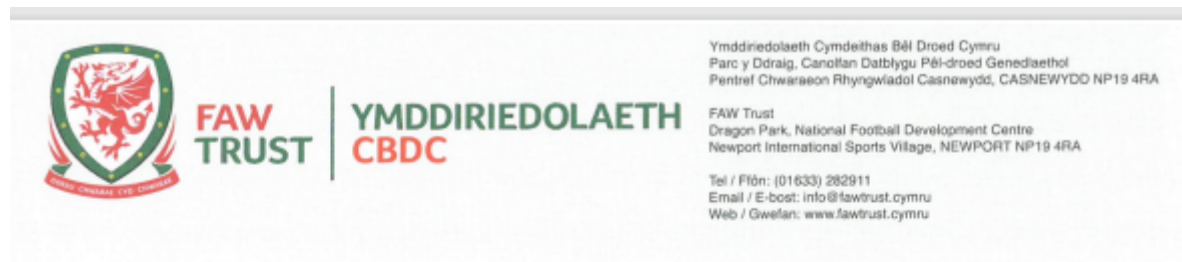
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Appendix B – Football Association of Wales Trust (FAWT) Approval Letter for Researcher Access for Study 1



To whom it may concern,

I am writing in regards to a sport psychology Research Assistant from the University of South Wales, Alan McKay, who is looking to gain access to the Welsh National age group teams in order to conduct research with the players. Alan is looking at how Welsh youth players transition from club to international football and their experiences of dealing with the demands of this event, and will be conducting one-to-one interviews with players about this topic.

I can confirm that I am happy to grant Alan access to work with the players and gather data for his study, provided he gains the informed assent from the players prior to carrying out any work, as well as the informed consent of the players' parents.

Yours sincerely,

Osian Roberts

FAW Trust Technical Director



Appendix C – Player interview guide for Study 1

Psychosocial Demands and Cognitive Appraisals Experienced by Elite Youth Footballers: The Club-to-International Level Transition.

Interview Guide

Name: _____

Participant Number: _____

Age: _____

Academy Level: _____

Position: _____

Interview Date: _____

Interview Location: _____

Interview Start Time: _____

Interview End Time: _____

Introduction

- **Remind participants of the background to the study:**

Our study is interested in looking at how players transition from club to international football and their experiences of dealing with the demands of this event. It is hoped that this research will help to inform sport psychology and coaching practice, by providing a better understanding of what demands youth players face during this major event in their early playing career, how effectively they cope with the demands of this event, and ultimately how they perform on the pitch as a result.

- **Remind participants of the purpose of the study:**

To explore youth footballers' experiences of the typical demands of making the step-up from club to international level football.

- 1) To explore the demands experienced by youth footballers at club level
- 2) To explore the demands experienced by youth footballers making the step up to international level.
- 3) To examine how they handle this move from club to international level.

- **Remind participants of their rights:**

- Right to withdraw from the study at any time, without reason or penalty
 - Right to confidentiality of information disclosed
 - Right to anonymity of identity
 - Right to refuse to answer any question they're uncomfortable with
-
- **Remind participant that they will receive a copy of their transcript after data collection to check accuracy of the statements they provide, and to ensure their identities have been sufficiently protected**

DO YOU HAVE ANY QUESTIONS TO ASK ME BEFORE WE BEGIN THE INTERVIEW?

Section 1 – Background in football

Before we get into the actual demands placed upon you as an elite youth footballer, I just wanted to take a few minutes to ask you some questions related to your background and overall experiences in football so far...

1. What originally attracted you to playing football?

- **PROBE:** i) Where did you originally start playing football? What club? Are you still there now?
 - ii) What position do you play? Is that your preferred position? Have you always played in that position?
2. When did you decide you wanted to pursue a career in football?
- **PROBE:** i) When did you realise you were good enough to pursue a career in football?
3. How do you feel about football now versus when you started playing?
- **PROBE:** In terms of:
 - The atmosphere/environment?
 - Coaches?
 - Teammates?
 - Training methods?

Section 2 – The club-to-international transition

Thank you for your answers in that first section. Hopefully those questions have provided you with an idea of the sort of thing I am looking for in this research. I'd now like to discuss more specifically your thoughts and emotions surrounding the step up from club to international level, if that's alright?

1. In your opinion, what does the word "transition" mean? What thoughts come to mind when I say the word "transition"? *(provide definition at this point if participant cannot)*
 - **PROBE:** i) Have you experienced any specific transitions thus far in your football career?
2. How did you first hear that you had been called up to the Welsh squad?
 - **PROBE:** i) How did you feel about that transition? What did you think?
 - ii) Why did you think/feel that way?
3. How did you feel when you showed up for your first training camp?
 - **PROBE:** i) Did you have any expectations?
 - ii) How did the training environment compare to your club?
 - iii) In what ways were the two environments different?

iv) How did you feel about these differences and why?

Section 3 – Psychosocial demands of the transition

Ok, thank you for providing that information regarding how you felt about the overall club-to-international transition, now let's look more in depth at the demands you faced during this period.

1. What are the biggest differences you've noticed at international versus club level?

➤ **PROBE:** In terms of:

- Training methods?
- Match preparation?
- Facilities?

2. How do the coaches' compare at international level versus club level?

➤ **PROBE:** In terms of:

- Behaviours?
- Personality?

i) What effect do these differences, if any, have on you?

3. What is the overall environment like in your international training camps?

➤ **PROBE:** In terms of:

- Competitiveness
- Team Cohesion

i) How does your international football environment compare to club level?

ii) How do you feel competing with your team mates for a starting position?

iii) How do you feel about the level of competitiveness in the current international squad?

iv) Does the competitiveness affect your relationships with your team mates in any way?

v) Does the competitiveness affect your overall performance levels on the pitch?

vi) What is it like interacting with players from different clubs and backgrounds?

4. Are there different rules you have to follow within the training camp environment at international level versus club level?

5. What way is training structured within your international training camp compared to at

club level?

- **PROBE:** i) Are there different tactical systems you have to play in at international level versus club level? Do you prefer either? Why?
- ii) Does your position differ at all from club to international level based on these different tactics?
- iii) How does that impact your ability to perform, if at all?

6. How does your match preparation compare at international level versus club level?

- **PROBE:** i) Do you have a specific pre-match routine you use?
- ii) Do you have certain pre-match performance expectations or goals set out for you by coaches?
- iii) How do these expectations compare at international level versus club level?
- iv) Do your coaches provide you with feedback on your performance after the game? Does this feedback differ in any way between international and club level?

7. Do your parents and peers have certain expectations of how you should perform?

- **PROBE:** i) How do they react when you perform well versus when you perform poorly? How does this make you feel and why?
- ii) What are your parents' views on your football career? Are they supportive?
- iii) How do you find school? How do you find trying to balance school and football commitments?
- iv) Do you ever feel like you have to sacrifice other aspects of your life for football?

Section 4 – Appraisal mechanisms and motivations to overcome demands

Thank you for your insightful answers to those questions surrounding the day-to-day demands you face at both international and club level. I'd now like to ask you some questions about how you cope with these demands.

1. What does it mean to you to play international football for Wales?

- **PROBE:** i) How do you plan on maintaining your form to stay at this level?
- ii) What drives you to continue to improve?
- iii) How do you personally manage the aforementioned demands of international football? Do you have any specific routines or strategies?

2. Do you think making the step up to international football has changed you personally in

any way?

- **PROBE:** i) Do you feel more comfortable now at international level than when you were initially selected (*only for returning players*)?
 - ii) Do you feel it has affected your form at club level?
3. How would previous transition experiences that we have discussed here today help you when making future transitions to the next level of international football?
- **PROBE:** i) Why do you think you've managed to successfully make it to international football when so many others have not?
 - ii) What makes you stand out?
4. What are the unique psychological demands of your position on the pitch?
- **PROBE:** How do you feel you've managed these demands effectively in order to reach international football?

Section 5 – Conclusion

Thank you for your answers in that section. I appreciate that it must not be easy having to recall potentially stressful and demanding events from your career so far in football, but the answers you have provided will be really useful in my overall project. One final thing before we conclude the interview, I would just like to give you an opportunity to add anything you feel we may have missed during the interview, make any clarifications on what we discussed, or to ask any further questions you may have regarding the overall study.

1. Overall, how do you feel the interview went?
2. Did you feel that you got to tell your story fully?
3. Do you feel that we discussed everything you wanted? Did we miss out on anything?
4. Do you have any further questions you'd like to ask, or clarifications you'd like to make at this stage?

Thank you for your time and your voluntary participation in this study.

Appendix D – International coach interview guide for Study 1

Psychosocial Demands and Cognitive Appraisals Experienced by Elite Youth Footballers: The Club-to-International Level Transition.

Interview Guide: International Coaches

Participant Number: _____

Age: _____

Coaching Age Group/Team: _____

Interview Date: _____

Interview Location: _____

Interview Start Time: _____

Interview End Time: _____

Introduction

- **Remind participants of the background to the study:**

Our study is interested in looking at what coaches perceive to be the main demands players face in making the transition from club to international football and their experiences of assisting players in dealing with the demands of this event. It is hoped that this research will help to inform sport psychology and coaching practice, by providing a better understanding of what demands youth players face during this major event in their early playing career, how coaches effectively help them in coping with these demands and ultimately having a positive impact on how the players perform on the pitch as a result.

- **Remind participants of the purpose of the study:**

To explore coaches' perceptions and experiences of the typical demands players face in making the step-up from club to international level football.

- 4) To explore coaches' perceptions of the demands experienced by youth footballers making the step up to international level.
- 5) To examine how coaches support players with this move from club to international level.
- 6) To explore potential improvements coaches can make in assisting players moving from club to international level
- 7) To examine potential barriers that may exist at international level for making these improvements

- **Remind participants of their rights:**

- Right to withdraw from the study at any time, without reason or penalty
- Right to confidentiality of information disclosed
- Right to anonymity of identity
- Right to refuse to answer any question they're uncomfortable with

- **Remind participant that they will receive a copy of their transcript after data collection to check accuracy of the statements they provide, and to ensure their identities have been sufficiently protected**

DO YOU HAVE ANY QUESTIONS TO ASK ME BEFORE WE BEGIN THE INTERVIEW?

Section 1 – Background in football

Before we get into your perceptions of the demands placed upon the players you coach, I just wanted to take a few minutes to ask you some questions related to your background and overall experiences in football so far...

1. Can you just start by giving us a brief overview of your coaching career so far and how you ended up in your current role with Wales?

➤ **PROBE:** What age group(s) do you coach?

Section 2 – Perceptions of the club-to-international transition and potential barriers

Thank you for your answers in that first section. Hopefully those questions have provided you with an idea of the sort of thing I am looking for in this research. I'd now like to discuss more specifically your thoughts and perceptions surrounding the step up for players from club to international level, and the potential barriers you face in supporting players during this period, if that's alright? First, I'd just like to clarify what I mean when I use the word transition – making that step up from club to international football:

“An event or non-event which results in a change in assumptions about oneself and the world, and thus requires a corresponding change in one's behaviour and relationships” (Schlossberg, 1981, p.5).

4. In your coaching experiences, how big a demand is it for players making that initial transition from club to international level?

➤ **PROBE:** i) How do they feel about that transition?
ii) Why did they think/feel that way?

5. How do you think the players feel when they arrive for that first training camp?

➤ **PROBE:** i) Do they tend to have any expectations?
ii) How quickly do they tend to adapt to the new environment?

6. What do you feel there are the major demands players face when making the step up to international level?

➤ **PROBE:** In terms of:
- Technical demands? (e.g. different training methods, different

- playing positions)
 - Tactical demands? (e.g. different tactical systems, match preparation, different feedback methods)
 - Physical demands? (e.g. physicality of international teams vs club teams, intensity of international vs club football)
 - Psychosocial demands? (e.g. communicating and interacting with new teammates at international level vs knowledge of your teammates at club level)
 - Engaging with all of the above in a limited timeframe at international level vs a weekly, scheduled timetable at club level?
7. Based on your coaching experiences, what do you think are the main qualities that separate players that manage to progress to the international team from those that do not?
- **PROBE:** How do they cope effectively with the aforementioned transitional demands?
8. What are the major barriers to supporting players and making improvements in terms of the ease of transition from club to international level football?
- **PROBE:** i) Does the limited amount of time you have with players at international level inhibit the level of support you can provide to them?
- ii) Does the training and match-heavy nature of these international camps mean that assisting the players with potential transitional demands they may be experiencing cannot be a priority?
- iii) How difficult is it in those initial international training camps to get to know the players on a personal level, and develop that rapport and trust in such a limited timeframe?

Section 3 – Coaching support for players during the transition

Ok, thank you for providing that information regarding your perceptions of the demands players face during the club-to-international transition, now let's look more in depth at the support you as a coach provide to them during this period.

8. How do you, as an international coach, support your players during that transition?
- **PROBE:** How do you make them feel comfortable/at home in that new international environment?
9. What clubs do your international players come from?

- **PROBE:** Do you as an international coach regularly communicate with the club coaches of your players?
- Regarding potential issues or demand such as:
 - Injuries?
 - Deselection (from club or international squad)?
 - Tactical training (e.g. preferred position for international level)?
 - General well-being?

Just moving onto discussing your international age group specifically, with a view to understanding how you might help to facilitate the transition for players moving to international level:

10. What is the overall environment like in your international training camps?

- **PROBE:** In terms of:
 - Competitiveness
 - Team Cohesion

- vii) How do you feel about the level of competitiveness in the current international squad?
- viii) How do you ensure cohesiveness levels remain high within the squad, while players are competing for starting positions? Is this a big demand for them?
- ix) Does the competitiveness affect your relationships with your players in any way, i.e. how do you go about telling players when they have been selected/deselected from the team or squad?
- x) How do you support them in this scenario?
- xi) What kind of performance factors do you base it on? Do you provide detailed feedback for them on areas for improvement?
- xii) How do you keep international level players' expectations grounded?

11. Are there specific rules/standards set for players within the international training camp environment?

- **PROBE:** How do you ensure these standards are maintained?

12. Are there channels of support in place for players if they are experiencing either

personal or performance-related issues during that transition from club to international level football?

- **PROBE:** i) If a player approaches you with an issue related to the club to international level transition, do you as a coach try to deal with it yourself?
- ii) Do you have a sport psychologist/counsellor in place they could talk to?
- iii) How do you as a coach go about making this environment one in which players feel comfortable to discuss any transition-related demands they might be experiencing?
- iv) How do you think players manage the demand of trying to balance school and football commitments?
- v) How do you support them in balancing these demands? Do you ever feel like education gets in the way of football or vice versa?

13. Do you think the parents and peers of your players have certain expectations of how they should perform when making that step up to international level?

- **PROBE:** i) Do they provide adequate support for them during the transition period?
- ii) How do the parents supporting the team react when the players perform well versus when they perform poorly?
- iii) How do you think that makes the players feel and why? Is it a motivator or a deterrent for them?
- v) Do you ever have to have conversations with parents to explain why their child hasn't been selected to play?

14. Do you think making the step up to international football has changed any of the players you have worked with personally in any way?

- **PROBE:** i) Do you think they feel more comfortable now at international level than when they were initially selected (*only for returning players*)? How did they achieve this?
- ii) Do you feel it has affected their form at club level?

Section 4 – Barriers and solutions to making improvements in overcoming transitional demands

Thank you for your insightful answers to those questions surrounding the support you provide to players as they make the transition from club to international level. I'd now just like to take a moment to summarise the club to international transition demands we have

discussed so far, and the barriers you perceive to be in place, from a coaching perspective, that prevent more effective support of players who are making the step up to international level football (Take a minute to summarise what has been talked about).

So with these demands and potential barriers to effective player support in mind, I would just like to take a few minutes to ask you some questions about how potential improvements could be made, both in regard to how coaches support players to overcome these demands they face and in breaking down these barriers to support during the club to international transition.

1. From your perspective as an international coach, what do you think could be done to try and overcome these barriers to improving support for players transitioning from club to international level?
 - **PROBE:** i) Any specific skills or strategies you have in mind for the future?
 - ii) Provide the players with the life skills to try and independently manage some of the demands they face making the step up to international level?
 - iii) What drives you to continue to improve player development?
2. From your perspective, what else could be done by international football associations and stakeholders within the association (i.e. coaches, support staff, parents, club staff etc.) to help improve the club to international transition for players?
3. How would previous transition experiences and barriers that we have discussed here today help you when assisting future players making the transition from club to international football?

Section 5 – Conclusion

Thank you for your answers in that section. I appreciate that it must not be easy having to recall potentially stressful and demanding events from your career so far in football, both as a player and coach, but the answers you have provided will be really useful in my overall project. One final thing before we conclude the interview, I would just like to give you an opportunity to add anything you feel we may have missed during the interview, make any clarifications on what we discussed, or to ask any further questions you may have regarding the overall study.

5. Overall, how do you feel the interview went?
6. Did you feel that you got to tell your story fully?
7. Do you feel that we discussed everything you wanted? Did we miss out on anything?
8. Do you have any further questions you'd like to ask, or clarifications you'd like to make at this stage?

Thank you for your time and your voluntary participation in this study.

Appendix E – Club coach interview guide for study 1

Psychosocial Demands and Cognitive Appraisals Experienced by Elite Youth Footballers: The Club-to-International Level Transition.

Interview Guide: Club Coaches

Participant Number: _____

Age: _____

Coaching Age Group/Team: _____

Interview Date: _____

Interview Location: _____

Interview Start Time: _____

Interview End Time: _____

Introduction

- **Remind participants of the background to the study:**

We are interested in looking at what coaches perceive to be the main demands players face in making the transition from club to international football and their experiences of assisting players in dealing with the demands of this event. It is hoped that this research will help to inform coaching practice, by providing a better understanding of what demands youth players face during this major event in their early playing career, how coaches effectively help them in coping with these demands and ultimately having a positive impact on how the players perform on the pitch as a result.

- **Remind participants of the purpose of the study:**

To explore coaches' perceptions and experiences of the typical demands players face in making the step-up from club to international level football.

- 8) To explore coaches' perceptions of the demands experienced by youth footballers making the step up to international level.
- 9) To examine how coaches support players with this move from club to international level.
- 10) To explore potential improvements coaches can make in assisting players moving from club to international level
- 11) To examine potential barriers that may exist at international level for making these improvements

- **Remind participants of their rights:**

- Right to withdraw from the study at any time, without reason or penalty
 - Right to confidentiality of information disclosed
 - Right to anonymity of identity
 - Right to refuse to answer any question they're uncomfortable with
-
- **Remind participant that they will receive a copy of their transcript after data collection to check accuracy of the statements they provide, and to ensure their identities have been sufficiently protected**

DO YOU HAVE ANY QUESTIONS TO ASK ME BEFORE WE BEGIN THE INTERVIEW?

Section 1 – Background in coaching

Before we get into your perceptions of the demands placed upon the players you coach, I just wanted to take a few minutes to ask you some questions related to your background and

overall experiences in coaching so far...

2. Can you just start by giving us a brief overview of your coaching career so far and how you ended up in your current role at this club?
 - **PROBE:** i) What age group(s) do you coach?
 - ii) How many international players are there within your current age group at the club? How long have they played at international level for?

Section 2 – Perceptions of the club-to-international transition and potential barriers

Thank you for your answers in that first section. Hopefully those questions have provided you with an idea of the sort of thing I am looking for in this research. I'd now like to discuss more specifically your thoughts and perceptions surrounding the transition for players from club to international level, and the potential barriers you face in supporting players during this period, if that's alright? First, I'd just like to clarify what I mean when I use the word transition – making that step up from club to international football:

“An event or non-event which results in a change in assumptions about oneself and the world, and thus requires a corresponding change in one's behaviour and relationships” (Schlossberg, 1981, p.5).

9. Focusing specifically on the club to international level transition, what do you feel are the major demands players face when making that step up to international level?
 - **PROBE:** In terms of:
 - Technical demands? (e.g. different training methods, different playing positions)
 - Tactical demands? (e.g. different tactical systems, match preparation, different feedback methods)
 - Physical demands? (e.g. physicality of international teams vs club teams, intensity of international vs club football)
 - Psychosocial demands? (e.g. communicating and interacting with new teammates at international level vs knowledge of your teammates at club level)
 - Engaging with all of the above in a limited timeframe at international level vs a weekly, scheduled timetable at club level?
3. In your opinion and based on your coaching experiences, what do you think are the main qualities that separate players that manage to progress to the international team from those that do not?

- **PROBE:** How do they cope effectively with the aforementioned transitional demands?
4. From your coaching experiences, do you notice any significant differences between working with players who are playing at international level and those that are not?
 5. From your experiences working with international players at club level, what do you feel are the major barriers to supporting players and making improvements in terms of the ease of transition from club to international level football?
 - **PROBE:** i) Do you feel that club coaches have an adequate amount of face time with players, outside of coaching hours, to support them with demands they may be experiencing, relating to the club-to-international level transition?
 - ii) Does the training and match-heavy nature of these players' schedules, at both club and international level, mean that assisting the players with potential transitional demands they may be experiencing cannot be a priority?
 - iii) How difficult is it to get to know the players on a personal level, and develop that rapport and trust in a potentially limited timeframe within the academy environment?

Section 3 – Coaching support for players during the transition

Ok, thank you for providing that information regarding your perceptions of the demands players face during the club-to-international transition, as well as the barriers you face as a club coach in trying to support your players to cope with these demands. Now let's look more in depth at the current support you as a coach provide to them during this period.

15. How do you, as a club coach, support your players during the club to international transition?
16. Do you, as a club coach, regularly communicate with the international coaches of your players?
 - **PROBE:** Regarding potential issues or demands such as:
 - Injuries?
 - Deselection (from club or international squad)?
 - Tactical training (e.g. preferred position for international level)?
 - General well-being?

Just moving onto discussing your club specifically, with a view to understanding how you might help to facilitate the transition for those players moving to international level:

17. Are there channels of support in place for players if they are experiencing either personal or performance-related issues during that transition from club to international level football?

- **PROBE:** i) If a player approaches you with an issue related to the club to international level transition, do you as a coach try to deal with it yourself?
 - ii) Do you have a sport psychologist/counsellor in place they could talk to?
 - iii) How do you as a coach go about making this environment one in which players feel comfortable to discuss any transition-related demands they might be experiencing?
 - iv) How do you think players manage the demand of trying to balance school and football commitments?
 - v) How do you support them in balancing these demands? Do you ever feel like education gets in the way of football or vice versa?

18. Do you think the parents and peers of your international players have certain expectations of how they should perform when making that step up to international level?

- **PROBE:** i) Do they provide adequate support for them during the transition period?
 - ii) How do the parents supporting the team react when the players perform well versus when they perform poorly?
 - iii) Do the parents of the international players react differently or have higher expectations than the parents of club players?
 - iv) How do you think that makes the players feel and why? Is it a motivator or a deterrent for them?
 - v) Do you ever have to have conversations with parents to explain why their child hasn't been selected to play?

Section 4 – Solutions and making improvements in overcoming transitional demands

Thank you for your insightful answers to those questions surrounding the support you provide to players as they make the transition from club to international level. I'd now just like to take a moment to summarise the club to international transition demands we have discussed so far, and the barriers you perceive to be in place, from a coaching perspective, that prevent more effective support of players who are making the step up to international

level football (**Take a minute to summarise what has been talked about**).

So with these demands and potential barriers to effective player support in mind, I would just like to take a few minutes to ask you some questions about how potential improvements could be made, both in regard to how coaches support players to overcome these demands they face and in breaking down these barriers to support during the club to international transition.

1. From your perspective as a club coach, what do you think could be done to try and overcome these barriers to improving support for players transitioning from club to international level?
 - **PROBE:** i) Any specific skills or strategies you have in mind for the future?
 - ii) Provide the players with the life skills to try and independently manage some of the demands they face making the step up to international level?
 - iii) What drives you to continue to improve player development?
2. From your perspective, what else could be done by clubs and stakeholders within the club (i.e. coaches, support staff, parents, international staff etc.) to help improve the club to international transition for players?
3. How would previous transition experiences and barriers that we have discussed here today help you when assisting future players making the transition from club to international football?

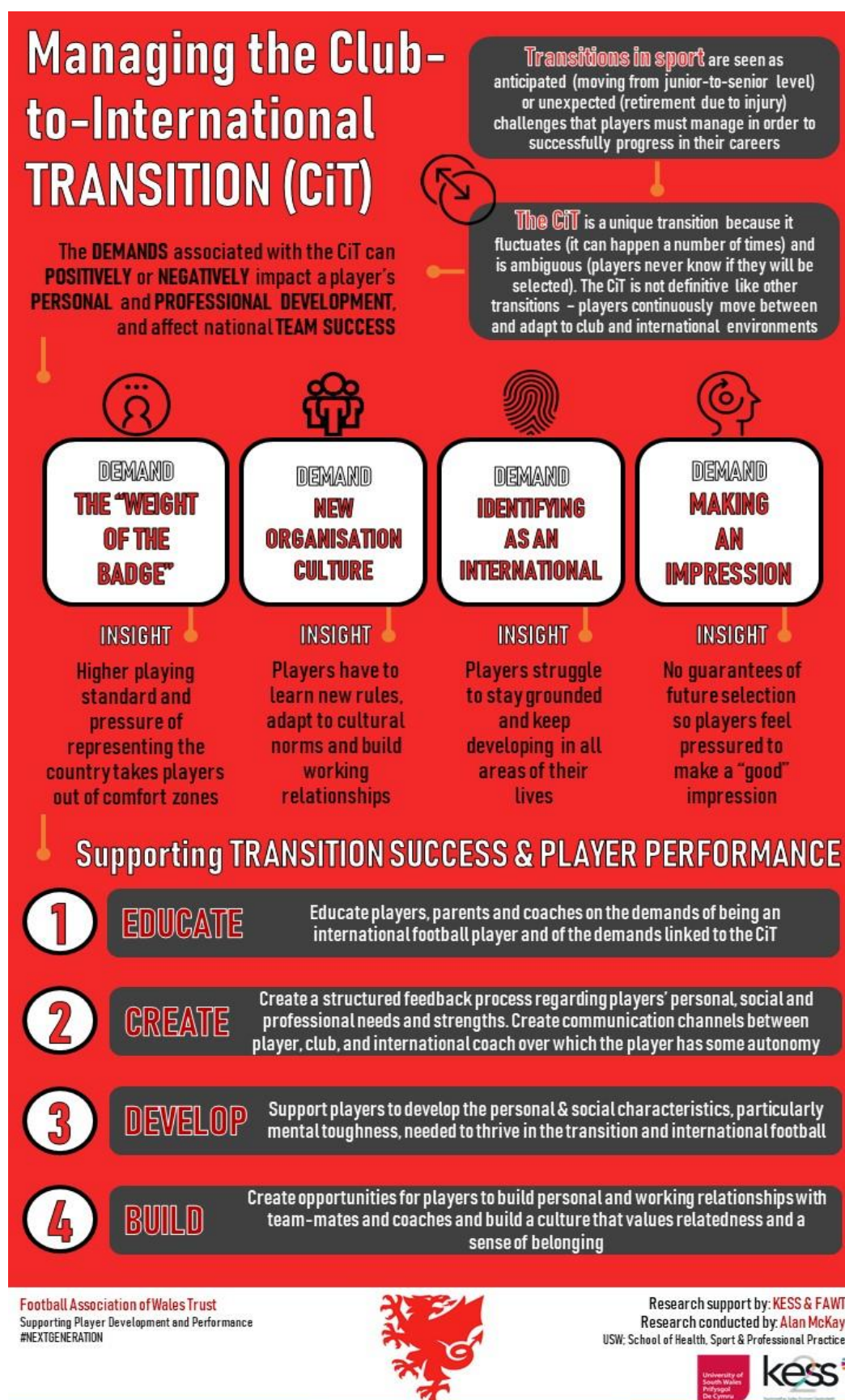
Section 5 – Conclusion

Thank you for your answers in that section. I appreciate that it must not be easy having to recall potentially stressful and demanding events from your career so far in football, both as a player and coach, but the answers you have provided will be really useful in my overall project. One final thing before we conclude the interview, I would just like to give you an opportunity to add anything you feel we may have missed during the interview, make any clarifications on what we discussed, or to ask any further questions you may have regarding the overall study.

9. Overall, how do you feel the interview went?
10. Did you feel that you got to tell your story fully?
11. Do you feel that we discussed everything you wanted? Did we miss out on anything?
12. Do you have any further questions you'd like to ask, or clarifications you'd like to make at this stage?

Thank you for your time and your voluntary participation in this study.

Appendix F – Infographic of Study 1 Findings for FAWT



Appendix G - Ethical approval letter for Study 2



Professor Julie E Lydon OBE, Vice-Chancellor
Yr Athro Julie E Lydon OBE, Is-Ganghellor

Jan 7, 2021

Alan McKay
C/o Faculty of Life Sciences and Education
University of South Wales

Dear Alan

Faculty School Ethics Sub Group Feedback – [A Qualitative Exploration of Mentally Tough Behaviours in Elite Youth Football: A Multidisciplinary Approach] [21AM01LR]

I am writing to confirm that on the 7th Jan, 2021], the School of Psychology and Therapeutic Studies Research Ethics Sub Group approved your submission for ethical approval.

Please note:

- i. Approval is valid for 2 years from the date of issue, you will be notified when approval has expired but you are expected to be mindful of this expiration. Upon the expiration of this ethics approval you may apply for an extension.
- ii. The approved documents are attached. If you intend on deviating from the approved protocol, research team, or documentation you will need to seek approval for any changes.
- iii. This approval does not confirm that indemnity or insurance are in place for this project.
- iv. Please confirm when your research project has closed (a one page closure report highlighting any recruitment issues, adverse events, publications etc. should be appended).

If you have any queries about the committee's decision, please do not hesitate to contact me.

Yours sincerely,

Professor Peter M'Carthy
Chair of Faculty Ethics Committee

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Appendix H – FAWT parent recruitment letter for Study 2



Dear Parent/Guardian,

We are writing to you with regards to an upcoming research project being jointly conducted by the FAW Trust and the University of South Wales.

The project aims to investigate the ability of international youth footballers' to perform consistently under pressure – better known as “mental toughness” – and to use this ability to help them overcome the demands they face on the international football development pathway. We are particularly interested in how mental toughness is developed on the pitch with the support of coaches and staff, and off the pitch with the support of parents/guardians. As you are the parent/guardian of a current international youth footballer, we would like to invite you to participate in this project, which will involve taking part in a focus group with fellow parents of international youth footballers, conducted via Microsoft Teams.

Before you decide whether you wish to participate in the study or not, you need to understand why the research is being done and what it would involve. Therefore, please find attached an information sheet which provides greater detail about the project, as well a consent form to sign, should you wish to take part. Please take time to read the following information carefully and decide, and remember you are under no obligation to take part.

If you have any questions, or would like more information, please do not hesitate to contact us.

Can you please let us know whether you are happy to participate by X via email (alan.mckay@southwales.ac.uk)

Thank you for taking the time to consider participating in this project.

Yours sincerely,

David Adams (FAW Trust)
Professor Brendan Cropley (University of South Wales)
Alan McKay (University of South Wales)

Appendix I – Coach focus group guide for Study 2

A Qualitative Exploration of Mentally Tough Behaviours in Elite Youth Football: A Multidisciplinary Approach

FOCUS GROUP PROTOCOL

Participant Number	Age	Coaching Age Group	No. of Years Coaching	No. of Years in Current Role	Level of Coaching Qualification

Focus Group Date:

Focus Group Location:

Focus Group Start Time:

Focus Group End Time:

Introduction

- Welcome participants and thank them for agreeing to take part
- Remind them of the background to the study:

MT is a “personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (Gucciardi, Hanton, Gordon et al., 2015, p.28). In essence, it’s about the ability of an individual to manage the challenges they face on a daily basis, to stay focused and achieve high levels of goal-related performance. Our study is interested in looking at how international players’ support networks (e.g., parents, coaches) assist them in developing and displaying behavioural indicators of MT (mentally tough behaviours – MTBs). Such MTBs are key in allowing players to cope with the many competitive, organisational, and personal stressors they encounter on their talent development pathways.

Key factors are:

- Performing under pressure
 - Consistency
 - Behaviour that is goal-directed (purposeful, efficient, adaptable)
- Remind participants of the aims of the study:
 1. What are the behavioural indicators of mental toughness (MT) in an international youth football context?
 2. What specific situations (e.g., training, competition) require mentally tough behaviour (MTb) in an international youth football context?
 3. How do coaches and support staff help develop players’ MT in an international youth football context?
 - Remind them of their rights
 - Right to withdraw at any time without consequence – *should the participants wish to withdraw during the focus group, their data will be removed from the final transcript*
 - Right to refuse to answer a particular question
 - Right to confidentiality – *emphasise to participants that while confidentiality cannot be guaranteed due to the nature of focus groups (i.e. participants know who has said what), anything that is discussed within the focus group setting must not be repeated to others outside of this setting. Further, in line with the Data Protection Act (1998) and GDPR (2018) guidelines, all data is treated strictly confidentially by USW, and all researchers working on the study will respect participants’ privacy*

- Right to anonymity – *clearly explain that all participants’ data will be anonymised, with each participant assigned a number for transcription purposes. Participant quotes used in any subsequent peer reviewed publication will also be completely anonymous. Make sure that the participants are comfortable with this procedure*
- Participants will be sent their transcripts for checking (accuracy) and a copy of the final results to confirm that they are happy that their identities have been protected
- Request for honest answers as a result of the above – *remind participants of their role in the focus group. Specifically, the researcher will raise some general topics for discussion and their role is to discuss these amongst themselves*
- Remind the participants that the focus group is being audio and video recorded for transcription purposes

BEFORE WE BEGIN DO YOU HAVE ANY QUESTIONS?

Introductory Questions

So before we begin discussing the major mentally tough behaviours (MTbs) the international players you coach display and how you support them in developing those behaviours, I’d like to ask you all about your perceptions of the player development pathway to international football...

1. Please spend a few minutes discussing the major challenges players encounter (e.g., competitive, organisational, personal) on their journey to being selected for the international team? *Use below probes...*
 - *Deselection, injury, playing up/down an age group, transitioning between age groups, major defeats, issues at home, issues at school, teammate rivalry, coaching issues, social sacrifices, feeling isolated, feeling out of comfort zone*

Main Questions

Mentally Tough Behaviours

Thank you for your answers. I hope that question has given you an idea of the sort of things we will be discussing in this focus group. I’d now like to talk more specifically about the MTbs the international players you work with have displayed in reaching their current level of international football. For clarity, we will discuss the MTbs players display in performance and organisational contexts in separate questions. Just to reiterate, MT is defined as a “personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (Gucciardi, Hanton, Gordon et al., 2015, p.28). In other words, MT is the ability of an

individual to perform to a consistently high level when faced with challenging situations, such as those you have just discussed. With this MT definition in mind...

2. I'd like you to discuss the observable MTBs displayed by the international players you coach, which allow them to perform to a consistently high level when faced with challenging situations in a performance context.
 - What observable MTBs do your players display in response to challenging situations in training? *Use below probes...*
 - *Intense training sessions, learning new tactics or style of play, training with new teammates, competing for a starting spot in training, training with a new coach, physicality of training, short duration of training camps*
 - What specific actions do you observe the athlete doing? How can you identify that what you are observing is a MTb?
 - How specifically do these mentally tough behaviours affect players' performances in training?

 - What observable MTBs do your players display in response to challenging situations in competitive matches? *Use below probes...*
 - *Deselection, injury, making an error, poor communication, losing concentration, conceding a goal, losing a game, high standard of opposition, physicality of matches, aggressiveness of opposition, changing tactics/role mid-game, observing the game from the bench, communication with other substitutes/coaches and staff*
 - What specifically do you observe the athlete doing? How can you identify that what you are observing is a MTb?
 - How specifically do these MTBs affect players' performances in competition?

3. Thank you for those insights. I'd now like you to discuss the observable MTBs displayed by the international players you coach, which allow them to perform to a consistently high level when faced with challenging situations in an organisational context. *Use below probes...*
 - *Developing new relationships with teammates and coaches, travelling and staying abroad, socialising off the pitch, feeling isolated in a new environment, adapting to a new organisational culture, representing your country, receiving and reflecting on coach feedback*
 - What specifically do you observe the athlete doing? How can you identify that what you are observing is a MTb?
 - How specifically do these MTBs affect players' performances?

Mentally Tough Behaviour Development Processes

Again, thank you for those insights. Those are some good examples of MTBs players display when dealing with performance and organisational stressors in an international football

context. I'd now like to explore the role you have played as coaches in developing those behaviours.

4. I'd like you to discuss how, if at all, do you integrate MT development into your coaching sessions to assist players in performing to a consistently high level when faced with challenging situations in a performance context?
 - What are the key processes involved in MT development in training? *Use below probes...*
 - *Developing relationships on the pitch, clarity of what's expected, exposure to adversity, getting player buy in, tailoring MT development to the individual*
 - What are the specific strategies involved in MT development in training? *Use below probes...*
 - *Setting out expectations at start of camps, pressure training, creating leadership groups, peer-to-peer feedback, unit feedback, giving player's ownership over learning in camps, 1-to-1 feedback, modelling, post camp evaluations*
 - What are some of the challenges you might experience while trying to develop MT in your players in training?
 - What are the key processes involved in MT development in competition? *Use below probes...*
 - *Modelling on older age groups, clarity of what's expected, ongoing individual player development support*
 - What are the specific strategies involved in MT development in competition? *Use below probes...*
 - *Holding 1-to-1 talks, transparency with deselected players, pre-match montages, setting players clear targets/goals*
 - What are some of the challenges you might experience while trying to develop MT in your players in competition?
5. Thank you for those insights. I'd now like you to discuss how, if at all, do you integrate the development of MT into your coaching sessions, to assist players in performing to a consistently high level when faced with challenging situations in an organisational context.
 - What are the key processes involved in MT development in an organisational context? *Use below probes...*
 - *Developing relationships off the pitch, consistent staff behaviours, clear roles and responsibilities, developing ownership*
 - What are the specific strategies involved in MT development in an organisational context? *Use below probes...*

- *Social activities, players set camp rules, targeted room lists to assist integration, educating players on the development pathway*
 - What are some of the challenges you might experience while trying to develop MT in your players in an organisational context?
6. I'd now like you all to discuss how, as coaches, you educate and work with the parents of international players to ensure they are continuing to develop their children's MT at home?
- How much interaction time would you get with the parents of international players?
 - Can the MT development strategies you are utilising in a performance and organisational context also be worked on at home?
 - Do the parenting styles and behaviours differ greatly from player to player? What impact, if any, do these different styles have on players' MT development and MTBs outside of football?

Learning, Reflection and Mental Toughness Maintenance over Time

Again, thank you for those insights. Those are some good examples of MT development strategies you implement as coaches in an international football context. I'd like to finish up by discussing how players learn how to get better at managing stressors based on their previous experiences and maintain their MT over time...

7. How do you, as a coach, get players to reflect after a session/game/international camp and refine their MTBs in preparation for the next session/game/international camp?
- How do you work with players who display naturally higher levels of MT versus those who don't?
 - How do you adapt to the different learning abilities of your players?
 - How do you maintain MT in your players from camp to camp?

Thank you for your answers. Before finish the focus group is there anything else that you'd like to add to any of your answers, or is there anything that you think we've failed to discuss?

Final Section: Trustworthiness

- 1. How do you think that the focus group went?**
- 2. Do you feel as though you were led or influenced in any way whilst answering the questions?**
- 3. Were you able to tell your full story?**
- 4. Did we/I miss anything out?**

Thanks for your time and help with my study.

Appendix J – Player interview guide for Study 2

**A Qualitative Exploration of Mentally Tough Behaviours in Elite Youth Football: A
Multidisciplinary Approach**

INTERVIEW GUIDE

Participant Number	Age	Current Age Group	No. of Years Playing Internationally	Position

Interview Date:

Interview Location:

Interview Start Time:

Interview End Time:

Introduction

- Welcome participants and thank them for agreeing to take part
- Remind them of the background to the study:

MT is a “personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (Gucciardi, Hanton, Gordon et al., 2015, p.28). In essence, it’s about the ability of an individual to manage the challenges they face on a daily basis, to stay focused and achieve high levels of goal-related performance. Our study is interested in looking at how players’ support networks (e.g., parents, coaches) display behavioural indicators of MT (mentally tough behaviours – MTbs) and subsequently develop their levels of MT. Such MTbs are key in allowing players to cope with the many competitive, organisational, and personal stressors they encounter on their talent development pathways.

Key factors are:

- Performing under pressure
 - Consistency
 - Behaviour that is goal-directed (purposeful, efficient, adaptable)
- Remind participants of the aims of the study:
 4. What are the behavioural indicators of mental toughness (MT) in an international youth football context?
 5. What specific situations (e.g., training, competition) require mentally tough behaviour (MTb) in an international youth football context?
 6. How do coaches and support staff help develop players’ MT in an international youth football context?
 - Remind participants of their rights
 - Right to withdraw at any time without consequence – *should the participants wish to withdraw during the interview, their data will be removed from the final transcript*
 - Right to refuse to answer a particular question
 - Right to confidentiality – *emphasise to participants that anything that is discussed within the interview will not be repeated to others outside of this setting by the researcher. Further, in line with the Data Protection Act (1998) and GDPR (2018) guidelines, all data is treated strictly confidentially by USW, and all researchers working on the study will respect participants’ privacy*

- Right to anonymity – *clearly explain that all participants’ data will be anonymised, with each participant assigned a number for transcription purposes. Participant quotes used in any subsequent peer reviewed publication will also be completely anonymous. Make sure that the participants are comfortable with this procedure*
- Participants will be sent their transcripts for checking (accuracy) and a copy of the final results to confirm that they are happy that their identities have been protected
- Request for honest answers due to the above – *remind participants of their role in the interview. The researcher will ask specific questions related to their experiences of MT development, and they are to answer as truthfully and honestly as possible*
- Remind participants the interview is being audio recorded for transcription purposes

BEFORE WE BEGIN DO YOU HAVE ANY QUESTIONS?

Introductory Questions

So before we begin discussing the major mentally tough behaviours (MTbs) you display and how you learn these behaviours, I’d like to ask you some questions related to your experiences playing international youth football...

1. What are the major challenges you have encountered (e.g., competitive, organisational, personal) on your journey to being selected for the international team?
Use below probes...
 - *Deselection, injury, playing up/down an age group, transitioning between age groups, major defeats, issues at home, issues at school, teammate rivalry, coaching issues, social sacrifices, feeling isolated, feeling out of comfort zone*

Main Questions

Mentally Tough Behaviours

Thank you for your answers. I hope that question has given you an idea of the sort of things we will be discussing in this interview. I’d now like to talk more specifically about the MTbs you have displayed to reach your current level of international football. For clarity, we will discuss the MTbs you display in performance and organisational contexts in separate questions. Just to reiterate, MT is defined as a “personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (Gucciardi, Hanton, Gordon et al., 2015, p.28). In other words, MT is the ability of an individual to perform to a consistently high level when faced

with challenging situations, such as those you have just discussed. With this MT definition in mind...

2. I'd like to discuss the observable MTBs you display which allow you to perform to a consistently high level when faced with challenging situations in a performance context.
 - What observable MTBs do you display in response to challenging situations in training? *Use below probes...*
 - *Intense training sessions, learning new tactics or style of play, training with new teammates, competing for a starting spot in training, training with a new coach, physicality of training, short duration of training camps*
 - What specific actions do you display? How can you identify that what you are doing is a MTb?
 - How specifically do these mentally tough behaviours your performances in training?

 - What observable MTBs do you display in response to challenging situations in competitive matches? *Use below probes...*
 - *Deselection, injury, making an error, poor communication, losing concentration, conceding a goal, losing a game, high standard of opposition, physicality of matches, aggressiveness of opposition, changing tactics/role mid-game, observing the game from the bench, communication with other substitutes/coaches and staff*
 - What specific actions do you display? How can you identify that what you are doing is a MTb?
 - How specifically do these MTBs affect your performances in competition?

3. Thank you for those insights. I'd now like to discuss the observable MTBs you display which allow you to perform to a consistently high level when faced with challenging situations in an organisational context. *Use below probes...*
 - *Developing new relationships with teammates and coaches, travelling and staying abroad, socialising off the pitch, feeling isolated in a new environment, adapting to a new organisational culture, representing your country, receiving and reflecting on coach feedback*
 - What specific actions do you display? How can you identify that what you are doing is a MTb?
 - How specifically do these MTBs affect your performances?

Mentally Tough Behaviour Development Processes

Again, thank you for those insights. Those are some good examples of MTbs you display when dealing with performance and organisational stressors in an international football context. I'd now like to explore the role your coaches, teammates, and parents have played in helping you to learn those behaviours.

4. How, if at all, do your coaches integrate MT development into their coaching sessions to assist you in performing to a consistently high level when faced with challenging situations in a performance context?
 - What specific strategies do your international coaches use to help you develop your MT in training? *Use below probes...*
 - *Setting out expectations at start of camps, pressure training, creating leadership groups, peer-to-peer feedback, unit feedback, giving player's ownership over learning in camps, 1-to-1 feedback, modelling, post camp evaluations*
 - What are some of the challenges you have experienced when working with your international coaches to develop your MT in training?
 - What specific strategies do your coaches use to help you develop MT in competition? *Use below probes...*
 - *Holding 1-to-1 talks, transparency with deselected players, pre-match montages, setting players clear targets/goals*
 - What are some of the challenges you have experienced when working with your international coaches to develop MT in competition?
5. Thank you for those insights. I'd now like to discuss how, if at all, do your coaches help you to develop your MT off the pitch, to assist you in performing to a consistently high level when faced with challenging situations both on and off the pitch?
 - What specific strategies do your coaches use to help you develop your MT off the pitch? *Use below probes...*
 - *Social activities, players set camp rules, targeted room lists to assist integration, educating players on the development pathway*
 - What are some of the challenges you have experienced when working with your international coaches to develop MT off the pitch?
6. How, if at all, do your international teammates help you to develop your MT, to assist you in performing to a consistently high level when faced with challenging situations both on and off the pitch?
 - What specific strategies do your teammates use to help you develop your MT off the pitch? *Use below probes...*
 - *Social activities, social support off the pitch, effective communication on the pitch, rooming with different teammates, setting camp rules*

- What are some of the challenges you have experienced when working with your international teammates to develop MT off the pitch?
7. How, if at all, do your parents help you to develop your MT at home to assist you in performing to a consistently high level when faced with challenging situations in an international football context?
- Can the MT development strategies you are working on with your coaches during international camps also be worked on at home?
 - What are your parents' views on your international football career? Are they supportive?
 - Do you discuss your performances with your parents? How do they react when you perform well versus when you perform poorly?

Learning, Reflection and Mental Toughness Maintenance over Time

Again, thank you for those insights. Those are some good examples of MT development strategies you have experienced in an international football context. I'd like to finish up by discussing how you learn how to cope with the challenges of playing international youth football and maintain your MT over time...

8. How do you, as a player, reflect after a session/game/international camp and refine their MTBs in preparation for the next session/game/international camp?
- Do you reflect individually or as a group?
 - What do you reflect on specifically?
 - Do you go through a specific reflection process? specific processes?
 - How do you maintain your MT levels between international camps?

Thank you for your answers. Before finishing the interview is there anything else that you'd like to add to any of your answers, or is there anything that you think we've failed to discuss?

Final Section: Trustworthiness

1. **How do you think that the interview went?**
2. **Do you feel as though you were led or influenced in any way whilst answering the questions?**
3. **Were you able to tell your full story?**
4. **Did we/I miss anything out?**

Thanks for your time and help with my study.

Appendix K – Support staff interview guide for Study 2

A Qualitative Exploration of Mentally Tough Behaviours in Elite Youth Football: A Multidisciplinary Approach

INTERVIEW GUIDE

Participant Number	Age	Coaching Age Group	No. of Years Qualified	No. of Years in Current Role

Interview Date:

Interview Location:

Interview Start Time:

Interview End Time:

Introduction

- Welcome participants and thank them for agreeing to take part
- Remind them of the background to the study:

MT is a “personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (Gucciardi, Hanton, Gordon et al., 2015, p.28). Our study is interested in looking at how international players’ support networks (e.g., coaches, support staff, parents) assist them in developing and displaying behavioural indicators of MT (mentally tough behaviours – MTBs). Such MTBs are key in allowing players to cope with the many competitive, organisational, and personal stressors they encounter on their talent development pathways.

- Remind participants of the aims of the study:
 1. What are the behavioural indicators of mental toughness (MT) in an international youth football context?
 2. What specific situations (e.g., rehabilitation, recovery) require mentally tough behaviour (MTb) in an international youth football context?
 3. How do coaches and support staff help develop players’ MTBs in an international youth football context?
- Remind participants of their rights
 - Right to withdraw at any time without consequence – *should the participants wish to withdraw during the interview, their data will be removed from the final transcript*
 - Right to refuse to answer a particular question
 - Right to confidentiality – *emphasise to participants that anything that is discussed within the interview will not be repeated to others outside of this setting by the researcher. Further, in line with the Data Protection Act (1998) and GDPR (2018) guidelines, all data is treated strictly confidentially by USW, and all researchers working on the study will respect participants’ privacy*
 - Right to anonymity – *clearly explain that all participants’ data will be anonymised, with each participant assigned a number for transcription purposes. Participant quotes used in any subsequent peer reviewed publication will also be completely anonymous. Make sure that the participants are comfortable with this procedure*

- Participants will be sent their transcripts for checking (accuracy) and a copy of the final results to confirm that they are happy that their identities have been protected
- Request for honest answers due to the above – *remind participants of their role in the interview. The researcher will ask specific questions related to their experiences of MT development, and they are to answer as truthfully and honestly as possible*
- Remind participants the interview is being audio recorded for transcription purposes
BEFORE WE BEGIN DO YOU HAVE ANY QUESTIONS?

Introductory Questions

So before we discuss the major mentally tough behaviours (MTBs) the international players you work with display and how you support them in developing those behaviours, I'd like to ask you about your perceptions of the player development pathway to international football...

1. What are the major challenges players encounter (e.g., competitive, organisational, personal) on their journey to being selected for the international team? *Use below probes...*
 - *Isolation from teammates, homesickness, incapacitation, anxiety regarding security of place in squad, negative thoughts regarding recovery, negative thoughts regarding ability to return to pre-injury level of functioning, negative thoughts following injury reoccurrence, general fitness issues, education issues*

Main Questions

Mentally Tough Behaviours in Response to Performance Stressors

Thank you for your answers. I hope that question will have given you an idea of the sort of things we will be discussing in this interview. I'd now like to talk more specifically about the MTBs the international players you work with have displayed in reaching their current level of international football. For clarity, we will discuss MTBs players display in performance and organisational contexts in separate questions. Just to reiterate, MT is defined as a "personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities" (Gucciardi, Hanton, Gordon et al., 2015, p.28). In other words, MT is the ability of an individual to perform to a consistently high level when faced with challenging situations, such as those you have just discussed. With this MT definition in mind...

2. What observable MTBs do the international players you work with display that allow them to perform to a consistently high level when faced with challenging situations in a performance context?

- What observable MTBs do the players you work with display in response to challenging situations in training? *Use below probes...*
 - *Warming up for training, warming down after training, communication with teammates during warm up/warm down, communication with coaches and staff during warm up/warm down, when suffering a knock/getting injured during training, communication with staff when receiving treatment for an injury, observing from the side-lines due to injury, engaging in a separate injury rehabilitation programme away from training, during an intense training drill, competing with teammates*
- What specifically do you observe the athlete doing? How can you identify that what you are observing is a MTb?
- How specifically do these mentally tough behaviours affect players' performances in training?
- What observable MTBs do the players you work with display in response to challenging situations in competitive matches? *Use below probes...*
 - *Warming up before a match, warming down after a match, communication with teammates during warm up/warm down, communication with coaches and staff during warm up/warm down, getting a knock/getting injured during a match, making an error, communication with staff when receiving treatment for an injury, observing the game from the bench, being substituted*
- What specifically do you observe the athlete doing? How can you identify that what you are observing is a MTb?
- How specifically do these MTBs affect players' performances in competition?

3. Thank you for those insights. I'd now like to ask you, what observable MTBs do the international players you work with display that allow them to perform to a consistently high level when faced with challenging situations in an organisational context? *Use below probes...*

- *Completing school coursework on international duty, being punctual, representing their country while abroad (e.g., behaviour in hotels, restaurants etc.), adhering to rehabilitation if injured, socialising with teammates off the pitch, seeking out coaches and staff for performance feedback, seeking advice from support staff for any personal issues*
- What specifically do you observe the athlete doing? How can you identify that what you are observing is a MTb?
- How specifically do these MTBs affect players' performance?

Mentally Tough Behaviour Development Processes

Again, thank you for those insights. Those are some good examples of MTBs players display when dealing with performance and organisational stressors in an international football

context. I'd now like to explore the role you have played as support staff in developing those behaviours.

4. How do you assist players in developing these MTBs in an international football context?

- What are the key processes involved in MT development in training? *Use below probes...*
 - *Developing relationships on the pitch, clarity of what's expected, exposure to adversity, getting player buy in, tailoring MT development to the individual*
- What are the specific strategies involved in MT development in training? *Use below probes...*
 - *Setting out expectations at start of camps, pressure training, creating leadership groups, peer-to-peer feedback, unit feedback, giving player's ownership over learning in camps, 1-to-1 feedback, modelling, post camp evaluations*
- What are some of the challenges you might experience while trying to develop MT in players in training?
- What are the key processes involved in MT development in competition? *Use below probes...*
 - *Modelling on older age groups, clarity of what's expected, ongoing individual player development support*
- What are the specific strategies involved in MT development in competition? *Use below probes...*
 - *Holding 1-to-1 talks, transparency with deselected players, pre-match montages, setting players clear targets/goals*
- What are some of the challenges you might experience while trying to develop MT in players in competition?

5. How, if at all, do you integrate the development of MT into coaching sessions, to assist players in performing to a consistently high level when faced with challenging situations in an organisational context?

- What are the key processes involved in MT development in an organisational context? *Use below probes...*
 - *Developing relationships off the pitch, consistent staff behaviours, clear roles and responsibilities, developing ownership*
- What are the key strategies involved in MT development in an organisational context? *Use below probes...*
 - *Social activities, players set camp rules, targeted room lists to assist integration, educating players on the development pathway*
- What are some of the challenges you might experience while trying to develop MT in your players in an organisational context?

6. How, as support staff, do you educate and work with the parents of international players to ensure they are continuing to develop their children's MTBs at home?

- How much interaction time would you get with the parents of international players?
- Can the MTBs you are trying to develop in your players in an international football context also be developed at home?
- Do the parenting styles and behaviours differ greatly from player to player? What impact, if any, do these different styles have on players' development of MTBs outside of football?

Learning, Reflection and Mental Toughness Maintenance over Time

Again, thank you for those insights. Those are some good examples of MT development strategies you implement as staff in an international football context. I'd like to finish up by discussing how players learn how to get better at managing stressors based on their previous experiences and maintain their MT over time...

7. How do you, as a member of support staff, help players to reflect after a session/game/international camp and refine their MTBs in preparation for the next session/game/international camp?

- How do you work with players who display naturally higher levels of MT versus those who don't?
- How do you adapt to the different learning abilities of players?
- How do you maintain MT in players from camp to camp?

Thank you for your answers. Before we finish the interview, is there anything else that you'd like to add to any of your answers, or is there anything that you think we've failed to discuss?

Final Section: Trustworthiness

- **How do you think that the interview went?**
- **Do you feel as though you were led or influenced in any way whilst answering the questions?**
- **Were you able to tell your full story?**
- **Did we/I miss anything out?**

Thanks for your time and help with our study.

Appendix L – Parent interview guide for Study 2

**A Qualitative Exploration of Mentally Tough Behaviours in Elite Youth Football: A
Multidisciplinary Approach**

INTERVIEW GUIDE

Participant Number	Age	Relationship to player	Age group of player

Interview Date:

Interview Location:

Interview Start Time:

Interview End Time:

Introduction

- Welcome participants and thank them for agreeing to take part
- Remind participants of the background to the study:

MT is a “personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities” (Gucciardi, Hanton, Gordon et al., 2015, p.28). In essence, it’s about the ability of an individual to manage the challenges they face on a daily basis, to stay focused and achieve high levels of goal-related performance. Our study is interested in looking at how international players’ support networks (e.g., parents, coaches) assist them in developing and displaying behavioural indicators of MT (mentally tough behaviours – MTBs). Such MTBs are key in allowing players to cope with the many competitive, organisational, and personal stressors they encounter on their talent development pathways.

- Remind participants of the aims of the study:
 1. What are the behavioural indicators of MT in an international youth football context?
 2. What specific situations (e.g., training, competition) require MTb in an international youth football context?
 3. How do parents help support and develop their child’s MTBs outside of the international youth football context?
- Remind participants of their rights
 - Right to withdraw at any time without consequence – *should the participants wish to withdraw during the interview, their data will be removed from the final transcript*
 - Right to refuse to answer a particular question
 - Right to confidentiality – *emphasise to participants that anything that is discussed within the interview will not be repeated to others outside of this setting by the researcher. Further, in line with the Data Protection Act (1998) and GDPR (2018) guidelines, all data is treated strictly confidentially by USW, and all researchers working on the study will respect participants’ privacy*
 - Right to anonymity – *clearly explain that all participants’ data will be anonymised, with each participant assigned a number for transcription purposes. Participant quotes used in any subsequent peer reviewed publication will also be completely anonymous. Make sure that the participants are comfortable with this procedure*

- Participants will be sent their transcripts for checking (accuracy) and a copy of the final results to confirm that they are happy that their identities have been protected
 - Request for honest answers due to the above – *remind participants of their role in the interview. The researcher will ask specific questions related to their experiences of MT development, and they are to answer as truthfully and honestly as possible*
 - Remind participants the interview is being audio recorded for transcription purposes
- BEFORE WE BEGIN DO YOU HAVE ANY QUESTIONS?**

Introductory Questions

So before we begin discussing the major mentally tough behaviours (MTbs) your child displays and how you support them in developing those behaviours outside of football, I'd like to ask you about your perceptions of your child's development pathway in football so far...

4. What are the major challenges your child has encountered both inside and outside of football thus far, to reach their current level of international football? *Use below probes...*
 - *De-selection, injury, playing up an age group, playing down an age group, transitioning between age groups, major defeats, issues at home, sibling rivalry, teammate rivalry, coaching issues, social sacrifices, moving home and feeling isolated, developing new relationships, changing parent-athlete relationships, transition into more competitive and professionalised world of international football, balancing football and education*
 - How did you as a parent support/motivate/guide your child during these challenging experiences?

Main Questions

Mentally Tough Behaviours in Response to Personal Stressors

Thank you for your answers. I hope that those questions will have given you an idea of the sorts of things we will be discussing in this interview. I'd now like to talk more specifically about the MTbs your child has displayed in reaching their current level of international football and the parental role you have played in developing those behaviours. Just to reiterate so that we are all clear, MT is defined as a "personal capacity to produce consistently high levels of subjective or objective performance despite everyday challenges and stressors as well as significant adversities" (Gucciardi, Hanton, Gordon et al., 2015, p.28). In other words, MT is the ability of an individual to perform to a consistently high level when faced with challenging situations, such as those you have just discussed. With this MT definition in mind...

5. What observable MTBs has your child displayed that have allowed them to perform to a consistently high level when faced with challenging situations in a personal context?
 - What observable MTBs does your child display in response to challenging situations at home? *Use below probes...*
 - *Pressure of personal expectations, pressure of parental expectations, sibling rivalry, relationships with parents, trust between parent and child, parent communication, parent feedback, relationships with friends, poor academic performance, personal injury or illness, family bereavement*
 - What specific actions do you observe your child doing? How can you identify that what you are observing is a MTb?
 - How specifically do these MTBs, which are developed at home, aid your child's ability to perform in an international football context?

Mentally Tough Behaviour Development Processes

Again, thank you for those insights. Those are some good examples of MTBs players display when dealing with personal stressors outside of an international football context. I'd now like to discuss how you assist your child in developing these MTBs at home.

6. What do you do to aid your child to develop the necessary MTBs to overcome the challenges they encounter in the highly competitive and professionalised environment of international youth football?
 - As a parent, how much influence have you had on your child's choice to pursue a career in professional football? How did you support your child in making the choice to pursue a career in professional football? Did you allow your child to make that decision by themselves?
 - How has their commitment to pursuing a career in football changed their relationship with football/school/parents/coaches/peers, if at all?
 - How do you support your child in balancing their ongoing football career and school commitments?
 - What stressors or challenges do you encounter as the parent of a child pursuing a career in elite sport? What impact, if any, does this have on your child's ongoing MTb development?
 - Do you teach your child the specific MTBs or strategies they will need for dealing with the challenges they will encounter? Alternatively, do you allow your child to face these challenges as they arise, with the right support, so that they can independently adapt and develop the right MTBs for future incidents? Do you do both?

7. How, as parents, do you work with the international coaches and support staff to support the development of your child's MT both at home and during international camps?

- How much interaction time would you get with the international coaches after international camps?
- Do they ever provide you with specific feedback that your child needs to work on in between camps?
- Would you ever try to integrate any of this coach feedback into your child's home environment (e.g., developing an open and honest channel of communication at home, leading to players feeling more comfortable being open and honest when interacting with coaches and teammates in a performance environment)?

Learning, Reflection and Mental Toughness Maintenance over Time

Again, thank you for those insights. Those are some good examples of how you support your child's MT development both at home and in an international football context. I'd like to finish up by discussing how your child learns to get better at managing stressors based on their previous experiences and maintain their MT over time...

8. Would you, as a parent, get your child to reflect on their performance after an international match or training camp?

- Would you get them to reflect on what went well and what they need to improve?
- Would you provide them with advice or just listen to them and allow them to engage in their own reflections?

Thank you for your answers. Before we finish the interview, is there anything else that you'd like to add to any of your answers, or is there anything that you think we've failed to discuss?

Final Section: Trustworthiness

1. **How do you think that the interview went?**
2. **Do you feel as though you were led or influenced in any way whilst answering the questions?**
3. **Were you able to tell your full story?**
4. **Did we/I miss anything out?**

Thanks for your time and help with our study.

Appendix M – Infographic of Study 2 Findings for FAWT

Developing MENTALLY TOUGH BEHAVIOURS in Youth International Players

MT is demonstrated BEHAVIOURALLY through a player's ability to EXECUTE THE WELSH WAY PRINCIPLES consistently on the pitch and LEARN FROM THESE EXPERIENCES off the pitch, to progress along the international performance pathway

INSIGHTS PUBLIC / CYHOEDDUS

WHAT IS MENTAL TOUGHNESS (MT)?
"An individual's underlying ability to perform consistently under pressure."

WHAT ARE MT BEHAVIOURS (MTbs)?
"An action or series of actions that contribute to performing consistently under pressure."

DEVELOPMENT

Adapting to Demands
Developing mechanisms and behaviours to cope

Support Network
All key stakeholders have a role to play

Critical Moments
Reflecting and learning from on / off pitch moments

Strategies
Use of autonomy supportive behaviours

The COACH Coaches should target observable MTbs both on and off the pitch – a behavioural focus allows coaches to support players in their ability to demonstrate MTbs more often with the aim of improving performance consistency

Linking MT BEHAVIOURS to FAW VALUES of EXCELLENCE

HOW DISPLAYING MT BEHAVIOURS LEADS TO MT DEVELOPMENT?
Players who consistently behave in a mentally tough way demonstrate the ability to perform under pressure and stay focused on their goals. This is reinforced through reflective practice – transforming experiences into learning.

Football Association of Wales Trust
Supporting Player Development and Performance
#NEXTGENERATION

Research support by: KESS & FAWT
Research conducted by: Alan McKay
USW; School of Health, Sport & Professional Practice

Appendix N – Ethical approval letter for Study 3



Professor Julie E Lydon OBE, Vice-Chancellor
Yr Athro Julie E Lydon OBE, Is-Ganghellor

September 6, 2022

Alan McKay
C/o Faculty of Life Sciences and Education
University of South Wales

Dear Alan

Faculty School Ethics Sub Group Feedback – [“What can you see? What can you hear?” The implementation of a behaviour-based mental toughness framework within international youth football] [22AM09LR]

I am writing to confirm that on September 6, 2022, the School of Psychology and Therapeutic Studies Research Ethics Sub Group approved your submission for ethical approval.

Please note:

- i. Approval is valid for 2 years from the date of issue, you will be notified when approval has expired but you are expected to be mindful of this expiration. Upon the expiration of this ethics approval you may apply for an extension.
- ii. The approved documents are attached. If you intend on deviating from the approved protocol, research team, or documentation you will need to seek approval for any changes.
- iii. This approval does not confirm that indemnity or insurance are in place for this project.
- iv. Please confirm when your research project has closed (a one page closure report highlighting any recruitment issues, adverse events, publications etc. should be appended).

If you have any queries about the committee's decision, please do not hesitate to contact me.

Yours sincerely,

Kevin McDonald

Kevin McDonald
Chair of Faculty Ethics Committee

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Appendix O – FAW approval letter for researcher access for Study 3

FA WALES
CBD CYMRU

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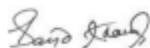
26 July 2022

To whom it may concern,

I am writing in regard to a KESS funded PhD student from the University of South Wales, Alan McKay, who is part-funded by the Football Association of Wales (FAW). Alan is seeking to gain access to the Welsh National under 15s team in order to conduct research with the players and coaching staff. Alan is exploring the mentally tough behaviours international players require to perform consistently under pressure and how international coaches might develop these behaviours in the players. The aims of this research and the proposed intervention process has been discussed with us at the FAW and we are in agreement that the research is both warranted and supported. Therefore, we have created the opportunity for Alan to be present during the upcoming international camps in August 2022 and for him to conduct team review sessions and group meetings with the players, supervised by the coaching team.

I can confirm I am happy to grant Alan access to work with the players and gather data for his study, provided he gains the informed assent of players prior to carrying out any work, with the under 15s coaching team acting in loco parentis. I am also able to confirm that we are happy to meet the requirements of an Accredited Setting and that we will support Alan to uphold the strictest of ethical practices.

Yours Sincerely,



Dr David Adams
Technical Director,



Appendix P – Self-efficacy scale completed by coaches in Study 3

Self-Efficacy to Develop Mental Toughness

The following scale asks you to rate your confidence in your ability to develop mental toughness (MT) in your players across several dimensions. Please rate in each of the blanks on the column how confident you are that you can develop MT in your players.

Rate your degree of confidence by recording a number from 1-100 using the scale given below:

0	1	2	3	4	5	6	7	8	9	10
Cannot					Moderately					Highly certain
do at all					can do					can do

I am confident I can...

1. Set clear goals with my players to provide them with energy and focus. –
2. Work with my players to develop the behaviours they need to pursue and achieve their goals in competition. –
3. Work with my players to develop the behaviours they need to pursue and achieve their goals in training. –
4. Work with my players to develop the behaviours they need to take responsibility for their own goals and development.
5. Work with my players to develop the behaviours they need to adapt to everyday challenges and uncertainty. –
6. Work with my players to develop the behaviours they need to adapt to significant adversities. –
7. Work with my players to display all the above behaviours on a more consistent basis. –
8. Work with my players to develop the behaviours they need to review and reflect on each performance and maintain MT over time. –

Appendix Q – Mental Toughness Index completed by players in Study 3

Mental Toughness Index

INSTRUCTIONS: Using the scale below, please indicate how true each of the following statements is an indication of how you typically think, feel, and behave as an athlete – *remember there are no right or wrong answers so be as honest as possible.*

	1	2	3	4	5	6	7	
	<i>False, 100% of the time</i>						<i>True, 100% of the time</i>	
1	I believe in my ability to achieve my goals	1	2	3	4	5	6	7
2	I am able to regulate my focus when performing tasks	1	2	3	4	5	6	7
3	I am able to use my emotions to perform the way I want to	1	2	3	4	5	6	7
4	I strive for continued success	1	2	3	4	5	6	7
5	I execute my knowledge of what is required to achieve my goals	1	2	3	4	5	6	7
6	I consistently overcome adversity	1	2	3	4	5	6	7
7	I am able execute appropriate skills or knowledge when challenged	1	2	3	4	5	6	7
8	I can find a positive in most situations	1	2	3	4	5	6	7

Reference

Gucciardi, D. F., Hanton, S., Gordon, S., Mallett, C. J., & Temby, P. (2015). The concept of mental toughness: Tests of dimensionality, nomological network and traitness. *Journal of Personality, 83*, 26-44.

1 = *Self-belief*

2 = *Attention regulation*

3 = *Emotion regulation*

4 = *Success mindset*

5 = *Context knowledge*

6 = *Consistency of behaviours*

7 = *Buoyancy (skill execution under pressure)*

8 = *Optimism*

Appendix R – Mental Toughness Index SPSS raw data output

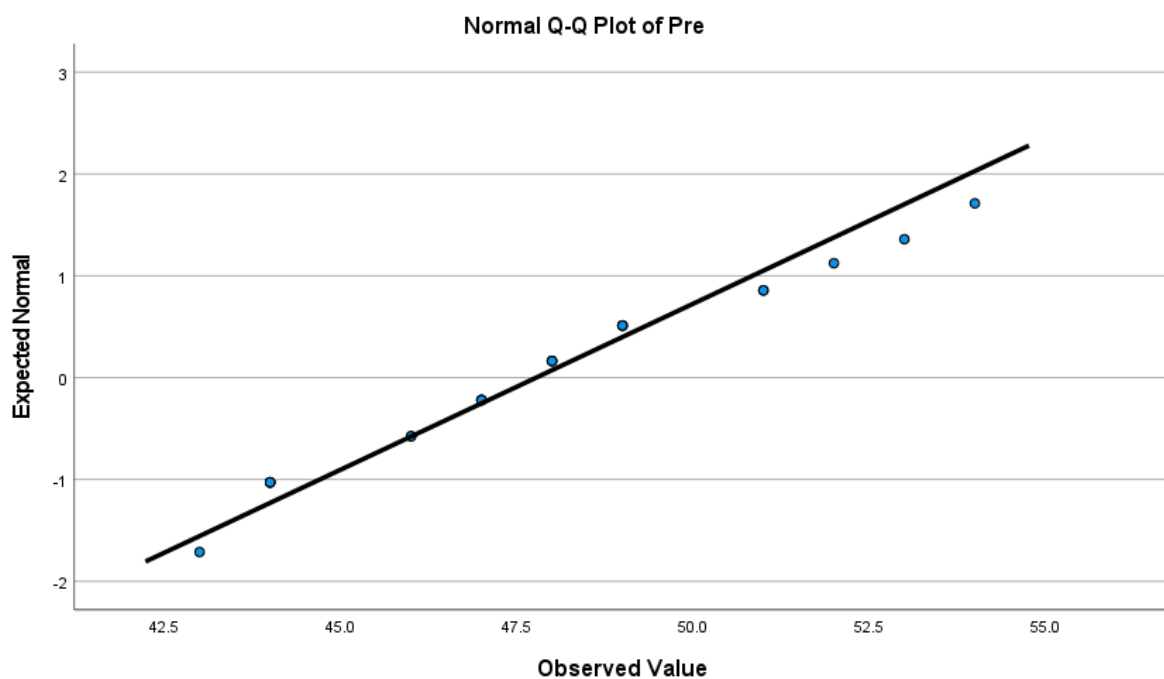
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre	.118	22	.200 [*]	.953	22	.364

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Pre



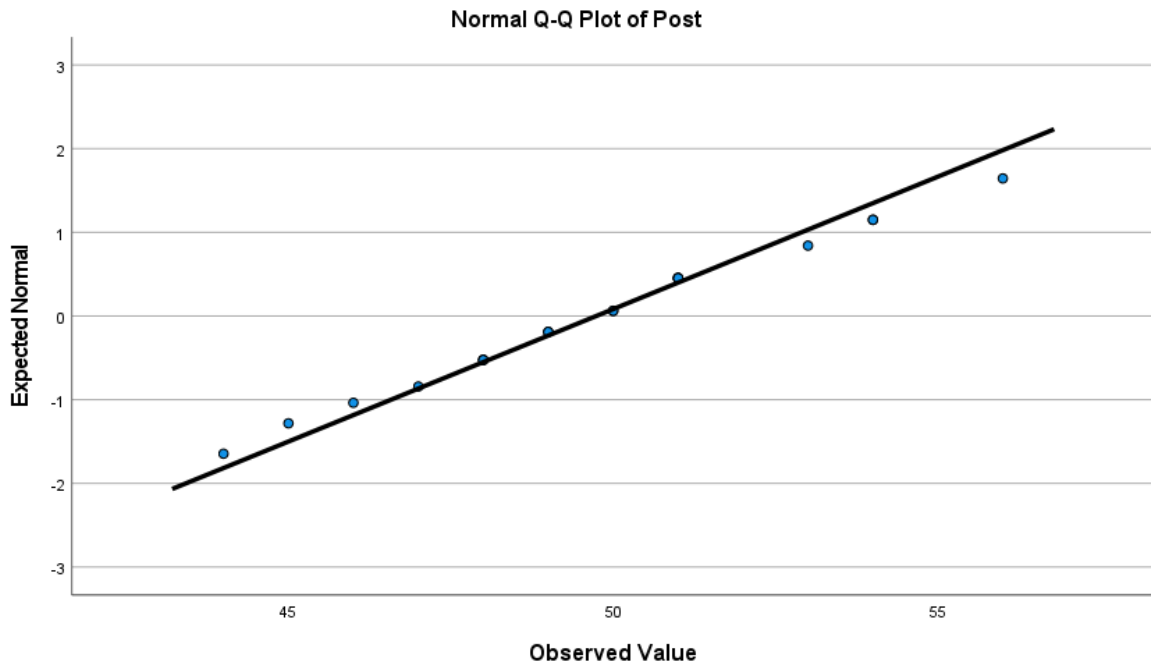
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Post	.134	19	.200 [*]	.980	19	.937

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Post



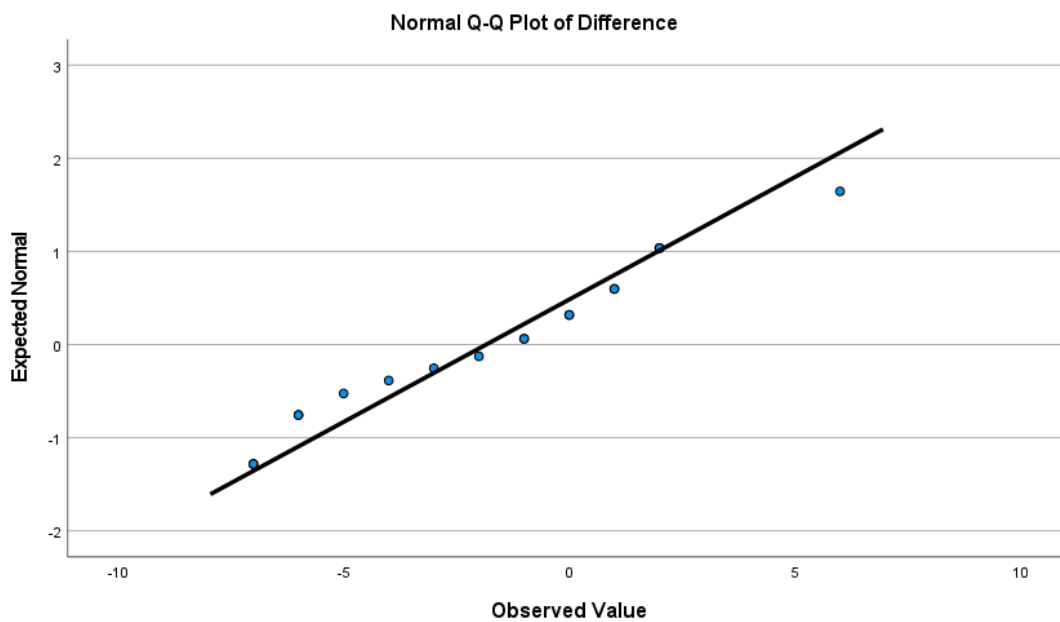
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Difference	.126	19	.200 [*]	.935	19	.214

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Difference



➔ **T-Test**

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre	47.89	19	3.247	.745
	Post	49.74	19	3.160	.725

Paired Samples Correlations

		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	Pre & Post	19	.295	.110	.220

Paired Samples Test

		Mean	Std. Deviation	Paired Differences		t	df	Significance		
				Std. Error Mean	95% Confidence Interval of the Difference			One-Sided p	Two-Sided p	
					Lower					Upper
Pair 1	Pre - Post	-1.842	3.804	.873	-3.676	-.008	-2.111	18	.025	.049

Paired Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval		
				Lower	Upper	
Pair 1	Pre - Post	Cohen's d	3.804	-.484	-.955	-.002
		Hedges' correction	3.886	-.474	-.934	-.002

- a. The denominator used in estimating the effect sizes.
 Cohen's d uses the sample standard deviation of the mean difference.
 Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Appendix S – Coach social validation interview guide for Study 3

“What can you see? What can you hear?” The implementation of a behaviour-based MT framework within international youth football

SOCIAL VALIDATION INTERVIEW GUIDE - COACHES

Participant Number: _____

Age: _____

Coaching Age Group/Team: _____

Interview Date: _____

Interview Location: _____

Interview Start Time: _____

Interview End Time: _____

Interview Date:

Interview Location:

Interview Start Time:

Interview End Time:

Introduction

- **Welcome participants and thank them for agreeing to take part**
- **Remind participants of the background to the study:**

Mental toughness (MT) is an individual's ability to manage the daily challenges they face through consistent demonstration of mentally tough behaviours (MTBs), to achieve high levels of goal-related performance. Having identified what these MTBs look like in an international youth football context (e.g., being adaptable), our study was interested in exploring how, when, and where these MTBs can be reinforced via the implementation of a MT development framework in international youth football. Specifically, this framework involved; 1) educating coaches regarding what MT is and the behaviours they need to display to impact players' MT development; 2) educating coaches, and indirectly players, regarding the key MTBs players need to display to develop MT and perform consistently; and 3) observing coach behaviours in an international camp and the impact these have on the MT development of players.

- **Remind participants of the purpose of this study**

The purpose of this interview is to explore your overall perceptions of our intervention, focusing on three key areas:

1. Your experience of the intervention – including its goals, its implementation, and its outcomes
2. The impact of the intervention on your overall understanding of the concept of MT and MTBs.
3. The impact of the intervention on your confidence levels to develop MT within your players.

- **Remind participants of their rights**

- Right to withdraw at any time without consequence – *should the participants wish to withdraw during the interview, their data will be removed from the final analysis*
- Right to refuse to answer a particular question
- Right to confidentiality – *emphasise to participants that anything discussed within the interview will not be repeated to others outside of this setting by the researcher. Further, in line with the Data Protection Act (1998) and GDPR (2018) guidelines, all data is treated strictly confidentially by USW, and all researchers working on the study will respect participants' privacy*
- Right to anonymity – *clearly explain that all participants' data will be anonymised, with each participant assigned a number for transcription purposes. Participant quotes used in any subsequent peer reviewed publication will also be completely anonymous. Make sure that the participants are comfortable with this procedure*

- Participants will be sent their transcripts for checking (accuracy) and a copy of the results to confirm they are happy that their identities have been protected
- Request for honest answers due to the above – *remind participants of their role in the interview. The researcher will ask specific questions related to their experiences of the intervention, and they are to answer as truthfully and honestly as possible*
- Remind participants the interview is being audio recorded for transcription purposes

BEFORE WE BEGIN DO YOU HAVE ANY QUESTIONS?

Introductory Questions

So before we begin discussing your overall perceptions of the intervention, I'd like to ask you some questions related to your experiences coaching in international youth football...

1. What are your main aims/targets as a coach for the under 15s national team squad?
 - How successful have you been in achieving these aims?
 - Do you, as a coaching team, have any guiding principles/values which underpin these aims?
 - What are the main challenges you have faced in trying to achieve these aims, in an international football context?

Main Questions

Thank you for your answers in the previous section. I hope those questions have given you an idea of the sort of things we will be discussing in this interview. I'd now like to talk more specifically about your lived experience of the MT development intervention itself. Specifically, I will be asking you to discuss your overall perception of the intervention, the impact of the intervention on your understanding of MT and MTBs, and the impact of the intervention on your ability to develop MT in your players. With this in mind...

Overall Perception of the Intervention

2. The main goals of the intervention were to; 1) educate coaches regarding what MT is and the behaviours they need to display to impact players' MT development; and 2) educate coaches, and indirectly players, regarding the key MTBs players need to display to develop MT and perform consistently. With this in mind...
 - Was the MT definition discussed at the intervention outset easy to understand and applicable to the Welsh international football context?
 - Were the MTBs outlined at the intervention outset easy to understand? Did they align with the Welsh Way game model and principles of play effectively?

3. Thank you for those insights. I'd now like to discuss the implementation of the intervention itself. The intervention was implemented across two phases; 1) coach and player education workshops; and 2) observing coach behaviours and their impact on players' displays of MTBs during an international camp.
 - How did you find the coach education workshops? What was useful? What could be improved?
 - What elements of the coach education workshops do you feel were most applicable to your coaching practice? Why?
 - How did you find the observation and support provided by the researcher during the international camp? What was useful? What could be improved?
4. Overall, do you think players' understanding of MTb and their ability to demonstrate MTBs on a consistent basis under pressure improved due to participating in this intervention?
 - If yes, how do you know? What MTBs could you see? What could you hear?
 - What factors (e.g., coach behaviours) might account for this increase in the display of MTb?
 - If no, what needs to be improved? Was a lack of increase in MTBs displayed due to a lack of understanding of MT and the MTBs presented? How did you find the intervention structure?
 - What do you think could be done to improve player engagement and buy in?
5. Do you, as an international coach, have a better understanding of the concept of MT and MTBs due to participating in this intervention?
6. Do you, as an international coach, have greater confidence in your ability to develop MT in your players, due to taking part in this intervention?
 - If yes, what specific elements of the intervention helped you to develop this confidence?
 - If no, what elements of the intervention could be improved to help you develop this confidence?

Final Section: Trustworthiness

5. **How do you think that the interview went?**
6. **Do you feel as though you were led or influenced in any way whilst answering the questions?**
7. **Were you able to tell your full story?**
8. **Did we/I miss anything out?**

Thanks for your time and help with my study.

Appendix T – Player social validation interview guide for Study 3

“What can you see? What can you hear?” The implementation of a behaviour-based MT framework within international youth football

SOCIAL VALIDATION INTERVIEW GUIDE - PLAYERS

Participant Number: _____

Age: _____

Playing Age Group/Team: _____

Interview Date: _____

Interview Location: _____

Interview Start Time: _____

Interview End Time: _____

Interview Date:

Interview Location:

Interview Start Time:

Interview End Time:

Introduction

- **Welcome participants and thank them for agreeing to take part**
- **Remind participants of the background to the study:**

Mental toughness (MT) is an individual's ability to overcome daily challenges through displaying mentally tough behaviours (MTbs) consistently, to achieve their goals. Having identified what these MTbs look like in international youth football (e.g., being adaptable), our study was interested in exploring how, when, and where these MTbs can be reinforced by coaches and developed by players. Specifically, we wanted to; 1) educate coaches regarding what MT is and the behaviours they need to display to impact players' MT development; 2) educate players regarding the key MTbs players they need to display to develop MT and perform consistently; and 3) observe coach behaviours in an international camp and the impact these have on players' displays of MTb and MT development.

- **Remind participants of the purpose of this study**

The purpose of this interview is to explore your overall perceptions of our intervention, focusing on three key areas:

1. Your experience of the intervention – including its goals, its delivery, and its outcomes
2. The impact of the intervention on your overall understanding of the concept of MT and MTbs.
3. The impact of the intervention on your confidence levels to display MTbs consistently in international football and develop your MT.

- **Remind participants of their rights**

- Right to withdraw at any time without consequence – *should the participants wish to withdraw during the interview, their data will be removed from the final transcript*
- Right to refuse to answer a particular question
- Right to confidentiality – *emphasise to participants that anything that is discussed within the interview will not be repeated to others outside of this setting by the researcher. Further, in line with the Data Protection Act (1998) and GDPR (2018) guidelines, all data is treated strictly confidentially by USW, and all researchers working on the study will respect participants' privacy*
- Right to anonymity – *clearly explain that all participants' data will be anonymised, with each participant assigned a number for transcription purposes. Participant quotes used in any subsequent peer reviewed publication will also be completely anonymous. Make sure that the participants are comfortable with this procedure*

- Participants will be sent their transcripts for checking (accuracy) and a copy of the final results to confirm that they are happy that their identities have been protected
- Request for honest answers due to the above – *remind participants of their role in the interview. The researcher will ask specific questions related to their experiences of the intervention, and they are to answer as truthfully and honestly as possible*
- Remind participants the interview is being audio recorded for transcription purposes

BEFORE WE BEGIN DO YOU HAVE ANY QUESTIONS?

Introductory Questions

So before we begin discussing your overall perceptions of the intervention, I'd like to ask you some questions related to your experiences playing international youth football...

1. What are the major challenges you have encountered (e.g., competitive, organisational, personal) on your journey to being selected for the international team? *Use below probes...*
 - *Deselection, injury, playing up/down an age group, transitioning between age groups, major defeats, issues at home, issues at school, teammate rivalry, coaching issues, social sacrifices, feeling isolated, feeling out of comfort zone*

Main Questions

Thank you for your answers in the previous section. I hope those questions have given you an idea of the sort of things we will be discussing in this interview. I'd now like to talk more specifically about your experience of the MT development intervention itself. Specifically, I will be asking you to discuss your overall perception of the intervention, the impact of the intervention on your understanding of MT and MTBs, and the impact of the intervention on your ability to display MTBs and develop MT. With this in mind...

2. One of the main goals of the intervention was to educate players regarding what MT is and the key MTBs players they need to display to develop MT and perform consistently. With this in mind...
 - a. Was the MT definition discussed at the start of the intervention outset easy to understand and relevant to you as an international footballer?
 - b. Were the MTBs outlined at the start of the intervention easy to understand and relevant to you as an international footballer?
3. Thank you for those insights. I'd now like to discuss the delivery of the intervention itself. The intervention was delivered in two parts; 1) player education workshop; and 2) observing and reviewing players' MTBs during an international camp.

- a. How did you find the player education workshop? What was useful? What could be improved?
 - b. How did you find the MTb video? Were the MTbs discussed in the video clear and easy to identify? If not, how could the video be improved?
 - c. How did you find the observation and support provided by the researcher during the international camp? What was useful? What could be improved?
4. Overall, do you think your understanding of MT and your ability to demonstrate MTbs consistently under pressure improved due to participating in this intervention?
 - a. If yes, what specific MTbs did you improve? What specific part of the intervention helped you to improve these?
 - b. If no, what about the intervention could be improved?
 - c. What do you think could be done to improve player engagement and buy in?
5. Did your international coach play a role in helping you to display key MTbs more consistently and to develop your MT?
 - a. If yes, what specific did they use to help you develop your MT?
 - b. What behaviours did they display to help you develop your MT?

Final Section: Trustworthiness

- 9. How do you think that the interview went?**
- 10. Do you feel as though you were led or influenced in any way whilst answering the questions?**
- 11. Were you able to tell your full story?**
- 12. Did we/I miss anything out?**

Thanks for your time and help with my study.