The Impact of Environmental and Cultural Factors within a Scottish Football Club on the Motivational Attributes of Professional Footballers and Coaches

Lewis Alexander Collison

A thesis submitted in partial fulfilment of the requirements of Edinburgh Napier University, for the award of Master by Research

May 2024

Abstract

This project aimed to explore the motivational characteristics of individuals working within a Scottish Championship football club, and how they are influenced by the club environment and culture.

Methods: A multi-phase design was used. Phase 1 used a literature review to identify key characteristics of elite Talent Development Environments (TDEs) and the psychological attributes of its athletes and coaches. Phase 2 used semi-structured interviews to assess the socioenvironmental influences at the club and the Psychological Characteristics for Developing Excellence (PCDEs) of the participants (Players, n=6; Coaches, n=3). Phase 3 utilised a modified version of the Perceived Motivational Climate in Sport Questionnaire–2 (PMCSQ-2) to discover the players' and coaches' (Players, n=15; Coaches, n=3) perceptions of their motivational climate and the use of Global Positioning System (GPS) data.

Results: Phase 1. The literature review revealed that a multitude of psychological skills were necessary to achieve performance goals, and how socioenvironmental factors influence these skills. **Phase 2.** Interview data revealed differences between participants' level of PCDEs, motivation, needs satisfaction and multiple socioenvironmental factors that impacted their motivation. **Phase 3.** The survey showed that overall the environment was viewed as task oriented. There were significant differences between the coaches' and players' perception of their environment. There were also significant differences between the responses to the modified GPS items and unmodified items.

Conclusions: Interview data revealed that the players lacked some PCDEs that Phase 1 identified as being key to reach the elite level. The interviews suggested that the environment tended to be oriented towards ego-orientation. The survey suggested that GPS data dissemination is not used in an ego-involving manner, and revealed differences in perceptions of the TDE between coaches and players. Recommendations were provided to cause positive performance outcomes.

Keywords: PCDEs, motivation, football culture, motivational environment, GPS

Author Declaration

Edinburgh Napier University, May 2024

I hereby declare that:

a) I have composed this thesis,

b) This thesis is my own work, and

c) This work has not been submitted for any other degree or professional qualification except as specified.

Lewis A. Collison

Acknowledgements

Firstly, I'd like to express my deepest appreciation to my supervisory team of Dr Hollie Fountain, Dr Amanda Pitkethly and Dr Susan Brown for their support and guidance they have provided me throughout the past 3 years. Without them helping me to stay focussed during times in which the project felt daunting, or when external issues got in the way I wouldn't have been able to complete these pages.

Secondly, I'd like to extend my sincere thanks to Dr Calum Neil who was my Independent Panel Chair, for helping me with my RD forms and through the initial stages where I struggled to settle into my role at the club.

I'd also like to give a big thanks to the Staff and Players at the club for being patient with me during these 3 years, with special thanks going to the Manager and the Assistant Manager for aiding in my professional development and continuing to push me to want for more for myself.

Lastly, I'd like to acknowledge my family for pushing me to undertake this project and supporting me throughout. Without them helping me through the initial stages in particular and continuing to support me I would not be in the position I am today. Whilst it has not been an easy undertaking with relocating, long hours and external issues, their unwavering belief in me has truly allowed me to get through these hardships and further myself as a practitioner.

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1. Project Introduction

Football is the world's most popular sport, with it being watched and played by millions of people across the globe (Dvorak et al., 2004). Of the millions that play, many hold the ambition to play professionally. At the elite level, players are rewarded for their abilities with lucrative contracts, fame, recognition, and a lifestyle that is seen as desirable (Roderick, 2006). As well as this, players are being paid to play the sport they enjoy, as opposed to a different profession for which they may be less passionate (Roderick, 2006). Despite many having the dream of playing professionally, the goal is actualised by very few (McGlinchey et al., 2022). For example, in England, of the 1.5 million boys playing in organised youth football, only 180 were signed by a topflight club, a success rate of 0.012% (Calvin, 2017). Even the youth players who are fortunate enough to be signed to an elite youth academy at age 16 stand little chance of playing at a high level by the time they reach adulthood, with approximately 98% of them not playing in the top five leagues in the country by age 18 (Calvin, 2017). As the chances of success are so low in this profession, it is imperative that those who want to play at a high level have abilities that separate them from their counterparts.

Within football, the ability of a club to improve and develop players plays a significant role in their team's ability to reach performance goals (Reilly et al., 2000). Previously, the process of talent development has focussed heavily on the physical and technical aspect of the players. However, more recently the talent identification and development (TID) process has shifted towards one that considers development on a more holistic level (Henriksen et al., 2010). Within this holistic approach, it has been identified that an athletes' development is influenced by both psychological and environmental factors, which can have a positive or negative impact on player development (Gagné, 2008). Numerous studies have been conducted on both the psychological and environmental factors associated with performance development, with multiple mental skills being identified as vital for achieving performance goals (Hill et al., 2015). These skills are commonly known as the psychological characteristics for developing excellence (PCDEs) (MacNamara et al., 2010). As well as this, consistently throughout the literature individual's motivation levels have been identified as being key for predicting athletic potential and determining the likelihood of reaching an elite level (Van Yperen, 2009). Motivation has been highlighted as being so vital to

development as it underpins other key psychological traits that are commonly identified among high performing athletes (Hodge et al., 2009).

As a football player's motivation plays such a significant role in their performance, it is vital for the athlete and teams alike to understand how they can improve this characteristic. One of the key determinants of athlete motivation is argued to be the level of psychological needs fulfilment they receive from their environment (Deci & Ryan, 2010). For an athlete to be intrinsically motivated, which is described as the strongest level of motivation, their environment must fulfil the individual's need to feel competent, in control, and connected to others within the group (Liu & Huang, 2021). Although there are numerous factors, a key part of building a climate that promotes positive motivational responses in athletes is by developing a positive culture. Culture underpins the environment, with it describing the values, beliefs, behaviours, attitudes, and practices of the team (Frost et al., 1985; Shteynberg, 2010). It describes a group's collective norms and is developed within teams as individuals interact with each other (Chow et al., 2009). Culture has a significant impact upon athletic performance and subsequently the players ability to achieve performance goals as it alters an individual's thoughts and feelings as well as their behavioural response (Andersen, 2011; McGannon & Smith, 2015). The culture within a club is said to be created by the coach and leadership figures within a team, meaning it is imperative that they build the culture in the correct way to be successful (Smith et al., 2007).

1.1 Gaps in the Literature

1.1.1 Applicability of Youth Data to First Team Environment

Whilst many studies have previously investigated the social and environmental influences on motivation, surprisingly, few have been conducted on adult professional athletes (Keegan et al., 2014; Treasure et al., 2007). Within a football population specifically, the lack of studies on first team environments is even more evident, with the vast majority of recent studies focussing on youth or adolescent athletes within high performance academies (Mills et al., 2014). Whilst academy environments share some similarities to first team environments as they mimic aspects of professional level sport, they lack certain environmental elements which make drawing conclusions from

studies using youth athletes difficult. Firstly, the academy environment differs to the professional environment as the players are only part-time in academy environments. This increases the mental demands placed upon players transitioning to the first team as both the frequency and intensity of training is greater than before (Swainston et al., 2020). Because of this, younger players have been shown to psychologically struggle making the transition from academy to first team level, which leads to a reduced level of motivation (da Silva et al., 2021; Swainston et al., 2020). As well as this, there are also increased physical demands, higher levels of competition and a lack of playing time that also contribute to transitioning athlete's struggles (Swainston et al., 2020). Moreover, although there is some crossover, it has been said that youth academies are different culturally to the first team level (Relvas et al., 2010). Within a first team, the demands from coaches, and subsequently the treatment of the players differs significantly between the two environments. Research indicates that professional coaches tend to have a more authoritative approach whilst youth teams tend to focus on nurturing the players (Kaplánová, 2020). This is said to be down to the differences in motivation, which is driven by the extra pressure to win (Swainston et al., 2020). Younger players were said to be more intrinsically motivated due to their love and enjoyment of the game, whilst professional players were described as being more externally motivated by factors such as financial rewards (Kaplánová, 2020).

As well as the specific football environment being different, academy athletes face different socioenvironmental stresses to those which first team athletes' encounter. Youth athletes are in a transitional stage within a sporting sense as well as other broader aspects of their life (Finn & McKenna, 2010; Wylleman & Lavallee, 2004). As Wylleman and Lavallee's developmental perspective on transitions describes (Figure 1), these athletes could encounter athletic, psychological, psychosocial, and academic vocational transitions simultaneously (Wylleman & Lavallee, 2004). Because of this, the way they react to situations and behave may be different to that of an established first team player. As well as this, as they are in the development phase of their athletic career, they will most likely have different external motivators to that of an older player. Youth level athletes are found to be motivated by the potential of a contract at a professional side as well as increasing the respect and recognition from their peers (Morris et al., 2017). On the other hand, adult level players are said to be externally

motivated by financial gain and pressures (Morris et al., 2017). Because of this, it is suggested that youth team players are oftentimes unprepared for the challenges of transitioning to first team level (Morris et al., 2017) and highlights the need for more literature to focus on the first team professional level as opposed to the youth level. Because of these reasons, it is difficult to translate the findings of youth team football into the culture of a second division, financially strained, men's first team, that is based in low socioeconomic area, as the psychological state of the players is different due to their stages of development and the environment.

Figure 1

Developmental Perspective on Transitions

Note. Extracted from literature (Wylleman & Lavallee, 2004).

1.1.2 Lack of Research on Football Team Culture.

As well as there being a lack of collated information being gathered on first team environments, there is an even greater gap in the literature with regards to football team culture at the non-elite professional level. Despite there being a few noteworthy

studies investigating various sports at the elite level (Cruickshank & Collins, 2013; Fletcher & Arnold, 2011), there is a lack of data on playing cultures that don't exist at the peak of the sport. Additionally, the findings on elite level players can be difficult to apply to lower league athletes due to the reported differences in key psychological traits, with elite level athletes' displaying significantly higher baseline levels of motivation, which can impact the other PCDEs (Hendry et al., 2019). There is also a lack of research on some of the specific factors that impact team culture in football. A notable omission is the influence that data feedback has upon the climate and subsequently player and staff motivation. With regards to the types of data, one of the fastest growing areas is the use of Global Positioning System (GPS) data. GPS is now a commonplace amongst professional teams, with it being tracked every training session and match to measure external player load (Cummins et al., 2013). Because of this, it is often used to determine player effort levels, especially when combined with heart rate data (Jaspers et al., 2018; Owen et al., 2015). Despite its common use amongst elite and non-elite level sports teams, there is a significant lack of research into the effect that the collection and feedback of performance data has upon the motivational climate and the psychology of the individuals within the climate.

1.2 Aims and Objectives

The following project utilises a multi-phase approach, with each phase of the project aiming to gather data on different aspects of the overarching aim:

> To explore the motivational characteristics of individuals working within a Scottish Championship football club, and how they are influenced by the club environment and culture.

To achieve this aim, the following objectives are proposed:

1. To understand the motivational attributes and psychological skills that are necessary to attain performance related goals at an employment and on-pitch level respectively.
2. To review the environmental or cultural influences at the club which either support or inhibit these attributes.

3. To explore how the club environment and/or culture be enhanced to better promote desirable motivational characteristics.
4. To analyse how the dissemination of football performance related outcomes (via GPS data) fosters individuals' motivational qualities and their perceptions of their TDE.

By meeting the objectives and answering the overarching aim, the researcher will be able to provide the club with recommendations they can implement to the culture and environment that would aid in promoting the player and coaches PCDEs.

1.3 Overview of the Research Project

This research project has been designed in three distinct, but related phases designed to meet the research objectives. Specifically, Phase 1 of the research includes a literature review that aims to understand the motivational attributes and psychological skills required to achieve performance goals. As well as this, it aims to identify environmental and cultural factors that influence these attributes. This research question will be answered by exploring PCDE literature in high performance contexts, and making specific focus on motivation and how this is influenced by the football environment. This phase will target objective 1 and 2 and was also used to guide the interview design process and questionnaire selection for the following phases. It also partly answers objective 3 by allowing the researcher to make informed recommendations for the club to implement by comparing the findings in this phase to the other phases.

Phase 2 of the research project involves a qualitative study that aims to gather the perspectives of the players and coaches in the club around the psychological skills that they possess, what motivates them, as well as the areas of the clubs' climate that enhance or detract from their motivation. It also gathers their perception on the use of GPS data and its dissemination at the club, and how that impacts them. This phase was designed to meet objective 1, 2, 3 and 4 through the use of semi-structured interviews.

Phase 3 focusses on a quantitative inquiry into the players' and coaches' perceptions of their motivational climate and the use of GPS performance data. GPS data dissemination was something that the club identified as a key-factor from within the environment that they want explored in greater detail. This phase was designed to meet objective 2 and 4 through the use of an online questionnaire.

2. Phase 1 - Literature Review

The purpose of this review is to understand the key psychological attributes required to thrive within an elite football setting. As well as this, the review aims to identify factors within high level sporting environments and cultures that can enhance them. The findings from this will serve as a comparison for the data being collected in Phase 2 (Interview study) and Phase 3 (Questionnaire study) of the project. Furthermore, Phase 1 also informed the development of the interview script for Phase 2 by guiding the researcher on potential discussion points within the environment. As well as this, it guided the choice of survey for Phase 3. The research objectives being met within this phase are objectives 1 and 2. It also guides the recommendations for objective 3. This literature review will be structured in two main sections. Firstly literature will be reviewed in relation to the characteristics and skills required to thrive and succeed in the professional game for both coaches and players (Objective 1), and second, review what is understood about how the environment and culture within professional football can influence these characteristics (Objective 2).

2.1 Psychological Characteristics and Skills

The first section of the literature review focusses on the psychological attributes required to be successful in elite sport. Specifically, if focusses on motivation through the lens of self-determination theory within both players and staff, as well as the PCDEs, which are a group of traits and techniques that are said to be inherent within high achieving athletes (MacNamara et al., 2010). The PCDE's consist of both psychological attributes and psychological skills; with attributes referring to the mental characteristics possessed by the individual, and skills referring to techniques that can be utilised to improve mindset (MacNamara et al., 2010). The characteristics that are discussed in this section are resilience and coping skills, focus, commitment, self-regulation, self-awareness and also some elements of psychological skills training that have been researched within elite football. A table representing the PCDEs can be seen in Table 1.

In terms of the psychological characteristics that players need to reach an elite level, the literature is relatively consistent. The majority of studies conclude that the athletes

must possess a wide variety of these positive psycho-behavioural characteristics (Gould et al., 2002; MacNamara et al., 2010; Orlick & Partington, 1988). This is because the psychological traits that an athlete displays have been shown to be an accurate predictor of future success, even from young ages (Van Yperen, 2009). Previous studies have found athletes that display the positive attributes listed in Table 1 tend to attain a higher level of performance than those who display negative psychological attributes (Mitić et al., 2021). These skills have been shown to be important for coaches too. Researchers who investigated PCDEs for elite level coaches identified confidence, resilience, focus, persistence, motivation, commitment, self-awareness, and self-regulation as being the key attributes for coaches (Hodgson et al., 2017; van Rossum, 1996), which share similarities to those in Table 1.

Table 1

Positive Psychological Characteristics and Skills that influence Performance

Psychological Characteristics	Psychological Skills Training
Self-regulation	Support networks
Focus and distraction control	Realistic imagery
Coping with pressure	Goal setting
Commitment	Quality practice
Self-awareness	Realistic performance evaluation
Resilience	Planning and organisation

Note. Table adapted from findings of previous studies (Hill et al., 2015; Orlick & Partington, 1988).

2.1.1 Psychological Skills Training

Numerous researchers have reported that athletes and coaches who incorporate psychological skill training (PST) are more successful than those who do not (Orlick & Partington, 1988; Vealey, 2007; Weinberg & Gould, 2019). This is found to be the case at both the sub-elite and elite level (Gould et al., 2002; Orlick & Partington, 1988; Williams & Krane, 2001). Using PST is said to help the development of one's emotional intelligence (EI), with athletes who practice these skills scoring higher for EI (Kopp &

Jekauc, 2018; Lane et al., 2009). Studies have found that athletes who demonstrated greater EI performed better during games and wanted to train for longer and more frequently than those who had lower EI (Crombie et al., 2009; Laborde et al., 2017; Perlini & Halverson, 2006). This could be as there is a strong link between trait EI and levels of motivation, with research suggesting that those with greater EI having a greater capacity to push themselves towards athletic success (Kajbafnezhad et al., 2012). Subsequently, this has an impact on in-game performance metrics as athletes and coaches who employ the use of PST score higher for each of the PCDEs (Ercis, 2018; Healey et al., 2018). For example, in a 2018 study, coaches and athletes that implemented the use of imagery were found to display much greater self-confidence and as a result, possessed greater self-regulatory skills (Ercis, 2018). As well as this, studies have found that effective goal setting increase athletes' perception of their competence leading to positive effects to their self-determination and commitment (Healy et al., 2018). Goal setting, alongside imagery has also been linked to improvements in an athlete's ability to cope with difficult scenarios in their career such as high-pressure moments or overcoming injury (Gould et al., 1992; Rose & Jevne, 1993).

This form of training can also be beneficial with regard to improving skill acquisition (Waśkiewicz & Zajac, 2001). Within a football setting, the research indicates the importance of PST when carrying out complex motor, decision making and perceptual skills (Thelwell et al., 2006). Specifically, self-talk, imagery and relaxation were identified as techniques that can be implemented to improve various performance metrics (Thelwell et al., 2006). Thelwell et al. (2006) study did indicate some level of improvement to metrics such as tackle success, pass completion, and 1st touch success in central midfield players, with 4 out of the 5 participants displaying significant improvement post-intervention (Thelwell et al., 2006). Furthermore, low shooting performance was also improved following a cognitive-specific self-talk intervention in elite female players, although the study only included 4 participants (Johnson et al., 2004).

It is also not unreasonable to apply these findings to coaching populations. Whilst there are very few studies investigating PST use on coaches (Frey, 2007), with the majority

of the studies on coaching populations assessing their perception of PST (Feddersen et al., 2021; Freitas et al., 2013), implementing certain techniques could help coaches cope with some of the stressors they experience in their role (Olusoga et al., 2009, 2014). The one study that did assess skills training within coaching populations found similar results to the previous researcher who investigated athlete populations (Olusoga et al., 2014). In this study, the coaches reported positive improvement in their perception of their ability to coach well under pressure. As well as this, the coaches felt as if they were able to relax better, which helped to relieve feelings of stress and anxiety (Olusoga et al., 2014). Both of which are reported to inhibit motivational attributes (Bentzen, Kenttä, Richter, et al., 2020).

2.1.2 Resilience and Coping with Pressure

An athlete's ability to cope with pressure and be resilient has been identified in many studies to be pivotal to achieving high performance goals (Fletcher & Sarkar, 2012; Galli & Gonzalez, 2015; Machida et al., 2013). Despite resilience and coping with pressure being listed as different PCDEs, the two characteristics share many of the same properties, with resilience and coping skills both being subdivisions of mental toughness (MT) (Dewhurst et al., 2012). Psychological resilience is described as "the role of mental processes and behaviour in promoting personal assets and protecting the individual from the potential negative effect of stressors" (Fletcher & Sarkar, 2012). Individuals with low psychological resilience avoid hardships and confrontational scenarios, are unable to cope with pressure and have high levels of anxiety about stressors (Özdemir, 2019). On the other hand, individuals with high levels of psychological resilience demonstrate higher self-esteem, have greater coping resources and have more desirable self-regulatory skills (Fountain et al., 2015; Mummery et al., 2004; Yi et al., 2005). Specifically within football, players with a higher resilience are more likely to achieve success in adverse conditions, and in response, appeal to recruiters within elite footballing academies (Machida et al., 2013; Weinberg et al., 2011). The fact that high levels of psychological resilience are linked with improved performance in highly stressful conditions is vital for footballers, as they have to deal with both competition and non-competition related stressors (Rice et al., 2016). Studies that investigated other elite sports also commented on the high levels of psychological resilience the athletes possessed. Fletcher and Sarkar (2012) found this

in their study that investigated the resilience levels of twelve Olympic gold medallists. They found that numerous psychological factors (relating to positive thinking, motivation, confidence, focus and social support) protected the Olympians from negative stressors by influencing their challenge appraisal and meta-cognitions. Doing so promoted facilitative responses that related to taking responsibility for their thoughts, emotions, and behavioural responses, which led to the realisation of improved sporting performance (Fletcher & Sarkar, 2012).

In terms of coping with pressure, an athlete's ability to cope with a number of stressors has been concluded to be a differentiating factor between athletes at the elite level and the sub-elite level (Collins et al., 2016; Holt & Dunn, 2004; Mills et al., 2012). A study by Danielson et al. (2017), that compared the differences in mental toughness levels between elite and sub-elite populations highlighted this difference. Their research revealed that the elite footballers had significantly higher MT global scores than the sub-elite players. The elite players also scored higher for MT confidence and MT control than the sub-elite players (Danielsen et al., 2017). Routinely, footballers have to be able to cope with performance pressures, injuries, group dynamics, scrutiny through mainstream and social media, insecurity over contracts as well as uncertainty of life after football (Hanton et al., 2005; Noblet et al., 2003; Noblet & Gifford, 2002; Owoeye et al., 2020). As well as this, and somewhat uniquely to football, players have to deal with frequent changes in management, which can completely change the culture of the environment (PFA, 2022) which makes the players ability to perform under a changing environment pivotal to them being successful.

It is also imperative for the coach to display high levels of resilience and an ability to cope under pressure. Coaching is a role well known for being demanding and pressurised especially at the elite level (Bentzen, Kenttä, & Lemyre, 2020). Elite coaches tend to have to deal with a wide variety of stressors such as management, unrealistic performance demands, planning and organisation, as well as interpersonal and organisational issues (Norris et al., 2017; Olusoga et al., 2009). They also have to deal with the nature of elite football, with the work being dynamic, competitive and having unconventional hours with long periods of travel (Bentzen, Kenttä, & Lemyre, 2020). There is also the fact that they are under a lot of scrutiny from fans of the club,

media and stakeholders to bring positive results and success (Bentzen, Kenttä, & Lemyre, 2020). As mentioned earlier they also have to deal with feelings of job insecurity which can have a detrimental impact on their mental health (Bentzen et al., 2014).

2.1.3 Focus and Commitment

Focus refers to one's ability to apply considered psychological effort on the situation that demands the most significant attention at that given moment (Moran, 2013). In football this is important because of the dynamic nature of the game, with players having to focus on multiple factors simultaneously, including the ball, their positioning, and the tactical instructions from the coaches (Hagemann et al., 2006). Previous studies have investigated the critical influence of focus and distraction control amongst elite level athletes. Orlick and Partington (1988) investigated the impact of focus on Olympic athletes who had achieved varying degrees of success in their event. They found that athletes who performed their best were fully focussed on executing their skill. Similarly, controlling distractions was reported as a key mental skill in a study conducted on elite hockey players psychological attributes (Barbour, 1994). Despite the participants reporting that they found maintaining focus challenging due to external distractions, they referred to their ability to concentrate on executing their role as an important skill that significantly impacted their level of performance. Contrastingly, the Olympic athletes who did not perform to their capacity were often focused on unnecessary distractions, which included the crowd, the possible outcome, self-doubt, and the strength of the competition (Orlick & Partington, 1988).

As well as being focussed during games, footballers must also be focussed on their goals outside of matches to improve their performance. According to Goal Setting Theory (Locke & Latham, 2012), setting goals can have performance enhancing benefits, with them being shown to increase focus and reduce distractions (Healy et al., 2018). To achieve performance related goals, athletes must be committed towards them (Locke et al., 1988). Sport commitment is defined as a psychological state representing the desire to continue participation in sport (Scanlan et al., 1993). In the literature, it is described as an important component that underlies an athlete's ability to achieve goals, their persistence, and their motivation (Hall, 1993). Commitment to

one's sport is said to be impacted by a multitude of determinants. The Sport Commitment model suggests that a player's commitment will increase as enjoyment, personal investments, social constraints and involvement opportunities increase (Hall, 1993). This model also describes involvement alternatives as having a negative effect on their desire to participate. In an elite sports setting, an athlete that displays greater commitment will exert more effort in training and in matches which will improve their performance (Toering et al., 2009). In a study that compared the psychological skills of elite vs non-elite athletes, the researchers found that the elite athletes scored significantly higher on the Ottawa questionnaire for commitment than non-elite athletes (Ercis, 2018). Within football a player's commitment has been described by coaches as one of the attributes commonly seen in those who successfully progress through the academy system (Hill et al., 2015), with players who were cut from the setup demonstrating lower levels of the trait, thus further emphasising its importance to development. The results of Hill et al. (2015) and Ercis (2018) studies suggest that athletes' level of commitment is a differentiating factor between elite and sub-elite level players. Because of this it is important to try and maximise the extent to which players are committed to increase the chances of players developing to an elite level. As commitment is impacted by athletes' enjoyment and social constraints, the environment plays a significant role in the skills prominence (Hall, 1993). This was reflected in a systematic review that reviewed commitment and its relationship with coaching performance within a team environment (Notario-Alonso et al., 2023). Some of the studies that the researchers reviewed concluded that coaches who positively affected the team culture by making the environment more enjoyable positively impacted commitment, which led to improved performance outcomes (Sousa et al., 2007).

2.1.4 Self-Regulation and Self-Awareness

Finally, high levels of self-awareness and self-regulation have been identified as common psychological traits amongst elite footballers. Self-awareness is described as an individual's ability to their recognise strengths and weaknesses, making themselves the focus of their attention (Duval & Wicklund, 1972; Wohlers & London, 1989). In response it plays a significant role in skill-development, skill execution, arousal regulation and emotional control (Ravizza, 2006). Having the ability to identify and

improve weaknesses is an essential part of talent development (MacNamara et al., 2010) and forms the basis of effective goal setting (Hill et al., 2015). By improving self-awareness, you in turn improve self-regulation (Kirschenbaum, 1997) as self-awareness impacts the ability to monitor and evaluate performance and behaviours, which are two sub-functions of Self-Regulation Theory (SRT) (Bandura, 1991). SRT describes self-regulation as an athlete's self-governing system, that consists of three sub-functions. These are the ability to monitor, evaluate, and react to one's behaviour and performance (Bandura, 1991). Self-regulation is also reliant on motivation, which in the trait self-regulation model is referred to as self-efficacy and effort (Hong & O'Neil Jr, 2001). Having strong self-regulatory skills has been shown to better prepare athletes to adapt to their social and physical environment, and therefore is a key process in psychological functioning (Vohs & Baumeister, 2016). Self-regulation is a skill that can be learned and therefore taught, through systematic interventions (Schunk & Ertmer, 2000).

Research into the two attributes have reported consistent findings. A questionnaire-based study conducted by Toering et al. (2009) investigated the self-regulation and performance level of elite vs non-elite footballers. The researchers found that the elite players had greater self-awareness of their strengths and weaknesses and were better able to translate this awareness into action. Furthermore, the elite players demonstrated a greater willingness to commit effort into training sessions and matches, suggesting they were more motivated (Toering et al., 2009). The researchers concluded that the improved self-regulatory skills possessed by the elite footballers could translate into a better development environment and ultimately increase their performance capability compared to the non-elite group due to their improved motivation and focus on improving weaknesses (Toering et al., 2009). The importance of self-regulation is further emphasised by Holt and Mitchell (2006), who examined the psycho-behavioural traits of younger athletes that were released from professional youth football academy systems. One of the major reasons why the players did not make it to the elite level was because they lacked the ability to control their behaviour and emotions. As well as this, they lacked the determination to succeed as they displayed lower effort levels than those who made it (Holt & Mitchell, 2006). It is also therefore important for coaches to possess this as the emotion they convey can dictate

the emotion of the team (Hanson & Gould, 1988). Therefore by being able to regulate their emotions they can better manage the players motivation and the team culture (McGannon & Smith, 2015).

2.1.5 Motivation

If the environment and the culture are not aligned with values that are conducive to enhancing performance, it can have a detrimental effect upon the individuals within its psychology (Li et al., 2019). Primarily, it has the potential to inhibit motivation levels as opposed to fostering them. Motivation is seen to be the key psychological skill as it determines the intensity and persistence of the individual's performance related behaviours (Cerasoli et al., 2014). An athlete's motivation has the ability to impact their behaviour and mental well-being and can have considerable effects on other psychological traits relating to performance (Hodge et al., 2009). Within the literature on motivation, one of the most commonly applied theories is Self-Determination Theory (SDT) (Deci & Ryan, 1985). SDT describes an individual's motivation as a continuum, that is impacted by the fulfilment of three basic psychological needs, which are satisfied by social factors within their environment (Deci & Ryan, 1985). These needs consist of competence, relatedness, and autonomy. Competence refers to the need to feel capable of achieving valued tasks; relatedness is the desire to feel connected with others within your environment; autonomy refers to the need to be in control and have choice over one's behaviours (Ntoumanis & Mallett, 2014). The continuum ranges from being amotivated, to extrinsically motivated, to fully intrinsically motivated (Deci & Ryan, 1985).

Amotivation describes when an athlete has no motivation to participate in the given activity (Halbrook et al., 2012). Extrinsic is the stage of motivation above this and describes when an external motivator is needed to increase motivation (Halbrook et al., 2012). This stage describes a wide range of factors, with fear of punishment and guilt being on the low end of the spectrum, and congruence with oneself being on the higher end (Halbrook et al., 2012). These factors can be grouped into 4 categories: integrated regulation, identified regulation, introjected regulation and external regulation (Gillet, Berjot, et al., 2009). External regulation is categorised as the least self-determined stage of extrinsic motivation, with the higher forms being introjected,

identified and integrated respectively (Gillet, Berjot, et al., 2009). Those who are externally regulated are motivated by rewards or external constraints such as trophies, fear, or money (Lubart, 1994). Introjected regulation on the other hand is when the athlete is motivated by self-imposed intrapersonal factors such as guilt, shame, ego enhancement and pride (Standage, 2023). Within a footballing environment, this could be being motivated to avoid feeling guilty for not working hard enough, or to feel proud for beating a certain opponent. Identified regulation is the next most autonomous and describes the regulation of behaviour via the conscious valuing of an activity as being important to achieving personal goals (Standage, 2023). An example of such could be completing extra gym sessions not for enjoyment, but because the strength improvements may improve their performance and therefore allow them to achieve performance goals. Lastly, and the most autonomous form of extrinsic regulation is integrated regulation. This is when an activity is performed because it has been brought into congruence with the individuals other core values, or when the individual has fully taken in the reason for the action (Mclachlan et al., 2010).

The highest level of motivation is when the athlete is intrinsically motivated, and therefore requires no additional motivation as they are self-driven (Halbrook et al., 2012). An athlete or coach who is intrinsically motivated competes in the sport for pleasure and satisfaction (Deci, 1975). The more fulfilled the psychological needs are perceived to be by the athlete, the more intrinsically motivated they will be, therefore requiring less external stimulus to motivate them (Deci & Ryan, 2000). An athlete's motivation is also a determinant for a wide range of human behaviours (Vallerand & Ratelle, 2002). The literature suggests that the more intrinsically motivated an athlete is, the more positive the behavioural outcomes will be within the sports setting (Balaguer et al., 2018; Chatzisarantis et al., 2003; Li et al., 2019; Trigueros et al., 2019). For example, Ferrer-Caja and Weiss (2000) found that intrinsic motivation positively predicted the effort levels and persistence of the participants. Athletes' level of commitment was also found to have a positive relationship with the level of intrinsic motivation (Zahariadis et al., 2006). Contrary to this, extrinsic motivation scores had no correlation with commitment, whilst amotivation negatively impacted sport commitment subscale scores (Zahariadis et al., 2006). Mental toughness was also shown to have a strong positive link to needs fulfilment in a recent study (Li et al.,

2019). Their findings indicated that needs satisfaction was a strong predictor of participant mental toughness (Li et al., 2019). This was mirrored in a study that measured coach influence on athlete needs fulfilment, and the resulting impact this had on their resilience (Trigueros et al., 2019). They suggested that controlling coaching styles that negatively impacted the athlete's perception of their autonomy indirectly affected their resilience making the athlete less resilient to challenging scenarios. Another investigation into autonomy support from coaches indicated similar results (Balaguer et al., 2018). In this study, those who received greater autonomy support from their coaches reported greater pleasure in playing football and reported it had increased benefits on their psychological wellbeing (Balaguer et al., 2018), which could lead to increased commitment (Sousa et al., 2007). The result has also been shown to have an impact on the level of motivation athletes possess within egooriented climates (Ntoumanis, 2001). In ego-oriented climates winning is seen as the primary objective, therefore if an athlete has a poor performance, or if they lose then their perception of their competence will be challenged, and subsequently their level of motivation for the activity will decrease (Gillet, Berjot, et al., 2009). Likewise with a task-oriented approach, athletes may improve their motivation through feeling as if they have developed (Gillet, Berjot, et al., 2009). The results from these various studies indicate that to increase athletes' motivation and consequently improve the promotion of positive psycho-behavioural attributes, the TDE must fulfil their needs.

Despite this however, it is important not to place the full responsibility of the athlete's motivation on the environment, seeing as this appears to inhibit or promote the abilities, they inherently possess (Gagné, 2008).

2.2 Environment

The above literature demonstrates the importance of the coach or athlete being highly intrinsically motivated, due to the fact that their motivation underpins the rest of their PCDEs (Ferrer-Caja & Weiss, 2000; Li et al., 2019; Trigueros et al., 2019). As detailed in SDT, the individual's level of intrinsic motivation is determined by the level of needs satisfaction they receive from their environment (Deci & Ryan, 1985). The second section of this literature review focusses on the specific socioenvironmental characteristics that develop or impede motivation, and subsequently the forementioned psychological skills. Environmental factors such as the climate

orientation, the pressure to win, internal politics, job security and development pathways are discussed as being key determinants into enhancing or prohibiting psychological skills. Special attention is paid to the culture within the environment, and the factors that underly it, such as the leadership at the club, the club's goal and value alignment, the nature of relationships in football teams and the way in which performance feedback is given.

Elite sport environments are characterised as being high-pressure, competitive and stressful (McDougall et al., 2015). This is especially relevant for football environments, where there is greater attendances, media coverage and subsequently greater scrutiny on the players and playing staff. Within Scotland, this scrutiny on players and coaches is heightened with the four Scottish professional leagues averaging the highest attendances per capita out of any European country (SPFL, 2023). The fans in football are said to be very passionate and expressive compared to some other sports fans (Vallerand et al., 2008), with them oftentimes idolising players and giving them celebrity status (Jeanes & Kay, 2007). Whilst this passion is generally seen as a positive, with a passionate crowd being shown to help performance (Calleja et al., 2022), it can turn nasty, with the fans adoration and passion for their team occasionally causing aggressive tendencies (Cleland & Cashmore, 2016; Jeanes & Kay, 2007). The scrutiny is also heightened due to factors such as there being a high turnover of players and management staff (Bentzen, Kenttä, Richter, et al., 2020; Nissen, 2016). Changes in the makeup of teams occur frequently as players leave clubs on expiration of their temporary contract or are sold (Bentzen, Kenttä, Richter, et al., 2020). Managers on the other hand tend to get relieved of their duties if they fail to win games (Nissen, 2014). This is as poor results can have significant negative consequences for the club, such as being relegated, which can cause financial instability (Noll, 2002). This is especially the case in lower leagues where finances are low (Noll, 2002).

2.2.1 Motivational Climate

Because of the importance of motivation for athletes, it is vital to examine what elite teams do to harness this motivation. A way which has been repeatedly addressed is through the creation of a motivational environment. The environment is said to impact motivation levels and therefore the key psychological traits, with it having the ability to

inhibit or facilitate them (Li et al., 2019). The construct of motivational environment is based on the achievement goal theory (AGT) (Ames, 1992) and is defined as the social environment created by its members with regard to achievement goal orientations (Duda & Balaguer, 2007). Within AGT there are two separate goal orientations: task (mastery) and ego (performance) orientation (Ames & Roberts, 1992; Granero-Gallegos et al., 2017; Nicholls, 1989). Goals within a mastery team environment are centred on the task to be performed by the athletes. Therefore, the focus is primarily on effort and improving at that task (Ohlert & Zepp, 2016). Players within a task-environment are encouraged to grade their competence level by self-comparison and view sport as a way to reinforce their teamwork skills and interest in learning (Nicholls, 1989). By orientating the environment toward mastery, you promote more adaptive motivational responses (Duda, 2001; Harwood et al., 2015), which have positive effects on performance, and on group processes like peer relationships (Ommundsen et al., 2005). Previous literature has found this to be the case for numerous reasons, however, the most commonly mentioned reason is that a task-oriented environment aids in psychological needs fulfilment. This was found in a study by Li et al. (2019) that investigated the key factors of a TDE that facilitate athletes' needs, and consequently the promotion of their PCDEs. The factors that satisfied the needs were concluded to be a clear long-term drive and process focus, a recognition of mistakes as a developmental necessity and de-emphasising the pressure for short term success, all of which are found in task-oriented environments (Duda, 2005).

On the other hand, an ego-oriented climate places the focus on performing better than other athletes and on results (Duda & Balaguer, 2007). Whilst at the professional level every team wants to win every game, those within an ego climate want to win in order to achieve personal gain or to meet an external criterion (Morales Sánchez et al., 2022). Athletes in this environment base their perception of competence on how they compare to others and participate in sport as means to rise up the social hierarchy (Duda, 2001). If an ego-oriented environment is created, players are found to display less adaptive responses including boredom, a negative attitude, and a lack of enjoyment for their sport (Carpenter & Morgan, 1999). This climate increases the players level of performance anxiety and reduces satisfaction with the TDE (Burton & Martens, 1986; Gadient et al., 2020). As well as this, it is shown that they start to

believe that working hard does not matter, with talent being the only selection criteria (Carpenter & Morgan, 1999). These responses are linked with drops in player motivation and commitment, as well as inhibiting other psychological attributes due to the negative impact on athletes' perceived competence (Rottensteiner et al., 2015). As well as this, the intra-team member rivalry created by players comparing themselves to others negatively impacts the players perception of relatedness within their environment, further decreasing their self-determination (Boncu, 2020).

Because of the positive psychological effects caused by a mastery environment, it has been the focus of the literature to find ways to create this dynamic. One of the most prominent frameworks for developing a task-climate was developed by Epstein (1989). They identified six properties that were said to be essential to any learning environment: task (design of activities), authority (location of decision-making), recognition (use of rewards), grouping (selection of working groups), evaluation (assessment criteria), and time (pace of learning), forming the acronym TARGET (Cecchini et al., 2014). Although initially developed and researched for classroom use, its effectiveness within a sport setting has been investigated (Cecchini et al., 2014). A mastery-oriented climate created by coaches implementing the TARGET framework over the course of 12-weeks was shown to significantly improve student footballers' perceptions of their competence, autonomy, effort, self-determined motivation. It also had positive social benefits, with it improving their perception of their environments cooperative learning and the relationships within the team (Cecchini et al., 2014). Further studies investigated which structures within the TARGET taxonomy were the most influential (Kingston et al., 2018). Via observation, Kingston et al. (2018) determined that the task, evaluation, recognition and authority factors held the most value when promoting positive behaviours within an elite English Premier League academy environment. Thus suggesting that coaches should focus specifically on these areas when trying to develop a task-involving climate.

2.2.2 High Pressure Environment

Difficulties arise when attempting to drive a task-oriented approach to goal achievement, however. Elite football environments have been characterised as

stressful, pressurised, very competitive and obsessed with success (McDougall et al., 2015). Though this is not unique to elite football, these conditions are more commonly witnessed in more complex, fast-paced, ruthless, and political environments, which is how elite football is described (Cruickshank & Collins, 2013). This obsession for success puts an intense pressure onto clubs to win games, which oftentimes makes the result the sole focus meaning the climate tends to be more ego oriented (Duda, 1995). As well as the internal desire to win games, the nature of the football environment heightens the pressure to win due to the presence of relegation and promotion. In football the worst teams in the league are demoted to the league below, whereas the best teams in the weaker league are promoted up (Noll, 2002). Relegation from the league can have a detrimental impact on the club, with it jeopardising the financial security of the business (Dobson et al., 2001). Relegated clubs report a 15% decline in average attendance and a 21% drop in revenue (Noll, 2002). Conversely, teams that gain promotion average an increase in matchday attendance by 22%, and subsequently a 44% average increase in revenue (Noll, 2002). This is as clubs at lower levels are generally less attractive to sponsors, make less from television deals, and have lower attendances meaning that less revenue is made on match days (Dobson et al., 2001). Finally, the threat of relegation has been shown to be a strong predictor of a club making a managerial change (de Dios Tena & Forrest, 2007). This is said to further increase the pressure on players and coaches to win, which further emphasises the need for them to be able to withstand that psychological pressure (Dohmen, 2008).

2.2.3 Job Security

If the team fails to meet these performance targets, there can be significant consequences for the employees of the club. Coaches tend to be given short-term temporary contracts that are heavily dependent on performance outcomes, which tend to be in the form of points or winning games (Nissen, 2014). Because of the intense pressure to win games, the coach's job is constantly under threat (Nissen, 2016), with the consequences for failing managers being that they lose their job (Cruickshank & Collins, 2012; Lago-Peñas, 2011). This is oftentimes midway during the season (Bentzen, Kenttä, & Lemyre, 2020; Nissen, 2014). These managerial changes occur frequently and are described as a unique trait to football (Gómez et al., 2021), with football coaches reporting significantly higher feelings of job insecurity compared to

the general working population (Hinojosa-Alcalde et al., 2020). This is no different in Scotland, with the average tenure of a manager lasting only 18 months (Soccerbase, n.d.). Job insecurity is said to be a normalised integral part of being a high-performance sports coach (Wagstaff et al., 2016). However, lacking security in your employment poses multiple psychological difficulties. Firstly, it causes heightened levels of anxiety, which can have damaging effects on mental well-being (Bentzen, Kenttä, Richter, et al., 2020). As well as this, it can lower the individual's self-esteem, reduce their job satisfaction and performance, and cause burnout and depression (Bentzen, Kenttä, Richter, et al., 2020). As a result of this, it has the ability to ruin the coach's motivation, which can then erode their commitment and loyalty to the team or the club (Bentzen, Kenttä, Richter, et al., 2020).

Job insecurity impacts players too within the football environment. Whilst they stand less risk of losing their job, they are at risk of losing their place in the team if they do not produce good performances which increases feelings of employment insecurity (Roderick & Schumacker, 2016). Being benched is seen as a discreditable position that is sometimes threatened upon poorly performing players by managers and can indicate how the coach views their importance within the team, therefore challenging the players perceived competence (Roderick et al., 2016). As well as this, players are oftentimes signed on short-term temporary contracts (Bentzen, Kenttä, & Lemyre, 2020; Roderick & Schumacker, 2016). With this comes pressure for the players to perform well so they can earn a new deal. If not, their contract may not be extended. Despite reporting higher job insecurity when having a temporary contract (Klandermans et al., 2010), this is not always found to produce detrimental effects upon motivation (Bernhard-Oettel et al., 2005; De Witte & Näswall, 2003). Reasoning for this is the influence that the individuals' assessment of their employability plays, with it being shown that individuals who perceive themselves to be competent and able to get an equivalent role elsewhere not being affected (Berntson & Marklund, 2007; De Cuyper & De Witte, 2008).

2.2.4 Internal Club Politics

As well as employment insecurity, other challenges have been identified that may be unique to a high-performance football environment. These include professional

conflict, organisation culture and power or influence (Malcolm & Scott, 2011). Football organisations have been described as being unprofessionally ran, with the upper management specifically being targeted for this (Bentzen, Kenttä, & Lemyre, 2020). In Bentzen et al. (2020) study that interviewed recently dismissed elite football coaches, all of the participants reported that despite being hired by elite level teams, the clubs were lead in an unprofessional manner by the board and administrative staff. They highlighted that despite being structured in a way that was aligned with other elite environments, with people employed in various senior roles, the clubs were managed poorly. This showed itself via a lack of role clarity and ambivalence between the non-footballing staff and the board which made reporting structures unclear. They also mentioned that the administrative staff created issues for the coaches as they tried to influence football related decisions. Furthermore, all of the coaches noted that there were hidden agendas held by various stakeholders that impacted their dismissal. These sources were said to be board members, media, money, alliances, and power struggles (Bentzen, Kenttä, & Lemyre, 2020). Because of this, it is suggested that elite football coaches have to do more than simply winning games to ensure some degree of job security as they must also gain the approval of the relevant stakeholders (Potrac & Jones, 2009).

2.2.5 Youth Development Pathway

Within a football environment, a club's ability to develop young talent into first team players is vital in the pursuit of excellence (Reilly et al., 2000). As well as bolstering the first team, talent development (TD) can be profitable for clubs if they are able to sell young players on to other clubs (Hague & Law, 2021). TD in football is complex as coaches have to balance long term player development with short term success (Aalberg & Sæther, 2016). A common way to develop talent is via a youth development academy. In academies, players are brought into the club at young ages and given high quality coaching and support to help maximise their potential so they can play for the first team or be sold (Adams & Carr, 2019).

Within academies, there are certain characteristics that ensure (or not) the quality and effectiveness of the environment. In a non-footballing setting, Henriksen et al. (2010) demonstrated these differences when exploring the holistic environmental approach

to talent development. The environments that were successful in promoting young talent had supportive relationships amongst the training group, proximal role models, a focus on long-term development, a strong coherent culture and supported the athlete's psychosocial skills (Henriksen et al., 2010). Similar traits were also identified as being important to youth football academies in England (Mills et al., 2014). When looking specifically at what oriented the academy towards achievement, the researchers highlighted the importance of the environment being disciplined, challenging, engaging, and inspiring (Mills et al., 2014). Here they described the importance of the environment being structured, with there being clear standards and boundaries for the athletes to adhere to. The environment also had to be demanding of the footballers, and there had to be a clear pathway into the senior team (Mills et al., 2014). Mills' et al. (2014) findings were congruent with those in a prior study who again reinforced the importance of role models clear expectations and self-discipline (Martindale et al., 2007). Contrastingly, environments that were unsuccessful at developing talent focussed solely on winning at all costs and short-term success. Coaches in this environment also demonstrated too much control which impacted the athletes' autonomy and didn't give their athletes' enough time to heal from injuries (Henriksen et al., 2010). Finally, these environments also lacked a coherent organisational culture, which contained a lack of common objective and unclear values and standards (Henriksen et al., 2010).

2.3 Culture

In the sports psychology literature, the terms team environment and culture are seemingly used synonymously, with culture not appearing to have a clear definition in social science (Shteynberg, 2010). However, this may be a shortcoming, with the terms describing different elements of an organisation, despite the two sharing obvious links and similarities. The culture of a group underpins the environment, with it describing the values, beliefs, behaviours, attitudes, and practices that inform the group behaviour of a team (Frost et al., 1985; Salcinovic et al., 2022; Shteynberg, 2010). Cultural dimensions theory describes an organisations culture as the collective programming of the mind that distinguishes one group from another (Hofstede, 2011). Within teams, culture develops as the individuals within it interact with one another (Chow et al., 2009). It is said to be a prominent contributor to the success of a team

(Cole & Martin, 2018). Culture has a large impact upon athletic performance as culture alters an individual's thoughts and feelings as well as their behavioural response, therefore playing a role in shaping an individual's self-identity (Andersen, 2011; McGannon & Smith, 2015). The values that an athlete displays in sports are said to be constrained by the character and culture of the social institutions in which they play (Vaughan et al., 2021). Teams that possess a strong winning culture are said to lessen the negative consequences associated with intra-team conflict and collective failure (Jackson, 2011), as it enhances positive supportive behaviours by outlining clearly defined roles, aligned values and organisational policies (Breitbach et al., 2017). In terms of building a positive culture, it was found that teams that utilise group targets, encourage communication and positive conflict shared a greater bond than those that didn't (Callow et al., 2009). However, within elite football and elite sport as a whole there are a variety of cultural challenges that teams oftentimes face (Salcinovic et al., 2022). These challenges include communication breakdowns between departments, a strained coach-athlete relationship, interference from owners or board members, negative media scrutiny and staff having to justify their importance to the success of the team (Eubank et al., 2014).

In terms of the key factors that influence the culture, a recent systematic review sought to identify cultural factors that influenced team function within a high-performance sports setting (Salcinovic et al., 2022). Within their review, they recognised certain variables which were key to the team's ability to work together and its effectiveness. The variables were leadership that aligns the values of the team towards a common goal, supportive team relationships, communication, and feedback (Ekstrand et al., 2018; Porter, 2005; Salas et al., 2005; Zaccaro et al., 2001).

2.3.1 Leadership

Leadership is a fundamental part of a team's function as it relates to the effectiveness of the team (Cotterill & Fransen, 2016). The main internal driver of the team culture has been shown to be the head coach or manager (Smith et al., 2007). Previous literature points to the sizeable impact the coach has on their players, with them impacting on player anxiety levels, enjoyment for the sport, confidence, and perceived competence (Horn, 1985; Scanlan & Lewthwaite, 1986; Scanlan & Passer, 1979;

Sinclair & Vealey, 1989). Their impact is so significant as they spend many hours interacting with the players during training and competition periods (Sánchez et al., 2017). The coach drives the culture for the team by implementing their beliefs and values and are seen as an educational figure for the players (Gagne, 2003). It is said that the values that a coach possesses guides their actions both consciously and unconsciously (Lyle, 2005), though there is a scarcity of research on this topic.

As well as the coach, leadership amongst the playing squad is also important to improve the motivation and performance of the group. Within the culture of a football team there is a predetermined athlete leader in the form of the team captain, as well as an informal group of leaders (Cotterill et al., 2022). Strong leadership within the squad is important for coaches who are trying to build a winning culture as they have the ability to improve team cohesion and identity, player satisfaction, the confidence of the group and the motivational climate (Cotterill & Fransen, 2016; Day et al., 2014). As well as this, the leadership demands of a team outweighs the ability of a single figure, meaning that the coach needs others within the group to help them in motivating players to reach the team's goals (Duguay et al., 2019; Loughead et al., 2006). In football, the team captain is often looked at for their leadership before anyone else. They play an important role as they act as a liaison between the squad and the staff, as well as lead the team during activities and events (Mosher & Roberts, 1981). However, in many cases there is not a clear captain within a team who possesses strong leadership skills. A 2017 study indicated this when they surveyed athletes across multiple team sports, with the data showing only 1% of the participants viewed their captain as the best leader in the 4 different leadership categories (task leader; motivational leader; social leader; external leader) (Fransen et al., 2017). Because of this, for a team to build a winning culture it is important to have a distributed leadership model where there are a group of leaders within the playing squad (Zhang et al., 2012). Having a shared model influences others within the group from a different perspective than an elected leader such as a captain or a coach, as the relationship lacks the downwards power dynamic (Fransen et al., 2017). Oftentimes within a football environment, this materialises as a formal athlete leadership group (Haddad et al., 2021). This group provides leadership on the pitch, as well as having an influence in decisions over workload and training (Haddad et al., 2021).

2.3.2 Value Alignment and Discipline

When building a winning culture, another area that has been highlighted as being important to team success is the value alignment between the employees and the organisation (Bentzen, Kenttä, Richter, et al., 2020). When the values of both the individual and the organisation are aligned, there is a positive effect on psychological health (Bentzen, Kenttä, Richter, et al., 2020; Maslach & Leiter, 2008). Results from various studies report that when there is value alignment, individuals display greater levels of motivation, energy, initiative, and effectiveness (Pohling et al., 2016; Siegall & McDonald, 2004). Alternatively, when the values are maligned, employees display greater stress and anxiety which if not dealt with can lead to burnout (Siegall & McDonald, 2004) and a significant reduction in motivation (Bentzen et al., 2014). The literature establishes that it is the leadership figures within the organisation (e.g. the coach) that guide the team's values (Lyubovnikova et al., 2017). In football there are various methods that coaches use to ensure the values are aligned. These methods include setting team goals, creating a code of conduct, and implementing disciplinary measures (De Waegeneer, 2015; Maitland & Gervis, 2010). Setting collective goals has been shown in the past to have positive effects on the culture, with it being positively correlated with task-orientation and perceived competence (Haga & Idén Nordin, 2015). As well as this it increases accountability of the people within the environment (Salcinovic et al., 2022).

The creation of a code of conduct further serves to hold the players accountable to the team ethics (Stewart et al., 2005). This could be especially relevant to a football team, where it is reported that poor behaviour is common in football, being rooted in the culture at all levels of the game (Bell-Laroche et al., 2014). Code of conducts are generally introduced by the manager of the team, without having any discussion with the players (Kelly & Waddington, 2006). Therefore the rules and the way in which they are enforced are typically left to the manager's discretion (Kelly & Waddington, 2006). If players break the code of conduct, they tend to be punished (De Waegeneer, 2015). The way the rules are enforced varies from club to club as the culture varies, however, a disciplinary measure that was reported as common within English Premier League clubs was financial penalties (Kelly & Waddington, 2006). This was said to be a cause of financial stress for players at lower levels, who are not getting paid as much as

those in higher leagues (Kelly & Waddington, 2006). Verbal abuse, intimidation and even physical violence were also cited within this study as ways to control player behaviour (Kelly & Waddington, 2006), though this has been found to increase anxiety levels and have a detrimental effect on performance (Baker et al., 2000).

2.3.3 Relationships within the Environment

The above cultural components all have an impact upon the relationships within the team. Interpersonal relationships are described as being one of the stressors in sports and can impact upon the collective efficacy of the team (Natsuhara et al., 2022). Within a football team, there are two key dyadic relationships: the bond between the players; and the coach-athlete relationship (Jackson & Beauchamp, 2010). A major part of the relationship between athletes is the level of cohesion within the team (Carron & Chelladurai, 1981). Team cohesion defines the propensity for a team to bond together to achieve a common goal (Carron et al., 2002). There are two different types of cohesion: task, which relates to a group's integration and commitment to their task; and social, which relates to the social integration of the individuals within the group (Eys et al., 2009). Previous research has demonstrated that having a strongly bonded team could have performance benefits (Eys et al., 2019; Godfrey et al., 2021; Tziner et al., 2003). A significant correlation was found between the result of football matches and the players perception of social cohesion, indicating that a team with a greater bond is more likely to win more games (Tziner et al., 2003). Further to this, improved group cohesion was found to increase the athletes within its capability to cope with stressful scenarios, as it was found to positively impact mental toughness (Gu et al., 2022).

As well as the cohesion of players within the team, the coach-athlete relationship plays a significant role on the motivation of the team (Jowett, 2007). This relationship is defined as a unique relationship, in which the emotions, thoughts and behaviours of both parties are mutually and causally interconnected (Adie & Jowett, 2010). A wide number of studies highlighted the positive psycho-behavioural benefits of a coach-athlete bond that was supportive (Gullu, 2018; Isoard-Gautheur et al., 2016; Mills et al., 2014; Olympiou et al., 2008). Researchers who investigated the key features of elite level English football academies argued that the coach was a significant member

of an athlete's support network, which was found to be a vital part of what made them successful (Mills et al., 2014). They found that the coaches in these environments were always available to the athlete if they were needed, and the players had access to a variety of different specialists if they needed them (Mills et al., 2014). The way they communicated with the players was also noted as an important feature, with them showing interest in other aspects of the athlete's life and speaking to them about their well-being (Mills et al., 2014). Tying into what was previously discussed regarding AGT, the coach-created motivational climate also has a significant impact on the coach-athlete relationship and subsequently the athlete's motivation within team sports (Olympiou et al., 2008). Upon a correlative analysis of the Perceived Motivational Climate in Sport Questionnaire 2 (PMCSQ-2) (Newton et al., 2000), it was determined that task involved items were associated with athletes experiencing a greater level of closeness, commitment, and complementarity with the coach. Opposingly, ego-involved items were correlated with lower levels of closeness, commitment, and complementarity (Olympiou et al., 2008). This was further supported in a study that researched the impact of mastery avoidance and approach goals on athlete burnout within the coach-athlete dyad (Isoard-Gautheur et al., 2016). It was identified within this study that a healthy coach-athlete relationship was negatively related to athlete burnout, and that the quality of the coach-athlete relationship was positively related to mastery-approach goals, therefore suggesting that to improve the quality of the coach-athlete relationship, and subsequently reduce the risk of athlete burnout, it is important to promote a mastery climate approach (Isoard-Gautheur et al., 2016). As well as this, a healthy coach-athlete relationship promotes "passion" for the athlete's sport, indicating that it can increase the level of intrinsic motivation the athlete has (Gullu, 2018).

However, the bond within football teams can differ to other sports due to the nature of it. Whilst football is a team sport, the culture within a football dressing room differs to that of other sports, as it often forges individualistic attitudes amongst the players which creates rivalries between teammates to gain starting positions (Roderick, 2006). Whilst there are many reasons why this is the case, one that has been recognised consistently in the literature is the notion that a player's status dictates their ability to progress to a higher level as it is associated with their value (Roderick & Schumacker, 2016). The reputation of a player is volatile and can be built up through improved

performances, exposure, and skill acquisition. Likewise, it can be hampered by poor performance or injury (Szymanski, 2010). To take advantage of this extra motivation, the coach can sometimes spark rivalries within a team by giving some players favourable treatment and creating frequent competitions in practice (Newton et al., 2000). This can lead to the dressing room being more egocentric and self focussed, which can impact upon the culture by increasing inter-individual comparison as the orientation shifts towards ego orientation (Boncu, 2020; Reinboth & Duda, 2006). Though some view rivalry for positions as a positive, with-it motivating players to improve, it can have detrimental effects on team morale with it being cited as a cause for cliques and in-fighting (Boncu, 2020). Cliques are generally associated with negative connotations surrounding exclusivity, stress, and a lack of team cohesion (Eys et al., 2009).

2.3.4 Performance Feedback

Finally, performance feedback has the ability to build the team culture (Bachrach et al., 2001; Salcinovic et al., 2022). Performance feedback provides team members with opportunities to work cooperatively with one another, and thus having the potential to shape the team culture and the behaviours and attitudes of those within it (Salcinovic et al., 2022). Because of this, it has the ability to fulfil or frustrate psychological needs (Standage, 2023). As well as this, it allows common team goals to be formed, which as discussed earlier can build team culture as they are positively correlated with task oriented environments and with perceived competence (Haga & Idén Nordin, 2015). Furthermore, it increases the players understanding of the standards that they are required to reach (Johnston et al., 2011). Despite this, it can have a negative effect on the culture if it is not perceived correctly (Tristán et al., 2021). For example, it is important for coaches to provide corrective feedback with reasonable and specific justification to prevent having a negative impact on the athlete's motivation (Tristan et al., 2017). Further to this, the way in which some data is used and disseminated within football is largely unresearched. For example, despite GPS data now being commonly collected by professional teams (Cummins et al., 2013), little is known about the effect it has upon the culture. Whilst perceptions towards the use of the data has been researched (Nosek et al., 2021), the impact that it has on the climate orientation or the

players psychological skills has not been, despite it potentially being used for social comparison which could fuel an ego-oriented climate (Park & Park, 2017).

2.4 Summary

This phase of the research project has told us that players and coaches need to possess high levels of the PCDEs to be successful at the elite level. Specifically, it is vital that they are motivated to be successful as their motivation underpins key characteristics such as resilience, focus and self-regulation that are important to deal with the unique demands that elite football poses. PST can be used to improve these skills, as can setting up the environment and culture in a way that satisfies the individuals psychological needs. Within the environment, it is recommended that it is orientated towards a mastery approach as opposed to a performance approach as research shows it better fulfils the needs (Sarı, 2015). Factors such as environmental pressure, job security, internal politics, and the youth pathway all impact upon elite football environments, and subsequently player and staff motivation. As well as this, the culture created by the coach and leaders within the group is important to directing the team values which are reinforced with disciplinary measures. The athlete's perception of the group cohesion and the coach-athlete relationship are also key to the promotion of their psychological skills, as is the way that performance feedback is utilised. However, it is clear that more research has to be done focussing upon first team environments, and the culture within this.

3. Phase 2 – Interview Study

The second phase of the research project comprised of an interview study. The purpose of this phase was to identify the psychological attributes of the athletes and coaches within the club (Objective 1). It also served to identify the socioenvironmental factors specific to the club that influence the participants team culture and motivational characteristics (Objective 2). After this, the findings would be compared to those in Phase 1. By doing so, it allows the researcher to highlight issues at the club that may be inhibiting player and staff motivation, and therefore suggest recommendations to implement (Objective 3). Finally it served to discover the perceptions of the players and staff on the use and feedback of GPS data at the club, and how this impacts the environment (Objective 4).

3.1.1 Context

This research focusses on male players and coaches within a first team environment of a full-time professional football club that resides in the Scottish Championship. The researchers have refrained from naming the club so as to maintain anonymity for the participants at the club. For the majority of its recent history, the club has competed in the second tier or lower and has not been a part of ‘topflight’ football for over thirty years. The ground is located within one of the most deprived areas in the country, with crime, health, education, and income all scoring poorly in a recent Scottish Government review (SIMD, 2020). In addition, when compared to other clubs within the division the club has limited finances, with the budget being described as “a relegation budget” by the club’s directors and manager before the start of the 2022/2023 season. Due to these financial challenges, the squad size is small and there are very few full-time coaches. Despite the club’s fanbase being relatively small in size and from a low-income area, it is community owned, and is financially reliant on fans paying a monthly subscription fee, buying season tickets, and attending games. Attendances in recent years have been low, with the ground typically being less than 20% full on matchdays (TransferMarkt, n.d.).

3.2 Methodology

3.2.1 Positioning of the Researcher

Despite previous studies furthering the collective knowledge around motivational climate within sport (Boyce et al., 2009), it has been noted that oftentimes the researcher is separated from the socioenvironmental factors that influence athlete motivation (Keegan et al., 2014; Kingston et al., 2018). Because of this, they are unable to provide an effective commentary on the issues that the clubs employees' face on a regular basis. In order to combat this, the lead researcher in this study was placed within the club for the 2021/2022 and 2022/2023 seasons as the First Team Sports Scientist. In this position they were tasked with physically preparing the players for competition and recording and monitoring the GPS statistics for training sessions and matches. Furthermore, they worked closely with the coaches in running training sessions, with them leading the team warm-ups and strength and conditioning programme. Because of the hands-on role, they were fully immersed within the club environment and had built up relationships with both the players and coaches; being accepted as an integral part of the team. Being within the team environment guided the line of questioning, as the researcher was aware of issues specific to the club. It also allowed the researcher to build trust between themself and the participant population prior to data collection, which may have allowed participants to open up on subjects they may feel uncomfortable discussing with an outside researcher (Guillemin et al., 2018). As well as this, due to the fact that there is little research done on this type of environment, in that it is full-time professional team that does not compete at the elite level, it would be difficult to draw conclusions about the culture without having experienced it first-hand.

3.2.2 Participants

Potential participants were both screened and recruited for this study by the researcher in their role as the first team sports scientist at the club. All participants were provided with the reason for the study and gave written consent. The study received a favourable opinion by the ethics committee at Edinburgh Napier University (2822891) and passed a Risk Assessment (SESMRes-009) with a medium level of risk being assigned to it.

The participants consisted of players (n=6) and coaches (n=3) from of a professional football club competing in the second tier of Scottish football. All players were male, full-time, first team squad members over the age of 18. This included a player who was at the club on loan from another club (n=1). The players ages ranged from 19-25 years (M=22.00, SD= ±2.37). The experience playing for the club varied between participants, with some having been at the club for several years, having come through the youth system (n=2) whilst others were in their first year (n=4).

All the coaches were male, over 18, possessed UEFA B coaching licence, and were directly involved with the first team squad. The age range of coaches was 34-57 years (M=43.33, SD=±12.10). Their experience at the club varied, with some having been brought in by the previous manager over a year prior (n=2), and the other was in his first year (n=1). Each of the participants were allocated a Participant I.D. to protect their confidentiality and credit the quotations.

3.2.3 Interview Guide

The interview guide (see Appendix) included questions that allowed for in-depth discussion on all of the four main research questions:

1. To understand the motivational attributes and psychological skills that are necessary to attain performance related goals at an employment and on-pitch level respectively.
2. To review the environmental or cultural influences at the club which either support or inhibit these attributes.
3. To explore how the club environment and/or culture be enhanced to better promote desirable motivational characteristics.
4. To analyse how the dissemination of football performance related outcomes (via GPS data) fosters individuals' motivational qualities and their perceptions of their TDE.

The interviews were initiated with some familiarisation questions based on the participant's background in football and their experiences as a young player in order to build rapport so as to improve the quality of the data collected (Andersen & Mayerl,

2019; Gremler & Gwinner, 2008). These questions aimed to build a rapport with the participant and encourage them to settle into the interview process by introducing them to the format that main body of the interview would take.

The second section of the interview guide was designed to build a profile of the players own psychological characteristics, and those they feel are important to be successful within football (e.g. “if you were to describe an elite players mentality, what would it be like?”; “out of these skills you’ve identified, which ones do you think you possess?”; and “what is it that drives you?”) (Deci & Ryan, 2010; MacNamara et al., 2010). Further to this they provided an opportunity to assess the individual’s utilisation of various psychological skill training methods (e.g., “Do you set any personal goals or targets?”) (Thelwell et al., 2006).

The third section of the script focussed on the players’ perceptions concerning the culture and environment at the club, and how that aids or inhibits them (e.g. “Do you think there is a good team spirit or feel around the club?”; “How would you describe how people treat each other in the club?”; and “Is there anything that you can think of that would improve the group dynamic?”) (Balaguer et al., 2018; Henriksen et al., 2010; Kingston et al., 2018). Following this section players were given the opportunity to make any closing remarks or ask any questions. Whilst the interview script was structured in this way, flexibility was given to the researcher to adapt the order of questioning based on the topics addressed by the participant and improve the fluency of the questioning. The script was redrafted multiple times after consultation with the supervisory team and piloted with an independent volunteer not related to the research project so as to improve the quality and flow of the questioning.

3.2.4 Procedure

The method for this phase of the project was a cross-sectional study using individual face-to-face semi structured interviews. All interviews were completed in-season between the months of August to December 2022. Semi-structured interviews were selected so that common themes could be identified, whilst also allowing the researcher the freedom to ask questions spontaneously and use probes to explore

and deepen understanding of the players comments and viewpoints (Wilson, 2014). Interviews were conducted in a private setting at the team stadium to ensure confidentiality and clear audio recording. The interviews were recorded using a Dictaphone (Olympus, n.d.). The data was transcribed verbatim by the researcher, removing all identifiable features during the process. Accuracy of the transcribed audio was assessed by the researcher, who listened to the recordings multiple times to remove any errors. Once transcribed, the raw data was securely deleted from the recording device.

3.2.5 Data Analysis

Interviews ranged in duration from 30 minutes to 51 minutes (M= 42:54 mins, SD= ±7.69). The rereading and editing also aided in the familiarisation as it involved listening to the recordings multiple times whilst actively editing the transcripts. The transcripts were analysed following Braun and Clarke's (2013) guidelines for thematic analysis. This process involves 6 stages: (1) familiarisation with the data, (2) coding, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes and (6) writing results. Braun and Clarke's (2013) guidelines were selected as they provided a systematic approach to explore the data, whilst also providing trustworthiness as it is a standardised method.

Familiarisation

The familiarisation process involved the researcher listening back to the audio recordings multiple times, whilst making amendments to ensure participant confidentiality, but also ensuring that they became fully immersed in the interview data. Doing so was necessary for trustworthiness as it allowed the researcher list key ideas and recurring themes (Pope et al., 2000).

Coding

During coding the researcher used a colour coding system to analyse each transcript by selecting and highlighting meaningful units (MU) relating to each of the research questions. These meaningful units were copied into an excel file, tagging the participant number and the page of the transcript to permit cross-checking in the next

phase. Coded transcripts were also sent to the supervisory team to triangulate the data, which improves the research credibility as multiple perspectives are interpreting the data (Aguilar Solano, 2020).

Searching for Themes

Because of the colour coding system used during the coding phase, the researcher was able to quickly identify themes by grouping meaningful units together that shared similarities and/ or were related to the same research question. A deductive-inductive approach was utilised to generate the themes. This was implemented as the literature review had highlighted certain areas that the researcher felt necessary to explore, namely the PCDEs (MacNamara et al., 2010) and SDT (Deci & Ryan, 1985). However, the themes within those pre-established areas were identified inductively. This approach was used as opposed to a purely deductive or inductive approach to ensure a trustworthy representation of each area, whilst also allowing the unique experiences of the participants to emerge (Braun & Clarke, 2006).

Reviewing and Naming Themes

The meaningful units were then sorted into properties and reviewed to ensure they captured the true meaning of the data from the interviews. The labelling of each property was carefully considered, related to similar topics from the literature, and discussed with the supervisory team to make sure they were clear and reflected their respective accumulated elements of the data. Properties were then grouped into categories, and categories into dimensions.

Writing Results

The sixth step involved the formation of a Schematic Model (Figure 2) that encompassed the higher themes, dimensions and categories found within the transcripts. The properties and meaningful units were identified when searching for and reviewing themes but were omitted from Figure 2 due to the wide range of properties and vast number of MU. The key properties are instead discussed within each subsection in the following results (Section 3.3). The number of participants who

contributed MU relating to the identified properties was recorded to display the frequency of comments.

3.2.6 Trustworthiness

As the data collected during this phase of the project was qualitative, it was suggested that the researchers showed their decision making during the data collection and analysis stage in order to display the quality of their work (Sparkes & Smith, 2014). Qualitative researchers must show that the data analysis and collection procedures have been undertaken in an accurate, reliable manner so that peers can determine the credibility of the work (Nowell et al., 2017). There were some specific measures implemented during the data analysis phase of the project to ensure trustworthiness of the data such as triangulation and familiarisation. However, there were also more general measures taken to ensure trustworthiness of the research design. Trustworthiness techniques that were implemented in this phase of the project were prolonged engagement with the participants through the role of the researcher at the club, prolonged observation and peer debriefing so as to improve credibility of the data (Connelly, 2016). As previously mentioned, the researcher was placed as a member of sports science staff at the club from September of the 2021-2022 season. Therefore, the researcher had approximately a year to assimilate themselves in the club environment and build trusting relationships with the prospective participants prior to data collection. Trusting the researcher is said to be a crucial element in improving the quality of the responses in qualitative work (Guillemin et al., 2018). As the interviews questioned the participants on personal topics such as setbacks in their life and gave them the chance to confront issues within their workplace, gaining trust was imperative to prevent participants withholding information for fear of their response being fed back to staff at the club. Observation was another technique used, with specific focus placed on observing interactions between the people at the club and the culture. Persistent observation allowed for the researcher to witness the cultural nuances and the prospective participants psychological skills within their environment (Lincoln & Guba, 1985). As the researcher was embedded within the environment, they were able to gain a deeper understanding of the key elements of the culture and uniquities of the club, which they could then focus the interview script around, which could improve the richness and depth of the data (Black et al., 2021). Finally, for peer debriefing, multiple

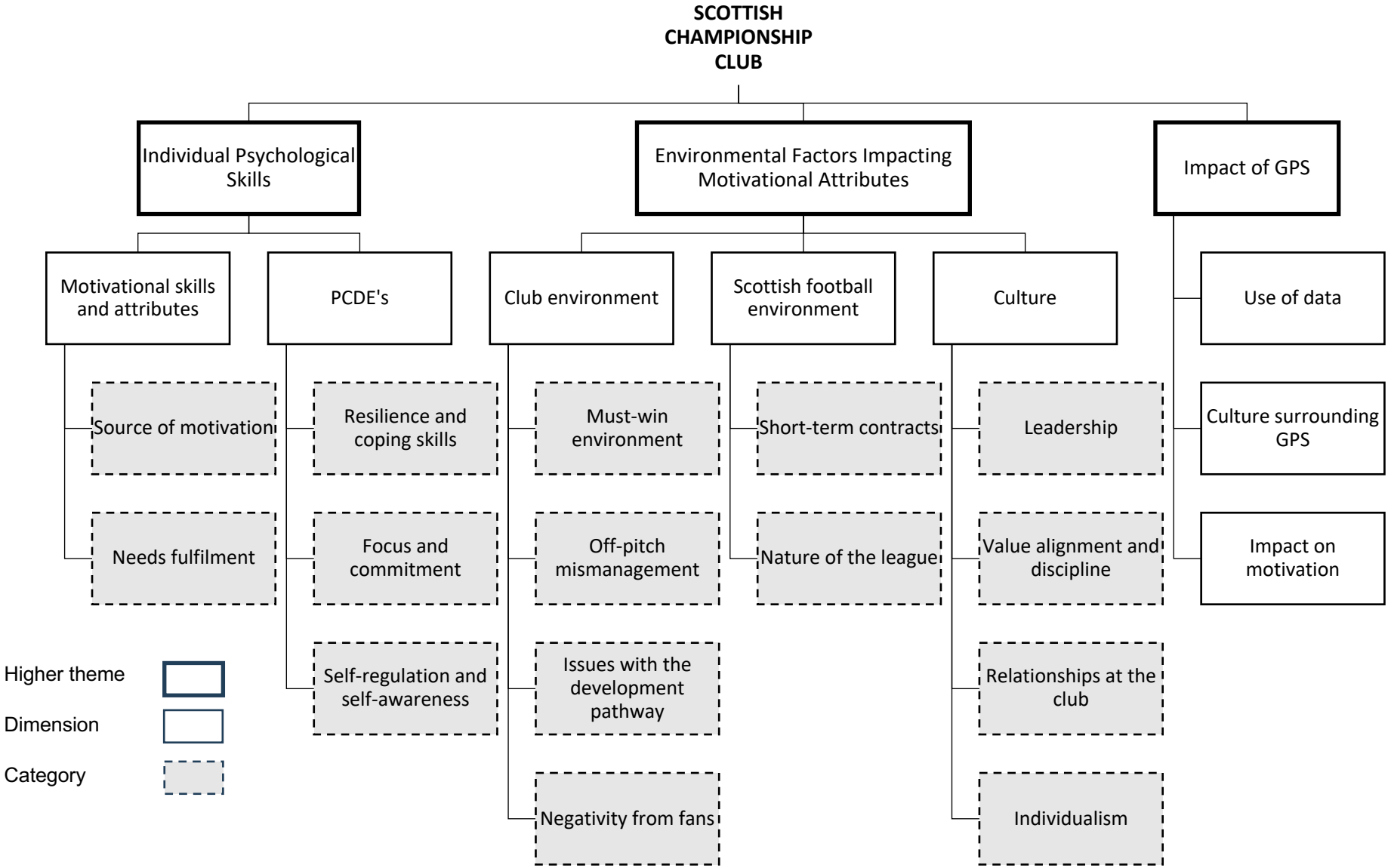
meetings were conducted with the supervisory team to assess the transcripts, the MU and the categories extracted from them. This builds credibility and validity of the methods and data analysis as it critically reviews the transcript, and the interpretations made by the primary coder during the analysis stage (Lincoln & Guba, 1985; Sparkes & Smith, 2014). During the meetings, the peer can assess whether the researcher has missed any points, overemphasised lesser important issues or repeated any, which then allows the researcher to make changes in the following interviews (Janesick, 2015).

3.3 Results

From the interviews, over 6 hours of data was collected. Player data accounted for more than 4½ hours of recording time and coaches over 1½ hours. A total of 1314 MU were extracted. Each of the MU were given a property to group similar MU together. The properties were then grouped into categories, which were then related to a dimension to answer the research questions. From the data, three higher themes were identified: the psychological attributes of the participants, the environmental factors that impacted upon the psychological attributes, and the impact of GPS upon the participants. A schematic representation of the data collected from the interviews is shown below (Figure 2).

Figure 2

Schematic Representation of Higher themes, Dimensions, and Categories within the dataset



3.3.1 Individuals Psychological Skills

The first theme that will be discussed will be the psychological attributes of the participants. The responses gathered in this section were predominantly gathered from the second part of the interview script. This aimed to answer objective 1 of the research question, which was to understand to the psychological skills required to attain performance goals. This section will initially focus on the participants source of motivation and their needs fulfilment (Deci & Ryan, 2010), before moving onto discuss their psychological characteristics they possess (MacNamara et al., 2010). The dimensions that were extracted from the interview transcripts were related to motivation and the PCDEs. They will be discussed with the attributing categories below.

Motivational Skills and Attributes of the Participants

As previously stated, although the environment and the culture of the team has an impact on the psychological characteristics of the players and coaches within it, they must already possess a baseline level of these skills (Gagné, 2008). Out of all the participants interviewed (n=9), all of them highlighted motivation as a psychological trait that is important to success. For this dimension, the source of motivation and needs fulfilment were identified as the primary categories.

Source of Motivation. The sources from which their motivation stemmed varied significantly between participants'. Both intrinsic sources, which related to those from within the participant, and extrinsic sources which tend to be environmental (Legault, 2016) were mentioned by participants, with some saying they are driven by both sources. For those who were predominantly intrinsically motivated, many described their love of football as being their primary motivator (n=4):

> "I would say that's like what always drives me, like just because that's what you want to do… I would say that is the motivation, because you know deep down that's what you want to do. Even when you're having a bad day, you know, still like it's still what you want to do." (Player E)

As well as simply loving the sport, many described playing as being a lifelong goal or aspiration for them (n=4):

> “I wouldn't let anyone say no. I just had that drive and determination that this is all I’ve ever wanted to do is become a professional footballer and I wouldn't stop until I got that chance.” (Coach A)

One participant also described how their love of the sport helps to drive them on a day-to-day basis:

> “You just really want to do it, so I think that pushes you to do it. Like, you don't see it as a job, you see it as that's what you want to do, and you want to keep doing it.” (Player E)

Whilst some did mention feelings relating to intrinsic motivation, there was a lot of participants who noted external sources as being their primary motivators. Of these external sources, the main driver was described as wanting to prove a point (n=7). Within this, 2 different scenarios were identified. On one hand, participants wanted to prove to themselves that they are good enough to play at the Championship level (n=2):

> “Not prove them wrong, just try and prove in general. Prove yourself in general to show what you can do, I wouldn’t say prove people wrong as such. But I'll just prove what you can do.” (Player E)

On the other, they wanted to prove people who doubted them wrong (n=6):

> “Yeah, I love having people back home speak s*** about me, because then I know that they're jealous of me and that they want to be in my position when they’re not. So that's what I want to do. I want to be able to every summer when I go home. Basically, put the finger up and be like, there you go. Thanks for doubting me.” (Player B)

As well as this, one of the participants was driven by both of these scenarios when discussing a time in which they had a high level of motivation playing against a previous club:

> “The game at the weekend I’m playing against my last club, and I wanted to prove a point… I'm better. I am better than the guys in my position at that club or that somebody was wrong about me.” (Player C)

Contrary to proving people wrong, the interviewees also mentioned how they were motivated to repay people who have supported them throughout their career by becoming successful. Sources for whom they wanted to repay varied, though the main source appeared to be their family members (n=3):

> “My dad moved halfway across the world. He hasn't seen my mum, and he's only seen my mom once in the past three years, two years, or something, just so I can do this. And he helps, he drives me places. He does things he does for me without me asking. I feel I've got to then repay him through this. I can't come here and just goof off and do nothing because then that's not worth what he's doing.” (Player A)

The coaches’ motivation appeared to stem from a different place. All three described how they are motivated to help the players in the squad better themselves:

> “I think as a coach your main aim is to do the best you can for the boys and that will never change.” (Coach A)

> “I want you to get a better life. I want you to try get out the environment that you're in.” (Coach B)

> “I get a real joy out of working with players and seeing them do well at the weekends and then sharing their journey with them.” (Coach C)

They also described how the consequences for failing to win motivates them:

> “You could lose your job. I could. If I'm not doing my job properly as well, I could... whether it be the teams winning or not, if I’m not doing my job properly then I could be asked to leave.” (Coach C)

Needs Fulfilment. A reason for this varying degree of motivation is the aspects of the club environment and culture that impacted upon their need’s fulfilment. As described in phase 1, the fulfilment of an athlete’s three key psychological needs is what increases and decreases their level of motivation according to self-determination theory (Deci & Ryan, 1985).

Competence. With regards to the perceptions of their three key needs, differences were observed amongst the participants. Focussing initially on the perception of competence, some members of the playing squad felt as if they were able to reach a higher level (n=2):

> “I'd like to say I have a better I'd have a great chance of going to higher level not saying like the English Prem or even the Scottish Prem. But I'd like to say if I was to be able to leave here and after playing a good six months, I'd like to say I'd be able to move to a higher club maybe at down in England or something like that.” (Player D)

> “I went on loan in the championship last year as well. Felt as though it was too easy for me playing against strikers even though we were losing games. No goals were my fault at all in 17 games. Not one goal was my fault. So for me I would like to see myself in the Premiership next year.” (Player B)

On the other hand, there were more players that demonstrated self-doubt when asked if they could play at a higher level (n=4). Reasons for this varied, with one participant describing feeling like they were undeserving of recognition after being rewarded for

what they perceived to be a poor performance, with them believing there was favouritism showed towards them:

> “I felt like there was one week I thought someone else deserved it and I got it and I was like, I didn't play well today, but I just for the reason I thought I was getting it was just because I'm kind of a young boy coming through the youth like the fans like my attitude.” (Player D).

> “But the reason I thought I was only getting given that man of the match was because I was a young boy coming through the youth. So it was like in my head, like even when I was getting given that man of the match, I didn't think I deserved it.” (Player D)

Others showed a lack of self-belief, of which was attributed to setbacks that had occurred previously during their career:

> “Everything I was doing was getting scrutinized every day because I didn't know how to dive, I didn't know how to catch a ball properly, I didn't know how to do anything properly. So every time I try and catch a ball, just dropping it and they're saying, look, you need to do this instead. That was difficult getting told hey look sorry, no good.” (Player A)

> “There was national squad for under 20s World Cup qualifiers getting selected, and I thought like the teams not the greatest, it's a small country, not really football focused, but I thought, look, I'm playing. I'm second choice at a decent level, Championship at my age. There isn't going to be anyone else around. So I thought, yeah, I'll make the team. I didn't. But at that time coming into training here, I just didn't feel up for it.” (Player A)

> “We went to Rangers for the second one and I made, I mean, a pretty big mistake. … Thought I could go by the striker with my first touch, and he read me, robbed me and we were 1-0 down after 5 minutes at Ibrox. So I was like,

> oh, I shouldn't be here. Since then, that was the only time I've really thought I shouldn't be here.” (Player C)

Receiving short-term deals were also noted as an explanatory factor in self-doubt:

> “I wanted to sign a two-year deal at my club last season, they gave me a one year and then come January, I had talked myself into doubting my own ability because I was sitting on the bench, I didn't play the games.” (Player B)

Self-doubt also appeared to impact one participant’s confidence in their ability to achieve longer term goals, with it negatively impacting their commitment to it:

> **“**I’d love to go play in the Prem again and all that, but like do I think that's going to happen? I'm trying not to make that my goal in case I don't achieve it.” (Player C)

Autonomy. With regards to the players’ and coaches’ perception of autonomy, there appeared to be differences between positional groups. The data indicates that outfield players don’t get an input into the training sessions at the club (n=3):

> “No I wouldn’t say so no. No maybe after training like if you want to do extra then that's up to you. But with the core of the session’s setup, no, no, I wouldn't say you get to like choose.” (Player E)

> “I mean, we're in a football environment so we don't really have. Training wise, we don't have control on that. We can't give suggestions because unless you have your coaching badges, or your more of an experienced player coming to the end, you can have a certain amount of input, but training wise that's left up to the people that are, have their badges, have the qualifications.” (Player B)

The Goalkeepers however, reported differences within the level of control they have over their training schedule (n=2):

> “Sometimes with the goalkeeper coach, yeah, like, we'll just say to the coach and be like, oh, can we try this, or can we maybe do that? And he's quite like open in being like, yeah, it's fine if that's what you guys want, we can do that. So it's good.” (Player F)

> “Um the trainings, yes, every Saturday, Sunday, Monday the goalkeeper coach messages and says, “hey look, we get 20 minutes of Tuesdays session each. What do you want to work on?” Which is quite a lot of time actually, and it's good.” (Player A)

This difference in control was noticed by one of the participants, who described how an outfield player would not be able to approach the manager with suggestions:

> “Goalkeepers have a lot more of a say of that than the rest of the team. They can't go up to manager and go, hey, look, can we work on whatever kind of thing.” (Player A)

Some coaches also described a lack of control when they were initially brought into the club:

> “When I came in from the Academy, they didn't know me at all, so he just left me to my own devices, and I didn't get much say in anything. Like obviously I never would get any say in the team, but I just mean there was just a case of go and do your job.” (Coach C)

Participants did however convey receiving more control in other areas of the club. Namely within their diet, stating “you control what you eat” and within the gym sessions:

> “I do have most control of that. The lunch in here is fine for what it is. It's right after training so you need get the carbs and that something new. The gym, the gym stuff is good as well. You can go outside as well. So that's part that's in your control.” (Player A)

Relatedness. The key categories that were mentioned in relation to relatedness were the players relationship with the coaching staff, their relationships with their teammates, their connection to the environment and the respect they were shown. The two properties that were found when looking at the relationship with the coaches was the desire to impress the manager (n=1). Player D mentions the impact that a manager not liking him as a player has on him:

> “I want the gaffer to like me. Like every gaffer I've had, I'm like they've always liked maybe my work rate or like my wee bit between the teeth. Wee bit of anger I think like that's what they liked about me. So whenever some for instance a gaffer might not like the way I am, then I'm just like, woah, wait a minute.” (Player D)

They then mention the impact that not being selected for the team has upon them and how that drives them to further try impress the coach:

> “Now, for the moment, it's just because I'm not playing. So obviously when I wake up in the morning, I’m like, right, I have to be at it like I have to be because I need the gaffer to notice”. (Player D)

When participants mentioned their relationships with their teammates, the key factor that impacted their relatedness was the closeness of the bond with them (n=4). Some reported having a strong bond with the group, mentioning how despite it not necessarily being essential, it is helpful:

> “I think it helps if you get along with them, yeah, I think it helps. It's not, it's not essential because you're not going to get on the same with everybody, but I think it helps. Uh, which I think is quite good in here.” (Player E)

On the other hand, some reported having a poor bond with the group, reporting that they do not get on well with individuals within it. Despite this, they note that it does not impact them during matches and training:

> “On the pitch it will be you’re my brother, I don't care. I don't get on with boys in the dressing room. They don't like me. I don't like them. I don't care. It doesn't bother me my main focus is on the pitch, and we can fight every day off the pitch.” (Player B)

Another key element of the participants relatedness was said to be the respect they receive from others. Coaches in particular, described the importance of gaining the players’ respect, and how they think they gain it over a long time period. They also described how they gained the players respect when coming into the club:

> “I think you earn respect by giving respect to the players. If you treat them, let’s say not very nicely, they're not going to really respect you, are they? … I don't think you can just walk into a building and instantly gain respect. I think you have to gain that respect over months because you have to build up relationships with people.” (Coach A)

PCDEs of the Participants

This section will discuss the participants self-perceptions of their PCDEs and provide examples of them applying these skills in context. From the interviews, a wide variety of psychological skills were identified as being key to achieving performance goals for both population groups. These psychological attributes were identified as categories within Figure 2. They included resilience, coping skills, commitment, focus, self-regulation, and self-awareness.

Resilience and Coping Skills. The characteristic that was discussed the most was resilience and the ability to cope with pressure. Resilience and coping were described as a key trait for in variety of different contexts. The most prominently expressed properties were dealing with criticism, as well as overcoming setbacks and periods of adversity. In terms of dealing with criticism, some participants described the way in which they are able to overcome it. One described the attitude that they have which allows them to respond to criticism from their teammates:

> “You need to be in that mindset where you will argue and then you go, and it's done and then you're just teammates again.” (Player D)

Another described how they used the negative criticism as motivation to improve their game:

> “Setbacks in terms of, I had a few trials with certain clubs, and they were like you're too small. You just never done enough. You’re not what we’re looking for and these things stick in your mind, and they make you stronger, and they make you more determined.” (Coach A)

The same participant described what it felt like to have high levels of resilience, with them describing how they did not let setbacks impact their confidence:

> “Just like water off a duck’s back, it didn’t really affect me. I just went it's fine, no problem, just move onto the next one. It wasn’t like it lingered or festered and affected me in any way. It just gave me more ammunition, more determination.” (Coach A)

Opposingly however, some members of the team did not appear to be able to cope with setbacks or deal with criticism as effectively. A number of the interviewees displayed signs of low resilience as they were unable to effectively cope with criticism, or they let setbacks significantly impact their performance (n=4). One participant

described how they were impacted by a mistake they made in a preseason game, where they dwelled on the error for a substantial period afterwards:

> "…that preseason game. Where I screwed up and lost that goal. That was not a good experience for me going back on that bus. That was my first game. Getting back on that bus that's all I could think about really. I was sitting there going why did I do that? Why did I do that? As soon as I came out, I realized I've made a mistake here, and that's all I thought about… as soon as I got back in the changing room from there until I went to sleep that night that's all I could think about. Even actually the next few days that's what I was thinking about but I'm not sure how I came over that. To be honest, I think I came back in here and I was still thinking about it. (Player A)

Others described how when they make a mistake, they can lose composure and proceed to make even more errors (n=2). This appeared to happen earlier on in the season with them recalling a particularly bad defeat against rivals:

> "If you're spiralling, yeah, that's when like if you make a mistake and then it turns into like the f****** game against (rivals) it's like you know you're having a bad game. That's what I was disappointed about because I f***** it for I probably should've saved the first goal. Now I've definitely f***** it for the second goal. And then they scored the third, then the game was done. So I was already gone if you know what I mean. But like that, that can't happen you need to still f****** just kind of be like it is what it is, but it's easier said than done." (Player F)

Finally, it appeared as if a member of the coaching staff also struggled with their ability to cope with criticism as they report not being used to dealing with it (n=1):

> "I don't take s*** but I've got to take a wee bit of s*** in here, sometimes you need to eat humble pie, as I've been taught. I need to eat a bit humble pie sometimes. So sometimes it's a bit difficult." (Coach C)

In terms of how some were able to cope better than others, only one of the participants described how they used psychological skills training to help them overcome difficulties, with them describing how they use imagery to go back over mistakes (n=1).

> “I wouldn't say there Is really a method to it. I'll look at first, like the small-sided games because they just happened there. I'll look and go what goals did I concede? Could I have done anything about them? Cause that’s the main part of the game as a goalkeeper, like keeping the ball out the nets the main part of the game, so I'll look at what goals I concede. Should I have done anything better? Could I have done anything better? Then I'll try and think back of any passes I've misplaced and go through and go: “Was this what was I trying to do?”” (Player A)

Others mentioned how they sought external help from their support network or psychologists (n=2):

> “I went and spoke to a psychologist, the first team psychologist. And when I left there and I came to Scotland I've spoke to a psychologist there as well, but it's to do with off the field.” (Player B)

Focus and Commitment. Whilst mentioned in less detail, focus and commitment levels were also referenced as being important attributes (MU=51, 8 respectively). Within focus, there were two main categories that were identified: the ability to maintain concentration, and distraction control. Regarding the ability to maintain concentration, one member of the interview group described how they feel it is important to be concentrated for the full game:

> “It's one of those things you can do great for 85-88 minutes of a game and make one mistake or one, even ½ mistake, the other team score and then everybody forgets how good you are.” (Player C)

They outlined that they are able to do keep focussed during games by splitting the game into achievable intervals:

> “I break the game down, so I'll go right I only need to concentrate for 45 minutes… if I can concentrate from the minute the whistle goes till halftime, I can rest my brain for 15 minutes…the time I'm heading back out I’m like right, you just need concentrate for another 45 minutes.” (Player C)

He also mentioned that “I sort of self-prep myself before I go out, talk to myself”, indicating the use of self-talk to stay focussed. The interview group also discussed how losing concentration is one of the main attributors to making mistakes (n=2):

> “There'll be days or not even days, little bits where I’ll just take your mind off it, aw there's a goal.” (Player A)

To control distractions, the main technique that was highlighted by the participants was focussing on the parts of the game that they could control, otherwise they may become frustrated:

> “…that's another thing I've had to learn as well as like I can't make the boys score. I can only do my job, so there's no point in me worrying about boys missing chances and stuff because it'll just wind me up.” (Player F)

This was also described as being important for coaches, with two of the three coaches detailing it:

> “If I can't win the fight. There's no point in going into that, into that hostility. And if I can't control something, there's no point in getting involved with it.” (Coach B)

> “Stay away from stuff you can't control. If it doesn't control you, don't even think about it. Just concentrate on what you can do.” (Coach C)

In terms of commitment, the participants that mentioned it as a key skill described scenarios in which they had demonstrated high levels of commitment to achieve a goal (n=4):

> “I went on and got into the Academy the next year, because I tried and tried. I went and actually got in. I put a mattress down in our living room, got my dad to throw a ball so I could do that. I was doing that every day, trying to get in get back into the Academy.” (Player A)

> **“**I'd like to think 95% of the time at training I'm switched on and I do to the best of my ability.” (Player C)

Self-Regulation and Self-Awareness. The final group of characteristics that were identified as key in phase 1, and therefore investigated in the interview group was their self-regulation. The participants described various scenarios in which they failed to manage their emotions, when things do not go their way on the pitch (n=5). In one example, a participant described how they can get incredibly frustrated with their teammates at training. However, they also mention how they become aware of this, and take steps to reduce their level of anger:

> “Sometimes I either get frustrated or… it's not a lack of effort sometimes with me, sometimes I'm just so wound up with something that I’ll go right just give yourself a minute here before you do something. Smash into a tackle or f****** volley somebody.” (Player C)

One of the other participants described how they use their anger as motivation, and feel as if they have to be in a heightened state of arousal to be at their most motivated:

> “I feel as if I need to be like the angriest. Because if somebody shouts at me, then I put my anger to them, whereas if it's me, I can just. I don't know if it's anger, but I can just get myself going.” (Player D)

One of the coaches also reported an inability to effectively control their emotions in response to criticism, and how they become aware of this once it’s too late:

> “…what I've got a habit of doing probably is taking it personal, and then an hour later reflecting…”. (Coach C)

Another coach also described how they responded negatively to losing when they were a player, but have since calmed down when entering their coaching role:

> “I was maybe a bit hot-headed. I wasn't very disciplined at times when I played. I found losing very difficult to take.” (Coach B)

> “I’ve had to change I’ve had to adapt and probably as I’ve got older, I’m probably calmer now than I've ever been.” (Coach B)

3.3.2 Environmental Factors Impacting Motivational Attributes

The higher theme of the environment was discussed in three discrete but related ways by the participants. The dimensions that developed this theme included the club environment, the Scottish football environment, and the cultural factors at the club that impact upon motivation. The club environment looks at how the specific characteristics of the club impact motivation, whilst the Scottish football environment considers the wider context of the league and the culture of football as a whole. Lastly the cultural factors delve into the positive and negative cultural nuances that have an impact upon the participants psychological skills.

Club Environment

The dimension of the club environment was made up of 4 categories. These categories were the must-win nature of the environment, the perceived off-pitch mismanagement (non-footballing side of the organisation, as opposed to the footballing or on-pitch management), the issues with the development pathway and the negativity from fans directed towards players and staff.

Must-Win Environment. When asked about the orientation of the TDE, it was perceived by the participants that the club is oriented towards a performance-climate as opposed to a mastery climate. Out of the 9 participants, 7 highlighted that the most important objective for the team is to win. This was said to be the vital component irrespective of the level of performance:

> “Are results more important. Aye yeah. 100%. If you play as well as you want, every week and lose, you’re going to get relegated so. But it is important, but ultimately results are more important.” (Player E)

> “The first team environment on a Saturday, you cross the white line it’s about winning. Doesn’t matter how you win, just win. And if you can’t win, don't lose.” (Coach B)

> “You could play s*** on the Saturday and scored in the 89th minute and win the game. And that's what people remember.” (Coach B)

One of the participants also felt as if the performances they put in during training had no impact on the environment, with the full focus being on the result:

> “Everybody’s very focussed on a Saturday. Which I think is good and bad…I think the result. There is even in the lead up to a Saturday like. A lot of places are really, it's not really what happens during the week. It's fully the Saturday.” (Player C)

As well as the players, the coaches that were interviewed also described how important they viewed winning compared to development:

> “When you're as a first team manager or in the first team, people will tell you about performance, it’s nothing to do with performance. It’s just about results.” (Coach B)

Perceived reasons for the focus being so tilted towards results differed between players and coaches, though both were related to feelings of pressure. For players, the most frequently stated motivator was so they can afford to provide for their family, with bonuses being viewed as key to their ability to do that:

> “When you get to this level of football … We’re not fortunate to be earning 10, 20 grand a week. People are literally playing to pay their bills, to put food on their kids’ plates, it's all about winning when you get to this get this level. (Coach C)

> “People are playing for their lives, not lives, but you know what I mean. Like bonuses which could be massive.” (Player E)

For coaches, the participants viewed the pressure surrounding their job to be the primary reason for focussing on results:

> If you're not winning games, you’re probably at the back of your head thinking when am I getting the sack? And then on the flip side to that, if you're winning then you could potentially be going right, where's my next move going.” (Coach A)

Even at training, on participant described the result in the small-sided games at the end to be the determining factor on how they viewed their training performance:

> "…in training a day can be good, a day can be bad just on the games at the end." (Player D)

Off-Pitch Mismanagement. In terms of the off-pitch management at the club it was acknowledged by a number of participants that there was a degree of mismanagement by the off-pitch management at the club which negatively impacted their psychological attributes. This mismanagement was related to numerous characteristics that were said to be lacking, including strong leadership, planning, and infrastructure development. Participants commonly referred to a lack of strong leadership being demonstrated by the Board of Directors, resulting in an inability to make decisions perceived to be most beneficial for the progression of the team. One participant felt particularly strongly about the lack of strength in the leadership of the club:

> "Until you clear the cancer out, it'll never move. And you've got to have people who are strong, strong on the board that have good, strong morals. But we haven't got that. The people that run this club, they're weak." (Coach B)

The boards perceived inability to demonstrate strong leadership was also highlighted as a demotivating factor for the coaching staffs' motivation:

> "I think for a young manager as we've got. A young upcoming manager. I think it's hard for him. I think it's tough for him. Because he's trying to move and trying to make things better. But I mean you've got outside influences sometimes that, that the people who are inside the club aren't strong enough to move away from. Doesn't work, cannot work." (Coach B)

Some of the decisions made by the board also seemed to leave the players' feeling "Hard done by", which may negatively impact their motivation:

> "… some people would disagree with the way the place had been run and would think that people are getting, not hard done by but were just saying oh this place

> is a joke like we don't get this or like. For instance, when they're talking about, we're going to have to start sharing water you can't drink, take water bottles and things like that. Boys are just. Some boys are like, come on, we're talking about water here." (Player D)

As well as displaying a lack of strength, the board were also criticised for not appearing to have a clear plan, which was perceived to have created an instable environment with them going through multiple managers and having a large player turnover:

> "For a club to be a stable environment in progression forward they've got to have a stable environment. With a bit of stability. But when you're changing players. This manager here, I think there was 12 or 13 players and out those 12, 13 players that left the club from last season probably 6 or 7 of them, probably most Saturdays, played every Saturday. Maybe even more than that. That's major." (Coach B)

Despite being critical of the people on the board it was suggested that a reason for having an unclear plan was due to the internal club politics caused by fan ownership:

> "You get fan run clubs. You get fans on the board. What do fans do? Fans have got friends. Fans have got favourites. So you've not got one guy running the club. You've got a group of guys." (Coach B)

> "I think the problem with the board is they're fan owned here. So what I mean normally at a normal Football Club you've got one guy who's the owner. So it's all his own money. He makes the decisions. So if I'm talking to the owner of the Football club. I go to him and say can I get X, Y or Z? He'll say yes, or no. Now the situation we have here is there isn't just one guy there's 7. So, you don't get a straight answer. And it could take you a week to get the answer you're looking for." (Coach A)

Further criticism was aimed at the off-pitch management side of the club, with frustrations being shared at the lack of development in the infrastructure (n=2). Frustrations were directed at the condition of the pitch. This was highlighted as being a demotivating factor to play for the club, with the participants directing blame at the groundskeeper for it:

> “Our pitch here, this is terrible. Like we come here, we laugh and joke that like or you don't want to play here, it's like a terrible place to come. It’s the groundman’s fault that the place is terrible to come because the pitch is not up to quality, it's the grass is too long, there's too many bumps in it, there's so many things wrong with the pitch.” (Player B)

Issues with the Development Pathway. The youth academy at the club was another commonly mentioned environmental factor that was impacting the participants (n=5). Various issues were raised by both the coaches and the players, with there being both coaching and structural issues. From a coaching perspective, the participants discussed how the coaches at the academy seemingly fail to implement techniques to instil discipline into the young players, and compared this to what they had experienced at a club they had played with in the Premiership:

> “The kids there were in at 9:00 o'clock in the morning, didn't go home until 4pm. They done all the kit, they done the washing, they mopped the floors, they cleaned the floors they cleaned the boots…. Going back to the youth academy, when I first came in here the youth academy coaches didn’t do anything. There was no discipline. There were no duties they just came and went.” (Coach A)

The same participant questioned further questioned the mentality of the younger players who were coming through from the academy, suggesting that they came into the squad with a sense of entitlement:

> “Younger kids nowadays just come right out of an academy right into a first team environment, and they think right, I am a first team player.” (Coach A)

As well as this, there was a perceived mental weakness in the younger players who were getting brought through the academy:

> “I'd honestly think that today's player that we’re working with, I call it maybe wrongly, I call it a snowflake society, cause they're so fragile.” (Coach B)

Potential reasons for this were discussed by the participants. One that was suggested by the interview group was the academy coaches’ approach to discipline and standards was viewed as being soft, which failed to prepare players for the transition to the first team level:

> “It’s nothing like it...so like soft, aye soft. Yeah, it is soft. If you make mistakes, it’s like “unlucky, next time” like everything is positive which I don't know, I feel we maybe need to an extent, but like then it doesn't prepare you when it gets real.” (Player E)

The participants also described structural issues with the academy pathway into the first team which may contribute to players not being psychologically prepared for the transition to men’s football. The main structural issue that was denoted was the lack of a development team to bridge the gap between academy and first team:

> “There is no like development team here. The young boys here are actually still part of the first team.” (Player A)

This was said to have a demotivating impact upon the younger players within the squad:

> “… you just feel like you're coming to training for the sake of it because you know you're not going to play. So you're just training 5, four days a week and you know you're not doing anything at the weekend, so I was not enjoying it at all really.” (Player E)

Another point that was raised by the interview group was the participants felt like too many younger players were being promoted into the first team at the one time:

> “Personally, no, I don't because there's too many of them. If you look at our squad this now, we have 8 youth academy players in a squad of 19. So that's nearly 50%. Now the only reason I'm saying I don't think it works is because there's too many of them and they’re in too early.” (Coach A)

The same participant described how this compared to other youth development pathways they had experienced. The reliance on the youth system was argued as being unique to the club. The participant suggested that the reason why the squad is bolstered so heavily by young players is due to finances:

> “Generally what would happen at a normal Club is you would have maybe two or three max. And then they would filter through. If they're good enough they get their chance if they’re not, they move out and you get another couple in. Now that should happen every year. But here because obviously situation with finances, they try and heavily rely on their youth academy.” (Coach A)

This perceived influx of younger players was described as a potentiating factor behind a slow start to the season, as the younger players were not seen as being psychologically capable of coping with the demands of playing for the first team:

> “…at the start of the season you seen how young, we were like we're so young. And that's maybe one of the reasons why if we caned boys, they took it personal because, for instance, they have not been beaten up enough or… not beaten up enough, but they've not got that mindset here where they just brush it off.” (Player D)

Despite this not appearing to happen at the youth level, the first team staff described how they have attempted to discipline the younger players in the squad by implementing duties:

> “The two young guys we've got in this now. They do all the duties, they pump the balls up, they make sure the dressing rooms are clean, help out the kitman. So we're trying to give them a taster of how hard it was back in back in the day of how hard you had to work to get to where they want to. Because it’s not easy being a footballer it’s difficult, so we try and get them a wee bit robust. Get them a little bit more mentally stronger…” (Coach A)

Negativity from the Fans. Another key characteristic of the environment discussed in the interviews was the complex relationship between the employees and its supporters. One participant described a period before the previous manager was fired, in which time the club was a “toxic” place to be because of the reaction they were receiving from their own fanbase at games:

> “I felt as if with the old manager, nothing to do with him, just the way the club was such a divide even from us to like the fans it was toxic, like games were toxic for the whole game. They were just basically, booing him, us. We didn't clap them after games like it was just there was a big split, so it wasn't like things weren't good then.” (Player E)

The same participant also mentioned how this had an impact on the players and staff members at the club: “Like the boys they were targeting, the staff they were targeting I would imagine it would affect them”. The criticism was not just directed at them during games, however. The interviews also revealed that players and staff has suffered from abuse online over social media:

> “…the thing I don't like about football is, boys don't mean to make mistakes on the pitch but then supporters then give them stick. They tweet about or Direct Message them, which is completely wrong.” (Player B)

Another participant felt particularly strongly about the perceived issue of online abuse being directed at players by the fans with them believing fans do not realise the impact they have on the targeted individuals’ mental well-being:

> "Yet, what happens is one person says something negative and unfortunately in life, you've got thousands of people that agree with it. They don't even know you as a human being. But they've got a big opinion about you, and they don't realise the damage they're doing to people…" (Coach B)

Furthermore, a participant also criticised the fans for being unsupportive during games, and described the subsequent impact it has on the team:

> "…when I look back on it, there was no chanting, it was all the opposition fans chanting so that even brought, I wouldn't say an eeriness or nervousness towards us to be like, right, why aren't they singing? Why are the opposition fans that are less in population than the home fans making more noise? Then it brings an eerie like a nervousness towards the way we play because, f***, we better not make a mistake here because they're going to be on our back straight away because they're already tense as it is. They're already nervous for the game." (Player B)

Scottish Football Environment

The nature of the Scottish football environment was also named as a factor that impacts upon the motivation of the players and staff at the club. The categories that arose from the transcripts were the effect that short-term contracts had on motivation, as well as the nature of the Scottish Championship as a whole.

Short-Term Contracts. One of the most commonly mentioned factors that has influence over the motivational attributes of the players was the length of the contracts they receive. These were noted as being short-term, temporary contracts by the participants. This was said to be commonplace at the playing level of the participant group:

> "Two and three-year deals in Scotland are probably as big as they get in the Championship." (Player C)

> “You don't get the security which you may get other places and getting like 3-4 year deals it's mostly year to year isn’t it.” (Player E)

Views differed between the participants about the nature of the contracts. Some of the group described them as being a negative for the player, with it being suggested as a cause of increased job insecurity:

> “Tough for boys as well, like if you're signing like a one-year deal, you are kind of like it's always in the back of your head. Like after this I need to know if I'm getting a new deal or if I'm going somewhere else or what.” (Player F)

This sentiment was mirrored by another participant who disliked how they were unable to plan for the future because of it:

> “You can't plan, there's no stability. The job, football at this moment in time at most clubs at our level there’s no stability. If you get a two-year contract, you’re doing well.”

It was also described as a potential reason for feelings of self-doubt:

> “My club last season, they gave me a one year and then come January, I had talked myself into doubting my own ability because I was sitting on the bench, I didn't play the games.” (Player B)

The same participant also described feelings of heightened anxiety caused by the length of their contract when comparing it to their counterparts down in England:

> “I've been down south, and I've seen boys get 3–4-year contracts, they can play football with freedom because they don't need to worry about aw geez, I need to get a contract for next season. And so, they can just play football and just

> enjoy it, whereas lads here getting a one-year contract, they have to perform so their stress levels are through, like up.” (Player B)

They further described the potential negative impact it can have on players with it increasing pressure on them:

> “It's bad for a player because there's too much pressure. There's too much stress on, unnecessary stress and unnecessary pressure on them.” (Player B)

Another participant felt particularly strongly about short-term contracts, with them viewing the clubs offering them as being hypocritical:

> “Clubs always talk about the word loyalty. There’s no loyalty. When the clubs finished with you, they’ll throw you in the bin.” (Coach B)

One suggested however, that the contracts were being offered due to financial problems, though did acknowledge the psychological impact that this has on players:

> “They don't have the amount of money. The most contracts they offer will be short term, which means you don't really spend that much time at a club. And you've got to really think about your future at all times.” (Player A)

Despite this, there were some interviewees that viewed short-term contracts as being a positive motivator:

> “I think it's good personally, because. It means everyone has to compete because people boys need the contracts.” (Player A)

Further to this, one of the participants described how they are able to appeal to clubs at a higher level once their contract expires as they will not cost the club a fee, therefore giving them a better opportunity to play for a better side:

> “I know boys in the team who were offered possibly that and maybe thought, no, I'm quite happy with the year because they think I could go and have 30 brilliant games for (the club) and kick on in the Prem and I can go for free.” (Player C)

As well as this, they were described as being positive for the club offering them, especially when the club is not in a strong financial position:

> “Short term contracts are a good thing for a club in the sense that if you don't live up to your potential then the club can get rid of you.”

Nature of the League. The nature of the Scottish Championship was also noted as being an environmental factor that could have an impact on motivation by the group of participants. The Scottish Championship was recognised by the group as being an especially hard league to compete in, with there not being much difference in quality between the teams:

> “It is hard to do as well because there’s 10 teams, maybe a couple higher level, but most of the teams’ kind of on a similar level, so you've got like 8 teams fighting to stay up. It's as tough as that.”

As well as that, participants felt the financial situation of the teams in the league to be responsible for some of the decisions they make in regard to contract length:

> “Unpredictable league and country for, for what's going to happen. Clubs maybe wary of the COVID thing from before. There was a lot of clubs struggled after that also clubs have the fear of getting possibly relegated.” (Player C)

The style of football was also said to be the cause of some culture shock for some of the participants, with them being unprepared for the demands of the game:

> "…where I'm from, you don't take goal kicks. Like, you take goal kicks, but I mean like pass into your centre half or you're clipping the fullbacks and stuff. And then over here I was like right, I came over it's like right, you need to kick it 60 yards. I'm like, what?... if I have a bad kick, boys will be like, oh fucking hell…" (Player F)

Cultural Factors Impacting Motivation

The cultural factors that impacted upon the participants' motivation attributes were also identified as dimension for the higher theme of the environment. The categories that were identified within this by the participants were the leadership figures at the club, value alignment and discipline, the relationships at the club and an individualistic attitude held by some members of the team.

Leadership at the Club. The participants perceived there to be two main sources of leadership at the club which had an impact on the culture. One source was the coaches, and the other was a group of senior players within the dressing room:

> "…that comes from the coaching staff, but it also comes from a nucleus within your working group as well." (Coach C)

Strong Coach Leadership. As a whole, the response in regard to the footballing culture at the club was largely positive. Participants noted that the management at the club had created an "enjoyable", yet "hardworking" culture. Various techniques have been used by the manager and the staff to do this, such as implementing a set structure, value alignment, implementing shared goals, and setting standards. This training structure the manager implements was described as being non-negotiable:

> "I think here the gaffer wouldn't really allow, he said that, he said, and pretty much put it in stone. You're doing the gym twice a week and you'll buy into what you want us to do. Obviously, some boys can, will push it harder than others because either they enjoy it or they don't, or they feel like it may hinder their

> performance, or whatever because that's how some people think. But because it's pushed from the top down to us, we kind of have to, to a point. There's not really anybody. It's not like I can turn round to the gaffer and say to him aw I don't fancy going the gym today. They'll be like why? You will do it. You do it on a Tuesday and a Thursday. You just, you do it. Which I think helps. Don't make it optional, so yeah, just a set structure. I think structure's big as well." (Player C)

This was said to be different to other clubs:

> "I'd say the biggest issue was maybe there was not ever any set. I feel like everything's, sort of set here. Like you know what you're doing everything's set, but everything's up in the air at other clubs." (Player C)

As well as this, the participants also stated that the staff seeming to all be directed towards the team's goals helps to build a positive culture:

> "there's not a member of staff that I think not sure about him, like everybody is all going the same way, I think which is good about here." (Player C)

Mixed Perception of Leadership amongst the Playing Squad. One property that was identified by the interview group as an aspect of the culture at the club was a mixed view on the strength of the leadership amongst the players. Whilst the group perceived there to be a strong sense of leadership from the coaching staff at the club, the participants feeling towards the playing squad did not appear to be so unanimous. Some members of the interview group perceived the leadership from the squad as more passive, with others feeling the team needed more senior players in the group:

> "In our team nobody, we're like quite quiet and go through the game just kind of go through it and go with the tide." (Player D)

> "…you probably need more senior players to keep them in tow." (Coach B)

On the other hand, some thought the leaders within the dressing room were reliable, and capable of dealing with difficult scenarios:

> "…the type of characters that we have here, they just nip it in the bud early, we stop that." (Coach A)

Though they did also suggest that adding in higher quality players could help the culture:

> "If you can add one or two quality players to your team, you'll always make your dynamic a lot better." (Coach A)

Another participant felt as if teams do not have to same strength of leadership as they used to, as they described how player leaders used to help with disciplining the group:

> "…you had to find a solution and also if you didn't find that solution, the senior player you were playing besides, or the group of senior players weren't long in telling you. That's the difference nowadays. You don't get that now." (Coach B)

Value Alignment and Discipline. The value alignment and discipline with the club was also noted as being a key part of the culture. The values within the club culture appeared to be predicated on making it an enjoyable place to work:

> "I think it's important that we have a culture and environment where people enjoy coming to work." (Coach A)

This was supported by the players, with them describing the positive nature of the culture, saying how the players are generally motivated to be at the club:

> "…as a whole this place is probably one of the best for people being motivated for one reason or the other, think it's maybe because of the players we've brought in. There's a lot of guys that probably are quite annoyed about other stuff. Cause I'm, I'm annoyed like, do you know what I mean, like. I want to prove a point like I would say 90% of that dressing room for one reason or another have all got a point to prove." (Player C)

In terms of what they are motivated to achieve, the team's goal was mentioned. The goal setting process was said to be an inclusive one that gathered the opinions of the group:

> "…start the season like the team would sit down and say like what? What do you what can we achieve? What do we want to achieve together?" (Player E)

The overall goal of the team was to stay in the league:

> "We always want to stay in the league like first and foremost, I know you want to look upwards obviously, but first and foremost you need to stay in the league… staying in the league is crucial first and foremost. Then you can build on that. As high up the league as you can, would be what you're trying to achieve." (Player E)

In terms of how discipline is maintained within the team, a technique that was said to be key was the use of a fine system (n=5). Fines were based around professionalism, and were implemented by the players as opposed to the coaches':

> "We have a fine system, yeah. That it's a very basic fine system...we have like a late on the fine system. You shouldn't be late. You should prepare yourself to be 10 minutes earlier than the arrival time. Stuff like that, it's basics." (Player B)

This was said to have a positive impact upon the culture:

> “I’d say positive. It is positive. It keeps people from messing about because see if there were no fines at all, bet you any money there would be people late all the time. There would be stuff lying about the floor in the dressing room. There would be balls getting ballooned over the fence. People not concentrating at training.” (Player C)

These were said to be strictly enforced to deter players from being unprofessional:

> “If they weren't strictly enforced there’d be no. There’d like be no structure, there’d be chaos. Boys would turn up late, they’d do what they want and then the professionalism would go down.” (Player B)

The coaches on the other hand seemed to instil discipline in younger players by giving them daily tasks called “duties”. Participants described some of the tasks they need to do each day:

> “Like we used to have to clean all the kit up on the floor. The boys would just throw it on the floor, no piles. We used to come and move all the whites, all the socks, everything. And then we used to clean the balls. Like if it was a wet day, we had to let all the air out the balls and then just like, squeeze all the water out them and then pump them back up.” (Player D)

Whilst some members of the team were noted as having a professional, disciplined attitude, others described scenarios in which players within the group can lose motivation, and subsequently discipline, with them describing scenarios where others become “complacent”, “down tools”, or become “negative influences” on the group. Within this, one of the main predicators for a loss of motivation appeared to be the result of the previous game. Participants described scenarios in which both wins and losses led to negative events. In response to wins, multiple interviewees mentioned that there was a tendency within the group to become complacent:

> “Just complacency like I said before where we obviously went on the good run and then your kind of like, not that boys think the job is done, but it's like you look at the table it's like, oh we've got a good points total.” (Player F)

By winning games, it was suggested that some members of the playing squad feel like they are too good for the level of competition, which maybe impacts on their perceived competence:

> “Sometimes when things are going so well, when you’re winning, winning, winning, you can tend to come slack then. When you maybe feel it's a bit easy.” (Player E)

Another participant described the negative effect of the group becoming complacent, with it impacting their performance levels:

> “Lads overconfident of the past 2 results, getting a draw and a win, to then bring it in and for instance, we picked up a loss Saturday.” (Player B)

On the opposite end of the spectrum, different attitudes were discussed in response to a loss. Firstly, some of the participants described the impact that losing has on the dressing room after a game:

> “It can be quite crazy, hostile sometimes. Like think it can be. Uh, everybody’s, like caught up right in the emotion. Players, staff. Things can get said out of turn sometimes. But it's just the heat of the moment.” (Player E)

One participant then noted how that a loss can impact the feel around the club during the subsequent training week.

> “…some boys dwell on a loss too much which then has a negative impact on how training goes for the week...” (Player B)

The interview group also mentioned that as well as the atmosphere being hostile, sometimes they believe that their teammates down tools when faced with adversity:

> "…when you're in training and things aren't going your way. You're still trying, but other lads in your team have given up…" (Player B)

The same participant then mentions that when they feel that their teammates have given up, it causes them to experience feelings of self-doubt:

> "…why am I putting in the work and pushing myself when we're getting beat in training. And then boys have just like sacked it off. Do I then sack if off then as well and join them?" (Player B)

Relationships at the Club. The relationships between people at the club was described as being an important area of the culture. Two key properties were identified within this dimension: the cohesion of the group, and the way feedback is communicated between the group's members.

Team Cohesion. The positive relationships held between the playing group was said to enhance the players enjoyment, and subsequently improve their levels of motivation.

> "I feel off the pitch like we've got a really good bond in there, like when we're waiting for the gym, we'll play cards for like an hour. Like everybody's close and probably that's why because everybody's, like the similar interests." (Player E)

> "A lot, I enjoy coming in every day. Like I say, it's a good, good group of boys and I enjoy it." (Player E)

Another key relationship that was highlighted here was the relationship between players and staff. This was more mixed, with some reporting a positive working

relationship between players and coaches, and others describing mistreatment from staff members. The group described how the players respect the manager and listen to what he is saying, despite there being a divide between the two groups:

> “Yeah, I'd say so, I'd say I've definitely seen worse. I think it's alright. Yeah, there's always going to be a divide between the coaching staff and the players, but it's alright yeah. I think the boys obviously listen the gaffer, and the gaffer gets his messages across most of the time.” (Player F)

With regards to the mistreatment, the younger players reported being criticised despite thinking they had done well:

> “Even if you do something good that day, they’ll come in and they’ll give you a bit, they’ll try slaughter you, give you abuse.” (Player D).

Reasons behind this treatment were described as being a tactic to improve the robustness of the younger contingent’s mentality:

> “They're trying to make your character, they're trying to make your mentally stronger, they're trying to, even if you do something good that day, they'll come in and they'll give you a bit, they’ll try slaughter you give you abuse.” (Player D)

> “The younger ones, you need to be on them because they’ve not done as much, and they’ve got a lot to learn.” (Player C).

The coaches reasoning behind the treatment of younger players to be due to upholding standard within the team as they are members of the first team squad as opposed to a development team:

> “I think the demands of the young boys here are much higher, yeah. Like they’re treated like, coz they are first team starters, like (young player) is a starter, so he has to be good enough” (Player A)

Feedback Delivery. In terms of the way the players communicate with each other when on the pitch, they described that the feedback they receive is oftentimes highly critical. Players mentioned that oftentimes if they made a mistake, their teammates would react to them by “shouting” or by “giving them abusive”. This was also said to be the case for the feedback they receive from the coaches if they make a mistake:

> “You know what's going to happen. Like, see if you cause a goal, you know you're going to get screamed at…” (Player E)

The changing room atmosphere after a loss was also described as being “crazy” and “hostile”. Though this was said to differ during video feedback sessions:

> “Like wouldn't like start getting shouted at in a group scenario like that a few days after the game. It would be more like, this is what you should have done, this is how you could have done it. It's like quite calm, like the videos are always calm. It's never like the way it would be after a game in the changing room.” (Player E)

The participants described the reasoning behind using a hostile approach to criticism. It was said to be used to motivate players to do better:

> “It's not personal. They're just trying to get a reaction out you and trying to, so it does probably affect the group quite a lot.” (Player D)

One of the participants felt like this was successful at motivating them to do better:

> "…if they yell at you or something, I don't like that feeling, so I like doing everything perfectly as most people would, purely because I don't want to be seen as a failure or I've made a mistake." (Player A)

Though this was not said to be the same for every player:

> "…in our club we don't really have any players that are like that, like some boys will take it maybe too personal." (Player D)

When asked why they thought this method of criticism was used as opposed to more constructive methods, they noted the fluency of the game being a factor why, saying they "can't really do it during the game. You can't take a break, go over and talk you through it." Another reason was the importance of winning at this level:

> "…there's more on the line because if you're training with reserves and under 18s league, it's not as important as Scottish Championship these people actually have… They need this money. You know they need this rather than they want it. Rather than wanting it, they actually need it. So there's more pressure, more pressure on you to perform here. So of course the stake is going to be higher, the more motivation than with the reserves." (Player A)

This was said to be different than other cultures some of the players had experienced:

> "…there's a lot more here, like boys fucking having a go at each other and stuff, and like letting boys know, like anything's on the table to say to each other which wouldn't happen over there." (Player F)

Individualism. Finally, the participants described some scenarios that indicate there are some elements of individualism within the culture. Reasons for this were said to be the drive to win games and players not being included in the squad. Despite this,

a participant thought there was still a good team spirit amongst the group, even after a physical altercation occurred earlier in the training week:

> "…you've got 20 guys out there who are competitive that all want to win games there's always going to be wee things that happen. And I'd be worried if there wasn't, to be honest. I would say there's a good team spirit, but when people aren't playing it's just the nature of the beast in football unfortunately and people aren't going to be happy, and wee cliques happen sometimes in every single club. But I genuinely would say there's probably a decent team spirit in here." (Coach C)

This competitiveness to get back in the team was said to have a motivating effect on players during training. One participant described an example of their experience of being dropped for another player, and how having impacted him psychologically.

> "…if he scores a goal in the games or something like that then you're just like to win the games. You're just like, right ok. You know, like, you know, I mean in your head when I'm like, damn it, but that's just competitive. That's the whole nature of the sport if it's not you playing, it's somebody else so. I was playing, he's now played and so it's going to be a case of time where hopefully I'm back in there and he's thinking the same thing about me." (Player D)

They hinted that this was something that was rooted within the culture of football:

> Like as much as we're saying like, that's football at the end of the day, we'll go in there and we'll sit there and we'll chat, but then when it comes to. That's like one of the old sayings is like, throw them in a cupboard, turn the lights out and see who comes up with the jersey…" (Player D)

3.3.3 Impact of GPS Data Feedback

Questions were also asked about the impact the dissemination of GPS data has upon the environment at the club and the participants psychology. From the qualitative

responses, that are represented in Figure 2, three key dimensions were identified: the use of the GPS data; the impact of GPS on motivation; and the culture surrounding its usage.

Use of the Data

Regarding the way the data is used in practice, the coaches displayed generally positive attitudes towards the way the data is used in the club, with them describing how “it’s a big, big thing. Yeah, the data is important”. They seemed to buy in to the data, with them mentioning how it can help give them small advantages:

> “I would never turn my nose up at things because if something is there that could help me 1%, I'm going to use it. If something could help me 1%, I'm definitely going to use it.” (Coach C)

It was apparent that the coaches found it useful to back up the points they were trying to get across to the players.

> “If I told them they weren’t running, my eyes told me that. “Aw I'm running” (impersonating player), but because we’ve got the data it also tells us.” (Coach B)

Despite some buying in, other participants did appear to not fully trust what the data was telling them. Reasons for this varied, with some perceiving the figures to be inaccurate, and others feeling as if the lack of context regarding player position and readiness limited its trustworthiness:

> “I don't think it can be accurate, unless what we’ve spoke about before, you break it down and say I want to know and specifically at that point.” (Coach C)

> “I think in my position it's a little bit of a false.” (Player C)

Whilst the coaches did value the data for backing up their points, the players' opinion was more mixed, with them feeling as if it does not really provide insight into their performance levels:

> "I wouldn't say it determined if I'd had a good game or not because if I had ran 11k, but we'd got beat 5-0 like I'd be like maybe I was out of position." (Player C)

Culture Surrounding GPS

The culture around the use of GPS at the club could also impact upon the psychological attributes of the players and their perception of their TDE. The participants' perceived the data to be used to expose players who were not working hard enough, and was therefore used to build a hardworking culture at the club for fear of punishment:

> "I think that's more of a, they know they can't hide, they know they have to, they have to run or they're going to get called out on it." (Coach C)

It was apparent that the fear of punishment did impact the behaviours of some players. One participant recalled a scenario in which a player inconvenienced themselves by carrying the GPS unit after it had fallen out of their vest so that their stats were not low:

> "One of the players' had fallen off and he was like running through the game holding it. I was like mate just chuck it to the side. I was like the sports scientist is sound with it." (Player F)

Another coach also mentioned how GPS can be used by the players as a way to boost their ego, and how they can use it to compare themselves to others:

> "…somebody will run 12K and think they've been brilliant. But they've only made 2 passes in the game. Or they've ran 12K and they think oh I'm brilliant because someone else has only ran 10." (Coach A)

They further explain how if the data is used ineffectively, it can cause issues such as bullying in the dressing room:

> I think at times people use that against other players as well, where I'm not saying to bully, but to take the piss out of. And be saying I've done X,Y,Z and you've only done this. And so I think if it's done properly, it can be effective. I think if it's used the wrong way, it could be ineffective and cause issues" (Coach A)

Impact on Motivation

In terms of the subsequent effect that GPS data feedback had on the motivation of the players, perceptions were varied with some stating that it positively motivates them.

> "…it motivates me more then to be like, right, well, you need to do more. And if I have good GPS stats, I'm like, right well this is the level I need to hit every single week. Anything below that I didn't work hard enough for." (Player B)

Others believe that this does not motivate them, nor should it be needed as a motivational tool for others either:

> "I feel like it should just be a given. Like whether or not you know what it's going to be. I don't think if you didn't wear it for a week, you should try harder next week because you know the GPS are on, especially in a game like. So I don't feel that would impact that, not for me anyway." (Player E)

One of the coaches also agreed that it is not necessary to be used for motivation, if a hard-working culture is in place:

> “I think it's more about building your environment and your culture as opposed to fear with having a GPS on.” (Coach C)

3.4 Discussion

The aim of this phase was to identify the psychological characteristics of the athletes and coaches working within the club and how they impact the ability to attain performance goals (Objective 1). It also served to identify the socioenvironmental factors that influence the participants motivational characteristics (Objective 2), which included a focus on the influence of GPS data dissemination (Objective 4), and how the environment could be improved to better support the participants psychology (Objective 3). This phase achieved this through the use of semi-structured interviews conducted by a researcher who was positioned within the club. Over six hours of interview data were transcribed and coded, revealing 1314 MU. After review, each MU was allocated a property, category, and a dimension. Player and coach data were managed together, though their role was identifiable due to the participant ID given to them (Player A; Coach A etc.).

3.4.1 General Overview of the Findings

This phase of the research project indicates that the participant sample are predominantly externally motivated, due to the frustration of psychological needs from their environment. The players described instances that suggest they lack resilience, and have poor behavioural control, and the coaches appeared to have stronger psychological skills than the players. The environment appears to be oriented towards an ego-climate as opposed to a mastery climate which could explain this frustration. Issues within the club environment that were noted as having an inhibiting effect on motivation were related to the off-pitch management, the youth development structure at the club, and the negativity from the fan base. Short-term contracts were mentioned as being a significant inhibitor of motivation, causing self-doubt and anxiety. Culturally, the leadership from the coaches is reported to be largely positive in promoting psychological attributes, as they have seemingly aligned the group values and instilled discipline in the team, although they do promote intra-team member rivalry. However, leadership from the playing group appears to be lacking which can lead to drop offs in

motivation and commitment. Further to this, whilst the group bond is said to be strong amongst the players despite them frequently using negative feedback on one another, the coach athlete relationship shows signs of strain, particularly between the coaches and the younger players. In terms of the dissemination of GPS data, there was no clear indication as to whether it enhanced motivational attributes or not, however, its usage appears to be ego-oriented.

From the data described above, six dimensions emerged relating to the research objectives. Namely they were external sources of motivation, varying perceptions of needs satisfaction, PCDEs of the participants, environmental issues, cultural issues, and the impact of GPS data. The following section will use these as subheadings to guide the detailed discussion of the findings in relation to relevant literature.

3.4.2 External Sources of Motivation

The findings indicate that although the level of self-determination varied between the participants, the general census was that they were predominantly extrinsically motivated. Whilst some players did name their love of football (n=4), and how playing professionally was a lifelong goal of theirs as motivators (n=4), more players named external sources as their primary motivators than they did internal sources. The most common external source for players was the desire to prove doubters wrong about their abilities (n=6). Secondly, was the feeling of obligation to ‘repay’ family members for their past sacrifices. Lastly, they described being motivated to win to achieve bonuses. In terms of the external sources, proving others wrong, and ‘repaying’ family members were most closely associated with introjected regulation on the SDT continuum (Deci & Ryan, 1985). Introjected regulation describes taking action to achieve a goal due to the pressure to avoid internal punishment, or to obtain internal rewards (Uzun & Aydemir, 2020). By winning or playing well, and in their mind proving ‘doubters’ wrong, they will be gaining an internal reward in the form of a pride or ego boost, as introjected regulation is representative of a contingent self-esteem (Uzun & Aydemir, 2020). A contingent self-worth refers to an increased feeling of efficacy based on fulfilling external standards or expectations due to social comparison (Uzun & Aydemir, 2020). Therefore by winning they will be meeting the external criteria they feel pressured to meet in order to appear competent. As well as this, by winning they

avoid feelings of guilt, shame or anxiety caused by the self-imposed pressure to ‘repay’ family members for past sacrifices.

Other studies investigating self-determination amongst professional footballers also reported similar findings. Research that investigated the self-determination of footballers at different skill levels reported that professional players motivation was more introjected than amateur level players (Sarmento et al., 2008). As well as this, in the original incarnation of SDT, the researchers describe how professional athletes are more likely to be driven by external sources because of the environmental pressure to win (Deci & Ryan, 1985). In terms of the effect that this could have upon performance, the level of self-determination amongst athletes has been cited in previous literature as being positively related to performance levels, (Gillet et al., 2012; Pope & Wilson, 2015). Some studies assert that the intrinsic motivation of athletes must be improved for them to be successful within their sport (Mertens et al., 2018). Though not as strong, others found that athletes who display greater intrinsic properties perform better than those who are externally motivated due to improvements in commitment (Ntoumanis & Standage, 2009), and perceive their performance to be better which could have positive effects upon their perceived competence and self-efficacy (Almagro et al., 2020; Dahl, 2015). On the other hand, different researchers propose that both internal and external sources are necessary for athletes to perform optimally (Vallerand et al., 2001). This is because professional players have to train very frequently and stay disciplined which may not be viewed as enjoyable (McLean & Mallett, 2012).

Furthermore, the motivation to win to obtain win bonuses was also mentioned, where the bonus money was said to be imperative for them to provide for their families. By being motivated by external awards such as win bonuses, it suggests that they are somewhat externally regulated (Kaplánová, 2020). External regulation is the lowest form of extrinsic motivation and describes avoiding punishment or obtaining rewards as the primary motivator (Zamarripa et al., 2018). Regarding the effect that external rewards such as win bonuses have on performance, research has found that they can be beneficial. Researchers found a positive link between a player’s mental resilience and financial rewards (Kaplánová, 2020). In their study on professional footballers,

Kaplánová (2020) identified that players who were offered greater financial awards reacted to criticism better than those who were not offered any financial bonus. Whilst this is promising, they also found that financial awards increased the players cognitive trait anxiety as the stakes were higher for the game, which increased their fear of failure and therefore inhibiting performance (Kaplánová, 2019).

Coaches on the other hand appeared to be motivated by different sources. The main sources of motivation they cited were that they enjoyed helping players achieve their goals, and on the other end of the continuum keeping their job. Studies relating to the motivational attributes of coaches are limited in the literature, but they do share similar findings (McLean & Mallett, 2012). By finding enjoyment in helping others, it suggests the coaches are intrinsically motivated to develop players. This is potentially due to the fulfilment of needs from developing a player, with it not only improving the coach's connection to the team, but also fulfilling their need of competence, as they are successfully performing their role by improving the individual (McLean & Mallett, 2012). Opposingly if the coach is externally driven by factors such as job insecurity and results, it could have a knock-on effect on their psychological skills. With regards to self-regulatory skills, research suggests that coaches who are intrinsically motivated perceive themselves to be more in control of their actions than those who are extrinsically driven (Jowett, 2008). As well as this, coaches who are more externally driven tend to display more signals of burnout (McLean et al., 2012). As well as this, the impact that a coach's motivation has upon the team has been investigated. Within these studies, it has been shown that the coach's level of intrinsic motivation can predict their supportive behaviours (Rocchi & Pelletier, 2017). On the other hand, their level of extrinsic motivation was a predictor of behaviour that inhibited their players motivation (Rocchi & Pelletier, 2017).

However, further research indicates that for coaches, external sources may not undermine their motivation but instead play an important role, especially for professional level coaches (Potrac et al., 2002). Similar to the players, research indicates that external motivation is necessary to be a 'successful' coach in order to complete tasks that may not be inherently enjoyable such as monitoring budgets or reporting to board of directors (McLean & Mallett, 2012). As well as this, a professional

coach's primary objective is to form a winning team, with improving players individual ability falling second (Potrac et al., 2002). Because of this, it is suggested that both internal and external sources are a necessity at higher levels of the game (Jowett, 2008). In this case, internal sources may act as a buffer to reduce the detrimental effects of the non-autonomous motivations (Gillet, Vallerand, et al., 2009). This is further supported by a study that's findings indicate that extrinsic rewards do not negatively affect needs satisfaction when there is some autonomous motivation, but in fact can enhance or maintain persistence, shape performance, and establish interest (Cameron et al., 2001; Jowett, 2008). This contradicts a lot of the other research presented; however it is important to note that some of the research arguing this was not conducted upon football populations. As football coaches experience a lot of external stressors that other sports and professions do not face, this may not be relevant as they are starting in poorer psychological state (Bentzen et al., 2014; Bentzen, Kenttä, & Lemyre, 2020; Frey, 2007; Olusoga et al., 2009).

3.4.3 Varying Perception of Needs Satisfaction

Reasons for this degree of variation could be explained by the varied responses regarding the participants needs satisfaction. In terms of the players perception of their competence, only two believed that they could play at a higher level, whilst four described feelings of self-doubt. As well as this, the majority of players cited that they had little to no control over what they do in training, which could detrimentally impact autonomy. As these needs are being frustrated, it could explain why the participants are predominantly extrinsically motivated. In terms of the reason for the need of competence being frustrated, it is apparent that the players self-efficacy is a factor. Self-efficacy is an individual's belief in their capacity to execute behaviours necessary to achieve performance goals (Bandura, 1977). It reflects the individual's situational specific confidence, and the confidence in their ability to control their motivation, behaviour and social environment (Bandura, 1977). If someone displays self-doubt, it may reflect a lack of self-efficacy as they do not believe they are competent enough to execute the required behaviour to achieve their goals. In terms of factors within football that can impact self-efficacy and subsequently competence, the coach's behaviour, manner of criticism, the individual's ability, crowd reaction, their physical fitness and performing well under pressure can all influence this depending on the

orientation of the climate (Almagro et al., 2020; Haga & Idén Nordin, 2015; Horn, 1985; Roderick & Schumacker, 2016; Sivrikaya, 2019).

In terms of the reasoning for the frustration regarding their autonomy, the outfield players mentioned that they do not get any input into the training sessions, although the goalkeepers do. This could be due to differences in coaching styles between the goalkeeper coach and the first team coach at the club. A bulk of previous research has investigated the effects of coach-autonomy support and neglect. In terms of support, it has been shown that players who feel as if they have control experience improved mental well-being, greater needs satisfaction and subsequently are more intrinsically motivated which allows them to perform better (Gillet et al., 2012; Hagger & Chatzisarantis, 2007; Mageau & Vallerand, 2003). In terms of the club, this suggests that the goalkeepers at the club should experience these benefits. On the other hand, the outfielders not having any input into training sessions directly opposes Mageau and Vallerand's (2003) description of autonomy supportive coach behaviour, where coaches give their athlete's input within boundaries, acknowledge the athlete's feelings and perspective, and do not display controlling behaviour. Previous research reveals that those who believe their coach to be controlling have less self-determination, and have lower psychological well-being, having detrimental effects upon performance (Balaguer et al., 2018; Pelletier et al., 2001). It is worth noting though that the above studies investigating autonomy controlling behaviour were conducted on youth players, which as described earlier may provide different results to professional players within the Scottish Championship. Especially when considering the research indicating that professional players prefer more authoritative coaching methods (Kaplánová, 2020).

However, the participants found the cohesion amongst the group to be good which may positively effect perceptions of relatedness. Only one of the players described not getting on well with his teammates, with the majority stating how they felt like the group was well bonded. One of the coaches also mentioned not feeling a good connection with the club, with them voicing frustrations over many environmental issues at the club, however this was contrary to most of the other participants. With the majority of the group describing a positive bond, and a positive connection to the club it suggests

that the participants need of relatedness is fulfilled by the environment (Martela & Riekki, 2018). This would improve the level of intrinsic motivation held by the individuals, as they feel as if they are a valued part of the team (Deci & Ryan, 2010). It would also have positive effects on their mental well-being, with athlete's who report feeling connected to their team displaying less anxiety, and less depressive symptoms (Pluhar et al., 2019).

3.4.4 PCDEs of the Participants

As well as their being evident differences in the level of motivation of the participants, there were also discrepancies in the level of each of the PCDEs. In terms of resilience and the ability to cope with pressure, it was clear that the majority of the players that were interviewed struggled to deal with setbacks. Notably, the players appeared to struggle mentally after making a mistake, as they describe dwelling on the mistake for long periods afterwards, or how an error leads them to commit several more. The coaches on the other hand appeared to have more resilience, specifically Coaches A and B. Both mentioned times in their career when they have had setbacks, and how they used those setbacks as motivation to further themselves. Coach C did not appear to display the same level of resilience, as they described struggling to deal with criticism. When looking at the background of the coaches and the players it could indicate as to the reason why. Coaches A and B both played in the top-flight of Scottish football for over a decade, whereas the other participants either did not last, or have not played at that level. Because of this, it is not unreasonable to suggest that Coaches A and B's psychological skills may be more aligned with elite level players and coaches. When looking at the different skill levels, an athlete's ability to cope with a number of stressors has been concluded to be a differentiating factor between athletes at the elite level and the sub-elite level (Collins et al., 2016; Danielsen et al., 2017; Holt & Dunn, 2004; Mills et al., 2012), and is said to be pivotal to achieving high performance goals (Fletcher & Sarkar, 2012; Galli & Gonzalez, 2015; Machida et al., 2013). This is especially relevant in football where there are a greater number of stressors than in other sports due to the external pressures such as media scrutiny (Rice et al., 2016). A potential issue with the participants of the study possessing low levels of resilience is that individuals with low psychological resilience tend to avoid hardships and confrontational scenarios, are unable to cope with high pressure

moments and have high levels of anxiety about stressors (Özdemir, 2019). If the players got more resilient improvements in self-esteem, self-regulatory skills and coping resources would be observed, which would increase their ability to achieve performance goals (Fountain et al., 2015; Mummery et al., 2004; Yi et al., 2005).

Less qualitative data was recorded for the other PCDEs focus, distraction control, commitment, self-regulation, and self-awareness. However, it appeared as if the participants perceived their abilities regarding some of these characteristics to be stronger. Regarding focus, both the players and coaches noted the importance of not getting distracted by variables that were out with their control, as they mentioned examples that caused them to get frustrated. As well as this, the players mentioned the importance of being concentrated for the full duration of the game, as losing concentration was attributed to being the primary cause of mistakes, which is aligned with previous research on mistake attributions (West, 2018). In terms of their distraction control, they described simply not focussing on the scenarios of which they have little to no control over. Some of the participants did describe scenarios in which it appears they lack commitment, however. Both a sense of complacency after good results, and downing tools after poor results were mentioned. Commitment is said to increase as enjoyment, personal investments, social constraints and involvement opportunities increase (Hall, 1993). In an elite sports setting, an athlete that displays greater commitment will exert more effort in training and in matches which will improve their performance (Toering et al., 2009). Furthermore, the level of commitment is a determining factor between elite and non-elite players, which suggests that the lack of commitment in the team is a reason why they may be unable to achieve certain performance goals (Ercis, 2018; Hill et al., 2015).

In addition, their self-regulative skills, namely their behavioural control did appear to be lacking. A number of the participants reported frequently losing control of their emotions and acting out aggressively, even within training. As mentioned in Phase 1, being unable to control emotions was a differentiating factor between youth players who made it to the elite level as opposed to those who did not (Holt & Mitchell, 2006). This could indicate that their emotional behavioural response could be detrimental to their overall performance, with other studies finding that good self-regulatory skills are

a predictor of improved performance levels (Jonker et al., 2011). A potential cause for their lower self-regulatory skills could be as the participants are predominantly extrinsically motivated. As previously described, research suggests that coaches who are intrinsically motivated perceive themselves to be more in control of their actions than those who are extrinsically driven (Deci et al., 1996; Jowett, 2008). However, the participants did utilise some PST to improve their emotional control, namely self-talk, goal setting and in some instances imagery. These techniques have been shown in literature to be effective at improving emotional and attentional control, both of which are important in order to achieve performance goals (Röthlin et al., 2020).

3.4.5 Environmental Influences

The participants described various factors that both inhibited and supported their motivational attributes. In terms of the inhibiting factors, it was apparent that the club's motivational climate was tilted towards ego-orientation. The primary causing factor of the environment being ego-oriented was the focus on results. This could have detrimental effects on the motivational attributes of the players and staff, with previous works finding coaches and athletes within these climates to display higher levels of stress, lesser commitment, lower motivation, and greater anxiety (Burton & Martens, 1986; Gadient et al., 2020; Rottensteiner et al., 2015). As well as this, it is hypothesised that by focussing on winning it causes the players and coaches within the team to focus on the extrinsic elements of football, which can cause them to be more extrinsically motivated (McLean & Mallett, 2012).

From the descriptions of why the result was so important, it was apparent that the main reason was to avoid negative consequences that may occur if they fail to win. This correlates to avoidance motivation, which relates to the propensity to move away from an undesirable stimulus, which in this case would be the consequences for losing (Feltman & Elliot, 2012). In an ego-climate winning and losing do not have equal effects on the athletes' perceived competence, with researchers finding that losing has a greater impact on self-esteem than winning does (Bardel et al., 2010). This is potentially heightened at the Scottish Championship level, where there can be significant consequences for defeat for both players and staff. Participants described how at the Scottish Championship level it is essential for them to get win bonuses in

order to be able to afford bills and general living costs. Whilst this may not be as pressing an issue in other leagues that pay players larger wages, the average wage in the Scottish Championship is below the national average of approximately £32,000 (Adzuna, n.d.). As well as this, because the majority of players are signed on shortterm contracts, they are incentivised to win so they can be re-signed, or move to a club that may pay more, or give them a longer-term deal. Coaches too would be incentivised to win due to the pressure they are under to keep their job, with losing managers being removed from their role even after short dips in form (de Dios Tena & Forrest, 2007).

The reasons why clubs at the Scottish Championship level sign players on short-term deals was said to be because of the financial risk of being relegated. Short-term contracts were named by the participants as one of the main factors that impacted their psychological well-being at the club. Receiving a short-term contract was said to increase feelings of self-doubt and heighten anxiety regarding their job security. It was also said to increase performance anxiety due to the increased pressure on players to perform in games to be resigned. When looking at the literature, commonalities can be observed. Research showed that perceived job insecurity increased upon signing a short-term deal which can have negative effects on motivation (Klandermans et al., 2010). However, this is not always found to produce detrimental effects upon motivation (Bernhard-Oettel et al., 2005; De Witte & Näswall, 2003). The main influencing factor into the level of role insecurity appears to be the individuals' assessment of their competence, with research showing that individuals who perceive themselves to be competent and able to get an equivalent role elsewhere not being affected (Berntson & Marklund, 2007; De Cuyper & De Witte, 2008). As mentioned earlier, the majority of the player participants displayed signs of low perceived competence with them describing self-doubt during responses about their abilities. This could explain the negative effects the short-term deals have on their psychology, as they perhaps lack belief in themselves to move to a better club. From the club's perspective, it is understandable why they cannot commit to longer term deals due to their financial situation. As mentioned earlier, the club has one of the lowest budgets in the league due to the fan ownership model, low attendances, a lack of lucrative sponsorship deals and broadcaster money. Therefore, if they are relegated, they may not be able to afford the players wages due to the significant financial repercussions

of relegation (Noll, 2002). However, because they do not tie players into long term contracts, they then do not have any valuable assets to sell as players can leave for free, meaning they do not gain any money from players sales, which is an important part of football finance (Hague & Law, 2021).

The participants also raised concerns over issues that were indirectly related to the first team that were impacting their psychology. The main issues here were the offpitch management, the youth development pathway and the internal politics involved at the club. Coach B described in detail the feelings of apathy and amotivation he feels towards the club due to the perceived lack of leadership from the Board of Directors. Others also distrusted the off-pitch management to make key decisions for the benefit of the first team, as they believed that many of the decisions are based off of internal politics, therefore meaning their values are not aligned with the first team management. Looking at the business literature, studies reveal that there is a significant relationship between the perception of the board of directors' competency and employee motivation (Diskiene et al., 2019). As well as this, the employees respect for the board can influence their level of dedication to the organisation (Diskiene et al., 2019). In addition, Diskiene et al. (2019) identified trust in the board to influence motivation levels. Moreover, when the values of an organisation are not aligned, employees display greater stress and anxiety which if not dealt with can lead to burnout (Siegall & McDonald, 2004) and a significant reduction in motivation, in turn reducing performance levels (Bentzen et al., 2014). Because of this, it is imperative that the off-pitch management regain the trust of its employees so to prevent inhibiting their motivational attributes.

In terms of the youth development academy, it was evident that the participants felt the players being brought into the first team were not psychologically prepared to cope with the demands of the environment. Specifically, resilience was highlighted as being lacking amongst the PCDEs of the academy graduates. This was an issue as a large proportion of the first team squad consisted of academy graduates. The perceived cause of the low resilience was the coaching they receive from the youth coaches, with the interviewees believing that the coaches do not instil a work ethic or discipline into the academy players, therefore when they come into the "structured" and

“disciplined” first team environment, they struggle. Studies in the past have researched the key elements of elite youth development football environments (Mills et al., 2012, 2014). The characteristics of the academy at the club appears to differ to these environments. The organisational discipline in the elite environments was highlighted as a key area, with the elite teams establishing a structured programme, setting clear boundaries with a code of conduct, and ensuring standards are maintained (Mills et al., 2014). Opposingly, the academy environment at the club was described as being “soft”, and “the youth academy coaches didn’t do anything. There was no discipline. There were no duties they just came and went”, suggesting that there was not a structured programme, clear boundaries and standards were not being upheld. As the academy graduates reportedly lacked discipline and resilience, this could have had a negative impact on the team culture as a large percentage of the team were academy graduates, therefore their influence could be greater. Another potential reason for the lack of resilience and discipline could be the lack of an explicit pathway into the first team since the development squad was removed in the 2022-2023 season. As some of the participant group described, the lack of a clear development pathway can be demotivating as they do not feel like a valued part of the team. They also described how they were training separately to the first team when they themselves were in the development squad. A clear pathway into the first team and opportunities to train with the first team was highlighted in the review on elite youth academies as being key to the young athletes’ motivation and dedication (Mills et al., 2014). Therefore by not offering them the chance to do so they could be hampering their psychological skills.

Furthermore, the viewpoints of those interviewed suggest that the negativity the players and staff at the club receive from the fans impacts them psychologically, with it having an effect on their confidence, anxiety, and motivation. It also shows how impactful the fans are in the football environment, as they created an unpleasant and “toxic” climate for the participants to perform in during games. These findings are similar to those made by Calleja et al. (2022), which described how non-supportive audience behaviour can impact footballers’ anxiety levels and heighten feelings of pressure. Whilst the fans may be voicing frustrations over results and performances, by creating such a negative atmosphere they are impairing the performance levels of the players instead of enhancing them as they are inhibiting them psychologically. It

also suggests that the players may lack resilience if they are letting the reaction of others impact their performances. To improve this, it is suggested that clubs try to encourage positive fan behaviour through incentives and implement sanctions upon those who break the rules (Calleja et al., 2022).

3.4.6 Cultural Influences

Leadership

From the interview data, it is apparent that some of the participants perceive there to be a lack of leadership properties from members of the playing squad. This leads to issues within the dressing room such as complacency and a loss in motivation. There was said to not be a leadership group at the club. As mentioned in phase 1, it is beneficial for high performance teams to implement leadership groups as opposed to relying on predetermined leaders such as the coach and the captain (Cotterill et al., 2022). Strong leadership within the squad is important for coaches who are trying to build a winning culture as they have the ability to improve team cohesion and identity, player satisfaction, the confidence of the group and the motivational climate (Cotterill & Fransen, 2016; Day et al., 2014). As well as this, the leadership demands of a team outweighs the ability of a single figure, meaning that the coach needs others within the group to help them in motivating players to reach the team's goals (Duguay et al., 2019; Loughead et al., 2006). A lack of leadership amongst the group could have a negative impact on the attitude of the playing squad, such as reducing social cohesion (Cotterill & Fransen, 2016; Day et al., 2014). Because of this, despite the leadership from the coach being described as strong, it may be beneficial for the club to implement a formal leadership group within the playing squad, with defined roles for the members.

Value Alignment and Discipline

The participants also described how they feel as if the values and goals within the club are well aligned. The main performance goal was cited as being staying in the division, which was agreed upon by every member of the team at the start of the season. There was a sense that the majority of the players within the dressing room shared a desire to achieve the goal and enjoy working for the club. This is a positive indication, as a well aligned culture has been shown to improve players levels of motivation, energy, initiative, and effectiveness (Pohling et al., 2016; Siegall & McDonald, 2004). In terms

of the unspoken rules of the team, the culture seemed to be predicated on hard-work, discipline, and enjoyment. In order to keep the culture aligned, various disciplinary techniques were used. Whilst the coaches did discipline players themselves by verbally abusing them the most common disciplinary measure that appeared to be taken at the club was via a fine system that was based upon a code of conduct. Fine systems are common within football teams (Kelly & Waddington, 2006), with participants saying they are the best way to keep players in-line as the usual threats of being fired or suspended do not tend to apply to footballers. Previous literature has said that fine systems can be a financial stressor for lower league players, due to their wages not being as inflated as in top leagues (Kelly & Waddington, 2006). However, within this study, players mentioned how they found the fine system to be a fun way of disciplining people which added to their enjoyment and boosted team cohesion. As well as this, they also mentioned how it keeps them focussed throughout the training day, therefore it is clear that this has a positive impact upon the participants psychology.

Relationships at the Club

The relationships at the club appeared to be positive in terms of enhancing the psychological attributes of the participants. In terms of the player-player bond, there was said to be a strong cohesion throughout the group. A strong group cohesion has been linked to improved results within sports teams in the past (Tziner et al., 2003). Reasons for this could be due to the improvement's cohesion can make to the PCDEs due to it fulfilling the need of relatedness, as improved group cohesion was found to increase the athletes' capability to cope with stressful scenarios (Gu et al., 2022). The coach-athlete relationship was also described as being predominantly positive by the participants. Participants mentioned that they had faith in the coaches as they believed they were competent in their role, and how the relationship was generally positive. A healthy coach-athlete could have a positive effect on the motivation and PCDEs of the team, as it reduces feelings of burnout, increases passion and improves needs fulfilment which subsequently increases intrinsic motivation (Gullu, 2018; Isoard-Gautheur et al., 2016; Sophia Jowett & Lavallee, 2007; Mills et al., 2014; Olympiou et al., 2008).

Feedback Delivery

There were some aspects of the relationships that were perceived to be negative, namely the way that criticism and feedback was given to others. The athletes within the study detailed occasions where they were frequently verbally abused by the coaches as well as their teammates for making mistakes (Baker et al., 2000). This appears to be common within football, with other researchers also describing that verbal abuse, intimidation and even physical violence were common methods coaches use to control player behaviour (Kelly & Waddington, 2006). By punishing mistakes by verbally abusing players, it can damage their psychological well-being as it alters their perception of competence, and therefore their self-determination (Martin et al., 2009; Sagar & Jowett, 2012). Abuse lowers the athlete's intrinsic motivation as they begin to feel incompetent, unworthy, and unskilful (Sagar & Jowett, 2012). The participants cited that the reasoning for this was due to the competitiveness of the environment, which was driven by competition between teammates and the need to win. Whilst promoting rivalry between team members can motivate players in the short term (Kilduff, 2014; Kilduff et al., 2016), it is commonly linked to displays of antisocial behaviour towards teammates (Boardley & Jackson, 2012). Rivalry between teammates can lower their own as well as their teammates intrinsic motivation, as by comparing themselves to others they are frustrating their need to feel competent if their teammate outperforms them, and by competing against one another they are straining the need for relatedness (Boardley & Jackson, 2012).

3.4.7 Impact of GPS Data

In terms of the participants perceptions of the GPS data, there were differing opinions into the usefulness of the data. Participants felt as though the stats were only relevant to some positions, and that in some cases the data could not be accurate, suggesting a lack of trust or buy-in. This is despite previous research showing that the GPS used to monitor distance and high-speed running, as well as the inertial sensor which is used to measure explosive efforts and jumps are sufficiently accurate and are valid and reliable in a lab and field-based setting (Boyd et al., 2011; Scott et al., 2016). Lack of buy in, or mistrust in GPS systems is said to be the biggest barrier to its usage (Akenhead & Nassis, 2016). Reasons for poor buy in could be a lack of knowledge on

the devices, or a lack of clear communication from the sports scientist (Theodoropoulos et al., 2020).

On the culture around the GPS at the club, it was apparent that there was an ego-oriented culture surroundings its usage. Participants described how it was used by coaches to “call-out” players whose stats were not high. They also described how players used it to pick on other members of the team, and how they compared themselves to their teammates and perceived themselves accordingly. Because of this ego-oriented culture there appeared to be an element of fear surrounding the system. This is conducive with the observations made by the researcher, as players frequently approached them asking where they ranked compared to others in terms of their total distance. It appeared to be an effective motivator, with participants explaining how the stats motivated them to run more during games. The need for this was questioned, with participants believing it should not be needed as a motivator as players should be willing to run and work hard inherently.

If the GPS system is being used to threaten players into running more, then it suggests that its usage motivates players via external regulation. As forementioned, this is the lowest form of extrinsic motivation (Gillet, Berjot, et al., 2009). In this case, the player’s fear of punishment will provoke them to run further and work harder. Whilst this can be effective in the short-term, longer-term players may experience anxiety and burnout from the fear of punishment, and it may also strain the coach-athlete relationship (Moreno-Murcia et al., 2019). Therefore, it may be worth investigating how the culture surrounding the usage of GPS can be changed.

3.4.8 Implications

Applied Implications

Overall there are numerous applied implications that may impact the club environment and culture as well as the psychological skills of the players and coaches. These are discussed in the general discussion (Section 5.1) and are summarised below.

The use of a TARGET framework to promote Mastery-Orientation. As forementioned the majority of the participants describe their primary motivators as being external sources, which could indicate that their psychological needs are not being met sufficiently to cause intrinsic motivation. The primary focus of the club should be to make changes to the environment that improve the needs satisfaction of the players. Namely through the creation of a task-oriented environment (Li et al., 2019). Currently, the focus appears to be on ego orientation. The areas of the environment that suggest this is the case is the sole focus on results and the aggressive nature of feedback delivery from players and staff. The majority of the past research shows that ego-orientation has a detrimental effect on psychological attributes, with it being shown to lower resilience, increase trait anxiety, reduce team cohesion, and negatively impact the perceived competence of the athletes and subsequently their motivation (Boncu, 2020; Burton & Martens, 1986; Carpenter & Morgan, 1999; Gadient et al., 2020; Rottensteiner et al., 2015).

In order to change this, the coaches could look to implement the TARGET framework (Epstein, 1989). The TARGET taxonomy highlights areas of the environment that can be managed to promote a more mastery-involving motivational climate (Kingston et al., 2018). By using the framework, the club could see which areas of the club need altered. In the literature review, it was identified that there were some TARGET structures that held a greater weighting than others when it came to changing an elite football environment's orientation, therefore more attention should be afforded to them. These structures were task, authority, recognition and evaluation (Kingston et al., 2018). When working through these factors, various strategies could be used to promote mastery-orientation. **Task**: Tasks should be varied, diverse and sufficiently difficult, whilst also limiting the opportunity for comparison, but promoting opportunities for self-referenced goals (Ames, 1992). In terms of the club, this could mean that training sessions change frequently instead of using the same sessions, and individualised, self-referenced goals could be set, such as completing a certain percentage of successful passes in the games than the previous day. **Authority**: In terms of authority, as it is based off of empowerment (Morgan, 2008) the players should be included in the learning process (e.g. asking for their opinions during video meetings) and given the responsibility to make decisions that are perceived as being impactful (Roberts, 2001). **Recognition**: Positive behaviours should also be

recognised through the use of rewards (Ames, 1992; Keegan et al, 2010). For example a trainer of the week award could be used or including more fun activities in training. These rewards should be given off the basis of effort, personal improvement and learning from setbacks as opposed to purely positive results (Kingston et al., 2018). **Evaluation**: Lastly, evaluation should be private, self-referenced and salient to best achieve mastery-orientation (Ames, 1992). In a practical setting, this could mean that instead of ostracising players in front of their teammates as was described in the interviews, coaches could arrange private meetings with the players to discuss their performances.

Implementing a Leadership Group. As well as this there appeared to be a lack of leadership amongst the playing squad, which was listed as being the cause of lapses in motivation and a sense of complacency in the team. Currently there is only one recognised leader within the playing group in the form of the club captain. Past research shows that oftentimes the captain is not seen as the best leader (Fransen et al., 2017). The most optimal way to improve the leadership of a football team is through the creation of a leadership group (Haddad et al., 2021). The leadership group should consist of task, social, motivational, and external leaders, with the qualities of the players being matched to the specific role (Fransen et al., 2017). Having a shared model influences others within the group from a different perspective than an elected leader such as a captain or a coach, as the relationship lacks the downwards power dynamic, which may improve the sense of leadership and raise player motivation (Fransen et al., 2017).

Implementing Regular PST. From the interviews it appeared as if some of the players lacked emotional control and psychological resilience, which can be detrimental to performance (Özdemir, 2019; Toering et al., 2009). Whilst these skills can be improved through changing elements of the environment to be more task-aligned, another way the club could further the players psychological skills development is through PST sessions, led by a sports psychologist. Techniques that have been proven to be effective at developing these skills in previous research are goal setting and imagery (Ercis, 2018; Röthlin et al., 2020). In past literature, athletes' that implemented imagery were found to display much greater self-confidence and

consequently, possessed greater self-regulatory skills (Ercis, 2018). As well as this, the combination of individual goal setting and imagery has been linked to improvements in an athlete's coping skills (Gould et al., 1992; Rose & Jevne, 1993). The sports psychologist should be available to the team at least three times per week, which is in accordance with previous research methods (Birrer & Morgan, 2010; Heydari et al., 2018; Julvanichpong et al., 2022).

Changes to the Development Pathway. From the interviews, it is clear that the participants perceive there to be an issue with the youth development pathway at the club, which was said to have a detrimental effect on the first team. As described, there were three main reasons why this was thought to be the case. Firstly, there was said to be a lack of discipline in the players that the youth academy is promoting into the first team. Secondly, there was said to be too many academy players being brought into the first team who weren't ready for the transition. Finally, there was said to be no clear development pathway for the youth players after the removal of the development team. In order to observe positive change in the academy, the club should develop an ethos made of strong values, beliefs and goals that are congruent with those of the first team (Henriksen et al., 2010; Mills et al., 2014). This should include a clear philosophy and vision of what the academy wants to achieve, and how it can best support the first team (Mills et al., 2014). The values that are implemented should include more than simply footballing values within it (Henriksen et al., 2010). This should be driven from the top-down so that there is cohesion between the first team and the academy, and so that the academy graduates are somewhat used to the culture which may help their transition (Mills et al., 2014). Finally, an under 23s team or a development squad could be formed to act as a middle bridge between the first team and the academy. Doing so may provide the younger players with opportunities to train with the first team without them being directly involved which may increase their motivation (Henriksen et al., 2010) and help the first team as they are not using up squad places when they are not psychologically ready. This must be implemented in a way to help the first team, with the manager getting control over aspects of the development team to ensure the values and training are congruent.

Stronger Leadership from Off-Pitch Management. The interviews highlighted strain in the relationship between the coaching staff and the off-pitch management at the club. Participants described a mistrust in the Board of Directors as well as the other off-pitch management positions, with them believing there are outside influences at the club who have their own agendas that are not conducive with a successful first team. This is not uncommon in football teams, with previous research mentioning that administrative staff can create issues for the coaches as they try to influence football related decisions to meet hidden agendas, such as media, money, alliances, and power struggles (Bentzen, Kenttä, & Lemyre, 2020). Employees that lack trust in their employer can take retaliatory action such as a reduction in commitment, rumour spreading and a breakdown of relationships which could negatively impact the organisations performance (Andiappan & Treviño, 2011; Gillespie & Dietz, 2009). To rebuild trust, the management should align their decision-making processes with that of the organisation's goals (Serrat, 2017). They could also align their values with those of the first team manager so they are making decisions that can benefit them, as opposed to making decisions without including them in the process.

As well as this the participants addressed a lack of clarity in the decisions they received from the directors. In order to fix this, the club could try fitting off-pitch personnel into clearly defined roles, with a clear reporting structure. The forementioned study by Bentzen et al. (2020) described how football clubs are often lead in an unprofessional manner with people employed in various senior roles, but there being a lack of role clarity and ambivalence between the non-footballing staff and the board which makes reporting structures unclear. This can be detrimental to the cohesion of the club (Eys & Carron, 2001), which as described before, can reduce the mental toughness and motivation of the people within it, subsequently affecting results (Tziner et al., 2003). Because of this, once placed in roles, the reporting structure should be adhered to, and role clarity must be provided.

Implications for Future Research

Following on from this study, it would be beneficial to gather additional quantitative data to explore GPS data usage within this setting and its potential impact on

motivation. The qualitative approach of the current study allowed the participants to express their viewpoints regarding the club's environment and the toll that has upon their psychology. It initially provided the researcher with a broad perspective of the issues at the club, that the researcher was then able to explore in greater detail. As there is no known research about how GPS usage is perceived from a cultural or psychological perspective, additional data would be beneficial as the participants' of this study largely described its usage as being ego-involving.

As well as this, it may be beneficial to conduct follow-up interviews following a block of psychological skills training. The research showed that the players' tended to lack psychological resilience and emotional control, therefore practically it may prove beneficial to implement PST within the team's training schedule. By interviewing post-intervention it would highlight any improvements to their psychological attributes. Durations for PST intervention protocols vary within the literature, however significant benefits were observed in athlete's coping skills over the course of 16-weeks (Vidic et al., 2017). Because of this, it appears logical to reassess the participants after a 16-week block to see if any changes are witnessed.

Finally it may be valuable to assess the club's promotion of mastery orientation through the TARGET framework. As the TARGET framework looks into the design of activities (task), the location of decision-making (authority), use of rewards (recognition), selection of working groups (grouping), the assessment criteria (evaluation) and the pace of learning (time) in an environment, it would allow researchers to identify which areas of the club are promoting mastery traits, and which areas need to be changed.

3.4.9 Strengths and Limitations

Strengths

One of the strengths of this research is within the novelty of its design. The study is novel in that it looks specifically at the second tier of professional football, whereas other studies tend to be conducted on the elite level or on youth teams, as revealed by the literature review. It is also novel in that it investigates the unique environment and culture within a Scottish football team. To the researcher's knowledge, there have

been no other qualitative studies conducted upon this population, meaning that the study adds insight to a potentially overlooked group within the sports science literature.

Another strength of the study was that the researcher was embedded within the TDE. This allowed them to gain an insight into the areas of the club that may have been hampering the motivational attributes of the employees. As they were working as the team's sports scientist, they experienced the environment first hand. This allowed them to tailor the interview guide to be more detailed on certain topics which had been identified as problematic (e.g. perceived disconnect with the academy) which may have improved the richness and depth of the data (Black et al., 2021). It also meant that the researcher could better interpret the results during data analysis (Reeves et al., 2013).

Furthermore, the researcher was part of the club for a full season prior to data collection. This allowed them to fully assimilate with the team, meaning they were able to build trust with the prospective participants which may positively influence the quality of the responses that were given (Guillemin et al., 2018). As the interviews questioned the participants on personal topics such as setbacks in their life and gave them the chance to confront issues within their workplace, gaining trust was imperative to prevent participants withholding information and allowing them to express themselves freely.

Limitations

However, the study did have some limitations. This was the researchers first time conducting semi-structured interviews. Because of this, there may have been some mistakes made during the questioning, such as leading participants or not allowing them to fully develop points. During the first two interviews, the researcher noted upon reflection that they adhered to the script to too great an extent, meaning that they missed points that could have been developed by the participants. Whilst this would be sufficient for a structured interview, the interviews were semi-structured which gives freedom for the researcher to ask questions at their discretion (Wilson, 2014), therefore opportunities may have been missed.

Also, no current coaches or players from the academy were interviewed, therefore it is unclear if the statements made regarding the youth academy are reliable. However, two of the players that were interviewed played for the youth academy in recent seasons, and two of the coaches previously worked for the academy. Because of this they are somewhat suited to provide insight into its culture, and with them being distanced from the academy they may be less bias in their responses.

4. Phase 3 – Questionnaire Study

The use of Global positioning system (GPS) technology amongst team sports athletes has increased in popularity over recent times (Cummins et al., 2013). GPS allows coaches and exercise practitioners to gather data on player positions, velocity, and movement patterns (Cummins et al., 2013). By doing so it provides sports scientists, coaches, and analysts with the opportunity to analyse player performances live during competition and training (Cummins et al., 2013). As it measures the athlete's movements it can be used to quantify the external load placed on players (McLellan et al., 2011). They can also be used in tandem with heart rate monitoring devices to gain a comprehensive picture into the athlete's exertion. Despite the benefits of using GPS to monitor the physical load of players being well known, there is little information about the psychological impact that using GPS has on the athletes or how this data is being fed back to players and staff, and the impact this has upon the TDE.

In terms of the TDE, the team's goal orientation has a significant impact upon the psychological skills of the individuals as well as social factors such as group cohesion (Li et al., 2019; Ommundsen et al., 2005). The interviews in Phase 2 of the project tried to determine whether the environment at the club was more ego or task-involving, however mixed responses were reported from the participants. Although results were said to be the primary focus (a typically ego-involving environmental trait), there were areas that were described as being task-involving. Because of this, it could be useful to quantify the perceptions of the goal orientation to clarify the participants overall stance. In addition, past literature has found that there is oftentimes a difference in perceptions of the motivational climate between coaches and players. Coaches can sometimes believe they are creating a mastery-oriented climate whilst inadvertently promoting a performance-oriented one (Pensgaard & Roberts, 2002). Oftemtimes this can occur due to the coaches unintentionally demonstrating ego-involving behaviours caused by a lack of psychological skills, experience, or awareness as to how their behaviour can influence the group (Werthner & Trudel, 2006). Furthermore, these behaviours could also be caused by the psychological state of the coach. As mentioned in Phase 1 and 2, football coaches are constantly under high degrees of psychological stress, caused by various factors unique to their role and their club (Bentzen, Kenttä, & Lemyre, 2020; Frey, 2007; Olusoga et al., 2009). The high levels

of stress can have a deleterious impact upon them mentally (Bentzen et al., 2014), which can lead to them exhibiting controlling behaviours and creating an ego-climate (Stebbings et al., 2011). As two of the three coaches interviewed described feelings of frustration, stress and dissatisfaction with areas of the club, it may be useful to see if there is a reporting difference between the coaches and players, in case they are unintentionally promoting ego-oriented characteristics.

4.1.1 Context of GPS

The way that GPS is used within the club highlights it as being a variable that merited investigation. In Phase 2 of the study, the researcher explored the participants' perceptions of the use of GPS data, the culture surrounding its use at the club and subsequently the impact this had upon their motivation. Within the interviews, it was found that GPS was used as a motivational tool by the coaches, with them singling out players whose stats were not high. Coach C confirmed this by saying “they know they can't hide, they know they have to, they have to run or they’re going to get called out on it" (Coach C). Participants also described that players could use it to pick on other members of the team if their stats were low, and also as a means to compare themselves to their teammates. There also appeared to be a degree of fear surrounding the systems use, with players asking if their scores were “good or bad” and if the coaches are “happy with them”, indicating that they perceive there to be an affiliated negative consequence if they have not run enough.

From its use within these scenarios, it appears that the GPS is used in an ego-oriented manner. With players comparing themselves to their teammates, it indicates a level of intra-team member rivalry, where they base their perception of competence on how they compare to others (Duda, 2001). As mentioned in Phase 1, the intra-team member rivalry that is formed by players comparing themselves to others negatively impacts the player’s perception of relatedness within their environment, decreasing their self-determination, and inhibiting psychological attributes (Boncu, 2020). Furthermore, with coaches shouting at players for not running, it appears that it is sometimes used as a tool to punish players in order to motivate them. This can be detrimental, as athletes’ that perceive their coach to respond to errors in an aggressive

or punishing manner are said to like, respect, commit and cooperate with their coach less (Martin et al., 2009).

4.1.2 Aims

Because of this, it is important to further investigate how the use of the data at the club by the coaching staff is perceived. The purpose of Phase 3 was to help answer objectives 2 and 4 of the overarching research question. To do so an online questionnaire was used. The aim of this phase of the study was to explore the participants perceptions of task and ego-orientated environmental characteristics, measured by the PMCSQ-2. From this data, the players and coaches perceptions of the motivational environment within their Scottish Championship level team will be compared. Modification to the PMCSQ-2 will enable an exploration of the task and ego-perceptions of feedback delivered to players via GPS performance data.

4.2 Methodology

4.2.1 Participants

The participants in this phase of the study consisted of coaches (n=3) and players (n=15) from within the football club. The selection criteria for this phase of the study were that all players were male, full-time, first team squad members over the age of 18. This included players who were at the club on loan from another club. All of the coaches were male, over 18, possessed UEFA B licence coaching badges and coached the first team squad. As the questionnaire was completed anonymously, no personal data was collected on the participants.

4.2.2 Instrument

The questionnaire that was selected for the study was a modified version of the Perceived Motivation Climate in Sport Questionnaire-2 (PMCSQ-2) (Newton et al., 2000). The questionnaire is based off of the original Perceived Motivation Climate in Sport Questionnaire (PMCSQ) that was developed by Seifriz et al. (1992). The PMCSQ-2 was created due to suggestions that the precursory survey could be improved by conceptualizing the climate into a hierarchical structure, with lower order subscales underpinning the higher order scales (Kavussanu & Spray, 2006; Seifriz et al., 1992).

The PMCSQ-2 is a 33-item inventory that assesses the athlete's perception of the motivational climate created by their coach (Pérez-Romero et al., 2022). Phase 1 of the study highlighted that the main driver for a team's motivational climate is the head coach (Lyubovnikova et al., 2017), therefore it was logical to choose an inventory that assessed the impact that the coach's actions had upon the team environment. The inventory was also selected because the items could be modified to allow both coaches and players to respond to it, similar to the methods utilised by Møllerløkken et al. (2017) and Stebbings et al. (2011). As well as this, it is linked to AGT (Ames, 1992), with the higher order scales of the inventory being related to goal orientation.

In the PMCSQ-2, there are 2 higher order scales: task orientation and ego orientation. 17 of the items within the questionnaire relate to task orientation, and 16 relate to ego orientation. There are also 6 lower order subscales; 3 of which are ego-involving, and the other 3 are task-involving (Pérez-Romero et al., 2022). The lower order task-involving factors are cooperative learning, important role in the team and effort/improvement. Examples of task-oriented items in the PMCSQ-2 are "players help each other learn" for cooperative learning; "each player contributes in some important way" for important role; and "the coach wants us to try new skills" for effort/improvement. The lower order ego-involving factors are Intra-team member rivalry, unequal recognition, and punishment for mistakes. Examples of ego-oriented items in the PMCSQ-2 are "players are encouraged to outplay each other" for intra-team rivalry; "the coach gives most of his attention to the stars" for unequal recognition; and "the coach gets mad when a player makes a mistake" for punishment for mistakes. Each of the 33 items begin with the stem "On this team…".

Inventory items were associated with the lower order scale based on the correlations made by Newton et al. (2000). Newton et al. (2000) attempted to relate each of the items in the questionnaire to the subscales through a confirmatory factor analysis (CFA). The analysis revealed that the task-involving items were an acceptable measure of the task related subscales, with the t-values ranging from 6.74 – 7.00 which was statistically significant. Contrastingly, only the items related to unequal recognition were deemed to be an acceptable measure of the factor for the ego-

involving scale. The adequacy indicators for the items associated with punishment for mistakes and intra-team member rivalry suggested that the items were not a satisfactory measure of the subscales, with the punishment for mistakes scale having a low loading factor and low squared multiple correlation (Newton et al., 2000). When looking specifically at the items within the punishment for mistakes subscale, item 7 ("On this team, the coach thinks only the starters contribute to the success of the team") appears to be a misfit for the scale, with it having the lowest factor loading and t-value. Despite it being selected to measure the punishment for mistakes factor, the wording more closely represents those of the unequal recognition items. Although Newton et al. (2000) stated that certain items could be applied to many of the subscales due to the wording of them not being overtly clear, doing so would violate the exclusive association criteria of questionnaire development (Newton et al., 2000). Therefore for this study, item 7 has been aligned with the unequal recognition factor.

Modifications

As the PMCSQ-2 was designed to gather an athlete's perception of their motivational climate, the wording of the questions can prove problematic when research tries to incorporate coaching populations as well. Because of this, the questionnaire was modified to be in line with previous research that encountered a similar scenario (Møllerløkken et al., 2017; Stebbings et al., 2011). Whilst the questionnaire remained the same in terms of the order and content of the items to maintain predictive validity, the lead into the questions was changed to read "On my team…" as opposed to "On this team…". For the coaches, an example of a task-oriented item was "On my team, I encourage players to try new skills". Likewise an example of an ego-oriented item was "On my team, I believe only the starters contribute to the success of the team". As well as this, modifications were made so that the influence of the GPS data feedback could be assessed, from both a coaching and player perspective (Table 2). The GPS modified items (GPS_{mod}) were chosen to be modified if it did not change the underlying meaning of the question by completely altering the wording. Of the 33-items, 10 were modified to be GPS_{mod} items. 8 of the 10 modified items were ego involving, and 2 were task-involving. More ego-involving items were changed as Phase 2 suggested that the culture around the GPS was more ego-oriented.

Table 2

Players PMCSQ-2 with GPS Modifications

Item	Original	Modified	Higher Scale	Lower Scale
1	On this team, the coach wants us to try new skills.	-	Task	Effort/ Improvement
2	*On this team,* the coach gets mad when a player makes a mistake.	-	Ego	Punishment for Mistakes
3	*On this team*, the coach gives most of his or her attention to the stars.	*On this team*, the coach gives most of his attention to the players that have the best GPS stats.	Ego	Unequal Recognition
4	*On this team,* each player contributes in some important way.	-	Task	Important Role
5	*On this team*, the coach believes that all of us are crucial to the success of the team.	*On this team*, the coach believes that all of us are crucial to the success of the team, even if we score low on the GPS stats.	Task	Important Role
6	*On this team*, the coach praises players only when they outplay team-mates.	*On this team*, the coach praises players only when their stats are higher than their teammates.	Ego	Intra-Team Rivalry
7	*On this team,* the coach thinks only the starters contribute to the success of the team.	-	Ego	Unequal Recognition
8	*On this team,* players feel good when they try their best.	-	Task	Effort/ Improvement
9	*On this team,* players are taken out of a game for mistakes.	-	Ego	Punishment for Mistakes
10	*On this team,* players at all skill levels have an important role *on the team.*	-	Task	Important Role
11	*On this team,* players help each other learn.	-	Task	Cooperative Learning
12	*On this team,* players are encouraged to outplay the other players.	-	Ego	Intra-Team Rivalry

13	*On this team,* the coach has his own favourites.	-	Ego	Unequal Recognition
14	*On this team,* the coach makes sure players improve on skills they are not good at.	-	Task	Effort/ Improvement
15	*On this team*, the coach yells at players for messing up.	-	Ego	Punishment for Mistakes
16	*On this team*, players feel successful when they improve.	*On this team*, players feel successful when their GPS stats improve.	Task	Effort/ Improvement
17	*On this team*, only the players with the best "stats" get praise.	*On this team*, only the players with the best GPS stats get praise.	Ego	Unequal Recognition
18	*On this team,* players are punished when they make a mistake.	*On this team*, players are punished when they have poor running stats.	Ego	Punishment for Mistakes
19	*On this team,* each player has an important role.	-	Task	Important Role
20	*On this team,* trying hard is rewarded.	-	Task	Effort/ Improvement
21	*On this team,* the coach encourages players to help each other.	-	Task	Cooperative Learning
22	*On this team,* the coach makes it clear who he or she thinks are the best players.	-	Ego	Unequal Recognition
23	*On this team*, players are "psyched" when they do better than their team-mates in a game.	*On this team*, players are "psyched" when they have better GPS stats than their teammates in a game.	Ego	Intra-Team Rivalry
24	*On this team*, if you want to play in a game, you must be one of the best players.	*On this team*, if you want to play in a game, you must be amongst those with the highest running stats.	Ego	Unequal Recognition
25	*On this team,* the coach emphasises always trying your best.	-	Task	Effort/ Improvement
26	*On this team*, only the top players "get noticed" by the coach.	*On this team*, only the players with the best GPS stats "get noticed" by the coach.	Ego	Unequal Recognition
27	*On this team*, players are afraid to make mistakes.	*On this team*, players are afraid to have poor GPS stats.	Ego	Punishment for Mistakes

28	*On this team,* players are encouraged to work on their weaknesses	-	Task	Effort/ Improvement
29	*On this team,* the coach favours some players more than others.	-	Ego	Unequal Recognition
30	*On this team,* the focus is to improve each game/practice.	-	Task	Effort/ Improvement
31	*On this team,* the players really "work together".	-	Task	Cooperative Learning
32	*On this team,* each player feels as if they are an important team member.	-	Task	Important Role
33	*On this team,* the players help each other to get better and excel.	-	Task	Cooperative Learning

Note. Shaded items represent GPS_{mod} items. No modification is represented by a hyphen.

4.2.3 Procedure

Prospective participants were briefed upon the questionnaire prior to it being published. After the briefing, posters with QR codes that contained the link to each questionnaire were placed around the club, one in the coaches' office and one in the players dressing room. Two versions of the study were made, one that was worded in order to relate to the players, and one that was focussed on the coaching staff. The posters were clearly marked so that a player did not mistakenly answer the coaches' questionnaire or vice versa. The questionnaires were built and made available online via the use of Qualtrics Survey building tool (XM Qualitrics, USA, 2022). The two versions of the survey were opened on the 15th of August 2022. The coaches' questionnaire was closed on the 16th of September 2022 and the players on the 22nd November 2022. The coaches' questionnaire was closed earlier due to the maximum number of prospective participants completing the survey in that timeframe, whereas the players were given extra opportunity. Prior to completing the questionnaire, participants were asked to give their consent on the form. If they did not give consent, then the survey skipped to the end page and debrief sheet. On the questionnaire, each of the 33 questions items with the stem "On this team…" or "On my team…" (Coaches) as previously described. Participants responded to each of the items using a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Items were

arranged either in a matrix table, or by 2 questions per page. The survey took participants an average duration of approximately 7½ minutes to complete.

4.2.4 Statistical Analysis

After the data had been collected, statistical analysis was conducted using Jamovi statistics software (Version 2.2.25, USA, 2022). Responses were downloaded from Qualtrics into an excel file, where the data was assessed for missing values before being transferred over to Jamovi. 3 out of the 15 participants that responded to the players' survey failed to respond to any of the items, therefore their data was omitted from the study. Shapiro-Wilk tests, Levene's test histograms and Q-Q plots were ran to confirm the distribution of the data. The data failed to meet the assumptions required for parametric testing, with it failing both Levene's test of homogeneity and Shapiro-Wilk's test of normality. As well as this, the sample size was small ($n<30$) , therefore Mann-Whitney U tests were used to assess the difference in Likert scale responses between the ego and task-oriented items, the coaches' (n=3) and players' (n=12) perceptions of the higher and lower scale items, and the GPS_{mod} items.

Analysis of Modified Items

In order to assess the participants perception of the use of GPS data in the club, multiple Mann-Whitney U tests were conducted upon the modified items. Initially, task and ego scores were compared for the modified and unmodified items. This was done to see if the participants viewed the environment differently when GPS as a factor was extracted. Doing so would allow the researcher to see if there is a relationship between GPS usage at the club and task or ego-involving characteristics. Secondly, the coaches' and players' responses were compared between the modified and the unmodified items for each of the higher scales (i.e. ego-involving GPS_{mod} items were compared with ego-involving unmodified items for coaching and playing groups discretely). This was done to see if there were any significant differences between the modified and unmodified items, as it could demonstrate any differences between how the groups perceive the systems usage. Lastly the GPS_{mod} items were compared to the unmodified items through each of the lower scale factors in order to highlight which of the factors GPS usage was related to.

Statistical Hypotheses

The null hypotheses that were tested with the Mann-Whitney U tests were:

- There will be no significant difference in participant Likert scale response between task and ego-oriented items.
- There will be no significant difference in Likert scale response between the coaches and the players.
- Likert scale response for ego-involving GPS_{mod} items will not significantly differ from unmodified ego items.

4.3 Results

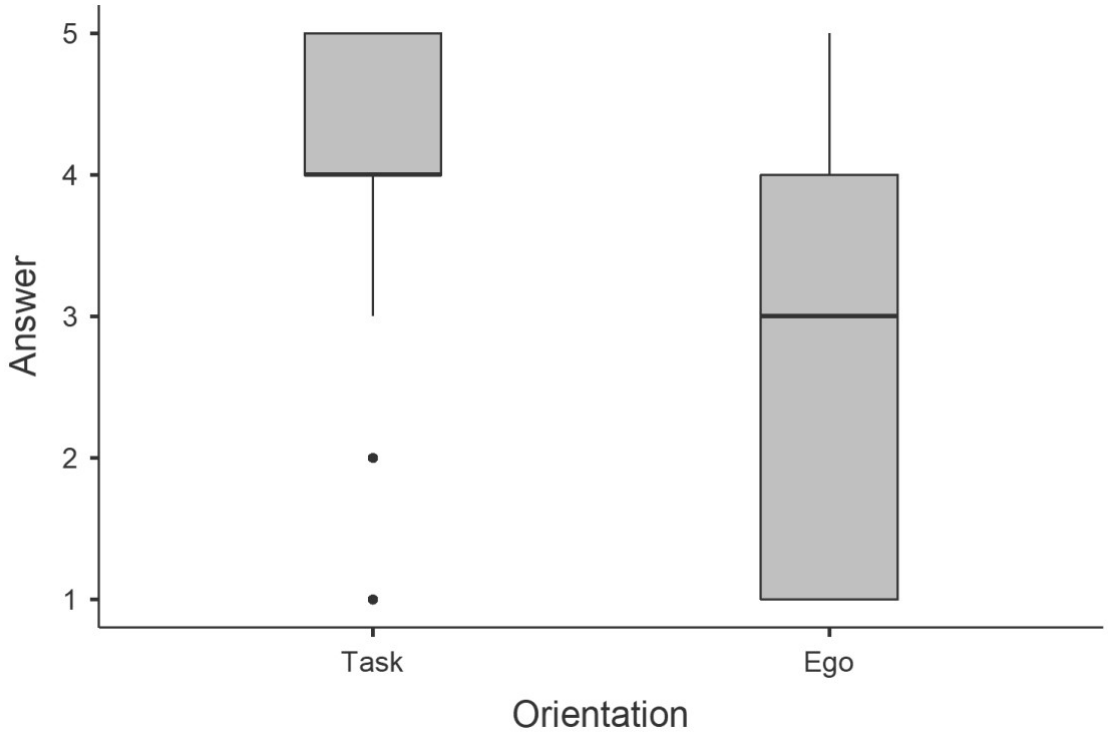
The results section will initially explore the participants ratings of task and ego-orientation environment characteristics, measured by the PMCSQ-2. From this data, players' and coaches' perceptions of the motivational environment within their Scottish Championship level team will be compared. The third section will reveal the participants perception on the use of GPS performance data, made possible by the modifications to the PMCSQ-2.

4.3.1 Overall Perception of TDE Goal Orientation

The distribution of the responses to the task and ego-oriented items for the combined participant groups (n=15) can be seen in Figure 3. The median responses to the task-oriented items were found to be significantly higher than the response for the ego-oriented items ($Mdn_{Task} = 4$, $Mdn_{Ego} = 3$).

Figure 3

Median Likert Scale Comparison between Task and Ego Goal Orientations



Note. Central line represents median.

The participants (n=15) overall perception of the seventeen task-oriented items is presented in Table 3. The table ranks the items based on the mean Likert scale response, with the item they agreed with most strongly at the top, and least at the bottom. The median scores did not fall below somewhat agree for the population, although some participants did strongly disagree with the two lowest rank items (item 16, item 1). The table presents the items from the players' version of the PMCSQ-2, though the coaches did use their own modified version.

Table 3

Task Scale item-by-item Descriptive Analysis

Item no.	Item	Min	Max	Median	Mean	Std. Dev	L. Scale
25	*On this team,* the coach emphasises always trying your best.	5	5	5	5.00	0.00	Eff
30	*On this team,* the focus is to improve each game/practice.	4	5	5	4.80	0.41	Eff
19	*On this team,* each player has an important role.	4	5	5	4.73	0.46	Imp
21	*On this team,* the coach encourages players to help each other.	4	5	5	4.73	0.46	Coop
4	*On this team,* each player contributes in some important way.	2	5	5	4.53	0.92	Imp
31	*On this team,* the players really “work together”.	4	5	5	4.53	0.52	Coop
33	*On this team,* the players help each other to get better and excel.	4	5	4	4.47	0.52	Coop
8	*On this team,* players feel good when they try their best.	2	5	5	4.40	0.83	Eff
5	*On this team*, the coach believes that all of us are crucial to the success of the team even if we score low on the GPS stats.	3	5	4	4.33	0.62	Imp
11	*On this team,* players help each other learn	4	5	4	4.33	0.49	Coop
10	*On this team,* players at all skill levels have an important role *on the team.*	2	5	5	4.27	1.10	Imp
28	*On this team,* players are encouraged to work on their weaknesses	2	5	4	4.13	0.83	Eff
14	*On this team,* the coach makes sure players improve on skills they are not good at.	3	5	4	4.00	0.76	Eff
20	*On this team,* trying hard is rewarded.	3	5	4	4.00	0.66	Eff
32	*On this team,* each player feels as if they are an important team member.	2	5	4	3.80	1.01	Imp

16	*On this team*, players feel successful when they improve their GPS stats.	1	5	4	3.73	0.96	Eff
1	On this team, the coach wants us to try new skills.	1	5	4	3.67	1.35	Eff

Note. Shaded items represent GPS_{mod} items. Eff = Effort/improvement; Imp=Important Role; Coop=Cooperative Learning.

The participants (n=15) overall perception of the sixteen ego-oriented items can be observed in Table 4. The table ranks the items based on the mean Likert scale response, with the item they agreed with most strongly at the top, and least at the bottom. The most strongly agreed with statement within this scale was the Intra-team rivalry item “players are encouraged to outplay the other players” (M=4.20 ± 0.86). The item that was most strongly opposed was item 7, “the coach thinks only the starters contribute to the success of the team” (M=1.13 ± 0.35). Similarly to table 3, the table 4 presents the items as they were in the players’ PMCSQ-2, though the coaches did use their own modified version.

Table 4

Ego Scale item-by-item Descriptive Analysis

Item no.	Item	Min	Max	Median	Mean	Std. Dev	L. Scale
12	*On this team,* players are encouraged to outplay the other players.	2	5	4	4.20	0.86	ITR
15	*On this team*, the coach yells at players for messing up.	2	5	4	3.80	0.78	Pun
2	*On this team,* the coach gets mad when a player makes a mistake.	1	5	4	3.73	1.10	Pun
29	*On this team,* the coach favours some players more than others.	1	5	4	3.27	1.53	UnR
13	*On this team,* the coach has his own favourites	1	5	4	3.20	1.42	UnR
27	*On this team*, players are afraid to have poor GPS stats.	1	4	3	2.93	1.10	Pun
9	*On this team,* players are taken out of a game for mistakes.	1	5	2	2.73	1.34	Pun

18	*On this team,* players are punished when they have poor running stats.	1	4	3	2.73	0.88	Pun
23	*On this team*, players are "psyched" when they have better GPS stats than their team-mates in a game.	1	4	3	2.53	1.06	ITR
22	*On this team,* the coach makes it clear who he or she thinks are the best players.	1	4	3	2.47	1.46	UnR
24	*On this team*, if you want to play in a game, you must be amongst those with the highest running stats	1	5	2	2.40	1.18	UnR
3	*On this team*, the coach gives most of his attention to the players that have the best GPS stats.	1	4	2	2.13	1.06	UnR
26	*On this team*, only the top players with the best GPS stats "get noticed" by the coach.	1	4	2	1.73	0.80	UnR
6	*On this team*, the coach praises players only when their stats are higher than their team-mates.	1	3	1	1.33	0.72	ITR
17	*On this team*, only the players with the best GPS stats get praise.	1	3	1	1.33	0.72	UnR
7	*On this team,* the coach thinks only the starters contribute to the success of the team.	1	2	1	1.13	0.35	UnR

Note. Shaded items represent GPS_{mod} items. ITR=Intra-Team Rivalry; UnR=Unequal Recognition; Pun=Punishment for Mistakes

4.3.2 Differences between Coach and Player Perceptions of TDE

The coach (n=3) and player (n=12) populations overall perception of the TDEs goal alignment are presented in Table 5. From the responses to the Likert scale it can be determined that the coaches strongly agreed with the majority of items that were related to task orientation. They also disagreed with statements relating to ego orientation. Players on the other hand, somewhat agreed with the task-oriented items, but neither agreed nor disagreed with ego-oriented statements. The results indicated

that there was a significant difference between the coaches' and players' median Likert scale response to task (U=4078, p=0.008) and ego items (U=3196, p<0.001).

Table 5

Descriptive Statistics for Players' and Coaches' responses to Higher Scale Factors

	Coaches (n=3)			Players (n=12)			
Scale	Mean ±SD	Median	Range	Mean ±SD	Median	Range	*p*
Task	4.53 ± 0.81	5.0	2-5	4.27 ± 0.83	4.0	1-5	0.008
Ego	2.02 ± 1.21	1.5	1-5	2.75 ± 1.37	3.0	1-5	<0.001

Note. *p*-value represents differences between medians for coaches and players.

The responses related to each of the lower scale factors can be seen in Table 6. The players and coaches strongly agreed with the items referring to cooperative learning and for important role. The coaches tended to agree more strongly with the cooperative learning and effort/ improvement items than the players did, with a median of 5 on the Likert scale as opposed to 4.5 and 4 respectively. This was reversed when analysing the subscales of intra-team rivalry, unequal recognition, and punishment for mistakes, with the players' median score being 1-point higher than the coaches for each of them.

Table 6

Descriptive Statistics for Players' and Coaches' responses to Lower Scale Factors

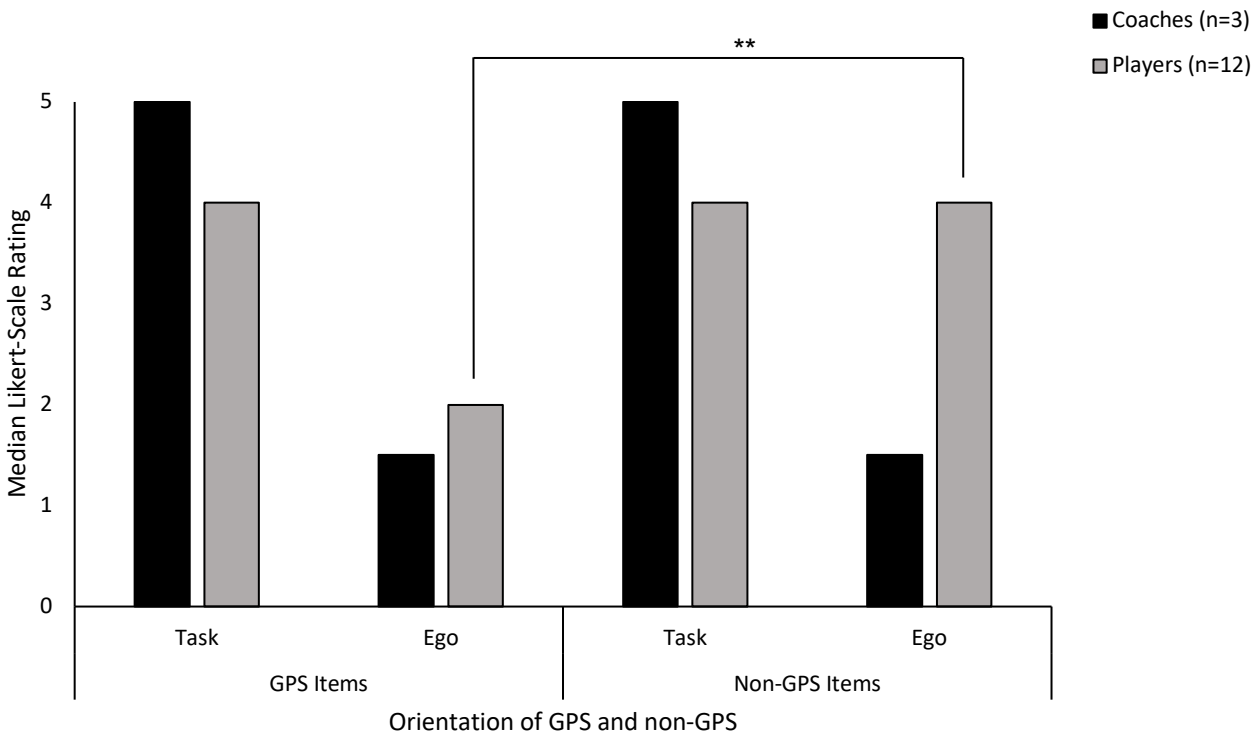
	Coaches (n=3)			Players (n=12)		
Lower Scale	Mean	Median	Range	Mean	Median	Range
Cooperative Learning	4.58 ± 0.52	5.0	4-5	4.50 ± 0.51	4.5	4-5
Important Role	4.47 ± 0.92	5.0	2-5	4.30 ± 0.89	5.0	2-5
Effort/Improvement	4.54 ± 0.88	5.0	2-5	4.14 ± 0.90	4.0	1-5
Intra-team Rivalry	2.56 ± 1.74	2.0	1-5	2.72 ± 1.42	3.0	1-5
Unequal Recognition	1.54 ± 0.88	1.0	1-4	2.38 ± 1.37	2.0	1-5
Punished for Mistakes	2.47 ± 1.06	3.0	1-4	3.37 ± 1.09	4.0	1-5

4.3.3 Perception of GPS in TDE

In terms of the participants views on how the collection and feedback of GPS data impacted the TDE, the median response can be seen in Figure 4. Between groups, there was not a significant difference between the players' and coaches' responses to the GPS items (U=1716, p=0.686). The coaches median response to the task and ego scales were the same for both the GPS_{mod} and unmodified items (GPS_{mod}: Task=5, Ego=1; Non-GPS: Task=5, Ego=1). However, there was a significant difference between the players' perception of ego-oriented items between the GPS_{mod} and non-GPS items (U=2371, p<0.001). The median response to ego related GPS_{mod} items and with unmodified ego-oriented items were 2 and a 4 respectively.

Figure 4

Median Participant Perception of GPS impact on TDE Goal Orientation



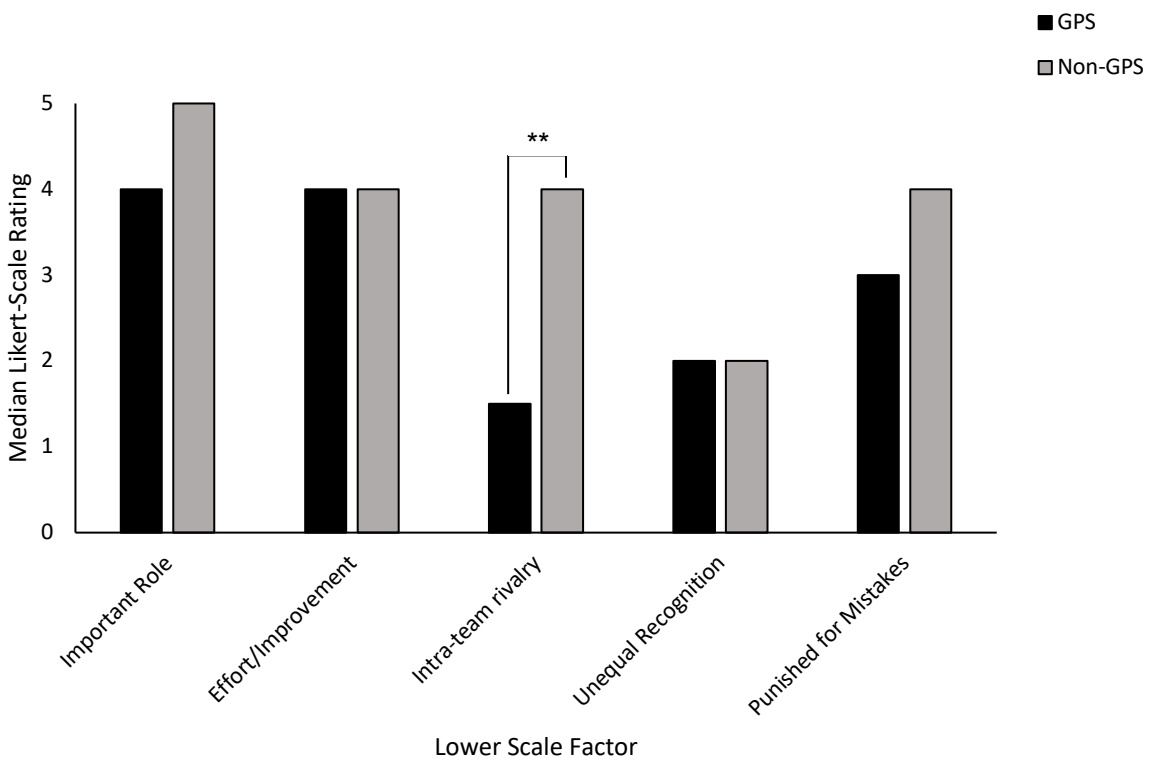
Note. ** p<0.005

Differences in median response between GPS_{mod} and unmodified lower scale factors can be seen in Figure 5. The participants perceptions did not vary significantly for the

majority of the subscales. The factor where a significant difference was seen between the non-GPS and GPS_{mod} items was relating to intra-team rivalry. The participants disagreed with the GPS related intra-team rivalry items, but somewhat agreed with the non-GPS items (Mdn_{GPS}=1.5, $Mdn_{non\text{-}GPS}$=4; $p<0.05$).

Figure 5

Median Lower Scale Likert-Scale Rating for GPS_{mod} and Non-GPS Items



Note. ** $p<0.005$

4.4 Discussion

The purpose of this phase of the study was to explore the coaches' and players' perception of task and ego-involving environmental characteristics within their Scottish Championship level team. It also served to assess the participants perceptions of GPS data feedback and collection within their TDE. The study recorded the participants perceptions using a modified version of the PMCSQ-2, in which certain items were

related to GPS data collection and feedback. The coaches' version also contained a modified lead to the items, becoming "On my team…" as opposed to "On this team…".

4.4.1 Findings

Perception of TDE Orientation

The findings from the questionnaire show that the participants perceive the coach created environment to be more closely aligned to a task-oriented environment than an ego-oriented one, with them scoring task items higher than ego-items (Mdn_{task}=4; Mdn_{ego}=3). This indicated that they tended to somewhat agree with the mastery-oriented items and neither agreed nor disagreed ego-oriented items. However, there were significant differences in the perception of the environment between the players and coaches. The coaches tended to disagree with the ego related items, whereas the players neither agreed nor disagreed (Mdn_{Coach} = 1.5; Mdn_{Player} = 3). The coaches also tended to strongly agree with the task-related items whilst players only somewhat agreed (Mdn_{Coach} = 5; Mdn_{Player} = 4). This difference is further highlighted when looking specifically at the unmodified items. Figure 4 shows that the players rated the task and ego identically when GPS_{mod} items were not included in the data (Mdn_{task}=4, Mdn_{ego}=4) indicating that they feel the environment has both task and ego-involving characteristics. The coaches on the other hand clearly believed the environment to be significantly more task involving and less ego involving (Mdn_{task}=5, Mdn_{ego}=1.5). This reflected the mixed views that were recorded in Phase 2.

These results were also in fitting with a previous football focussed study that assessed differences in players' and coaches' perception of their TDE (Møllerløkken et al., 2017). The researchers in this study found coaches to perceive the motivational climate as being significantly higher in task-orientation, and significantly lesser in ego orientation than the players. They implied that this disparity could be accurate and there is actually a difference in perception between the two groups, however, it could also be due to reporting bias by either the players, coaches or both (Møllerløkken et al., 2017).

If the results are true and accurate, the coaches may wrongly perceive that they create a mastery climate, whilst unintentionally aligning it with performance orientation. The

coach may fully intend on creating a mastery focussed climate, but certain variables may lead players to perceive otherwise (Pensgaard & Roberts, 2002). Reasons why this may occur could be due to inadvertent behaviours by the coaches caused by a lack of psychological skills, experience or awareness as to how their behaviour can impact upon the group (Werthner & Trudel, 2006). As well as this, these behaviours could also potentially be caused by the psychological state of the coach. As mentioned previously, football coaches are constantly under high degrees of psychological stress, caused by various stressors unique to their role (Bentzen, Kenttä, & Lemyre, 2020; Frey, 2007; Olusoga et al., 2009). The high levels of stress can have a deleterious impact upon them mentally (Bentzen et al., 2014). Being in a poor psychological state has been shown to be a predictor for a coach demonstrating controlling behaviour towards the players, which in turn would negatively impact upon their level of autonomy (Stebbings et al., 2011). Subsequently, by limiting the players perceived level of control, it would have an impact upon their level of intrinsic motivation, moving them down the SDT continuum (Gagne, 2003).

In order to see what factor could be influencing this difference, the lower scale factors were analysed. Within this, a similar trend was observed. Again the players tended to agree less strongly with the task related subscales (cooperative learning, important role, effort/improvement) than the coaches did, and agree to a greater extent with the performance-based subscales (intra-team rivalry, unequal recognition, punished for mistakes). Despite there being a difference, the mastery subscale items were agreed with by both players and staff. Both groups strongly agreed that each player plays an important role within the team, whilst there was some variation in the strength of agreement for the cooperative learning and effort and improvement items. Upon analysis of the ego oriented lower scales, it was apparent that the players felt that they are punished for making mistakes, whereas the coaches neither agree nor disagree ($Mdn_{Player} = 4$, $Mdn_{Coach} = 3$). The items that received the strongest level of agreement from the players were items 2 (“*On this team, the coach gets mad when a player makes a mistake”)* and 15 (“*On this team, the coach yells at players for messing up”*), both of which the players somewhat agreed with (Mdn=4). This demonstrates that the coach reacts in an angry manner when one of their players makes a mistake during games and practices.

A coaches' behaviour and communication style can influence a player's psychological wellbeing (Martin et al., 2009), with it impacting the athlete's self-esteem and satisfaction with their environment (Reinboth et al., 2004) and subsequently the coach-athlete relationship (Sagar & Jowett, 2012). Athletes' that perceive their coach to respond to errors in an aggressive or punishing manner are said to like, respect, commit and cooperate with their coach less (Martin et al., 2009). As well as this, an aggressive coaching style can be perceived as abusive by players which can lead to a damaging coach-athlete relationship, which can increase the player's sporting anxiety (Adie & Jowett, 2010; Baker et al., 2000). Further research into aggressive coaching styles indicate that athletes' that perceive their coach to have an aggressive style view their coach unfavourably, and subsequently are less satisfied with their coach (Kassing & Infante, 1999). In-turn this has an effect on the environment, with the team winning less games and demonstrating less sportsmanlike behaviours (Kassing & Infante, 1999). Punishing mistakes by expressing negative emotion has such a negative effect on the psychological well-being of the players' as it impacts their perception of competence, and therefore their motivation (Martin et al., 2009; Sagar & Jowett, 2012). The athlete's intrinsic motivation decreases as they begin to feel incompetent, unworthy, and unskilful (Sagar & Jowett, 2012). Further to this, after a failure, positive feedback and more sympathetic behaviours from the coach are positively related to an athlete's competence and subsequently their motivation (Amorose & Horn, 2000; Hollembeak & Amorose, 2005). Because of this it is said to be vital that in the moments after a mistake, coaches regulate their behaviour to enhance their players' motivation (Wang et al., 2009). Whilst some of the above studies were conducted on youth level athletes, similar findings were also reported at the elite level (Pensgaard & Roberts, 2002). Some researchers suggest that elite level athletes' may be even more sensitive to alterations in the environment than non-elite athletes', due to them rating their environments very high for both task and ego orientation, and explicitly stating the impact the coach has on the climate (Pensgaard & Roberts, 2002).

Despite this however, some argue that this response to mistake can be beneficial in the correct scenario, such as when the athlete feels as if they deserve to be punished (Sagar & Jowett, 2012). Likewise, the personality of the athlete (namely their level of

openness and conscientiousness) can alter the degree of negativity which they feel (Sophia Jowett & Lavallee, 2007). As well as this, the psychological skills of the player can impact how they receive this feedback, with those who struggle with low resilience and self-confidence being especially receptive to the coaches' negative behaviour (Sagar & Jowett, 2012). Therefore it is essential for coaches to know the qualities of the players within their squad before they respond in such a manner due to the potential negative consequences.

Perception of GPS in TDE

In terms of the participants' perception of GPS data collection and feedback, there were no significant differences between the coaches and players responses. Therefore the second null hypothesis fails to be rejected. Overall, the participants tended to agree with task-oriented (Mdn=4) and disagree with the ego-oriented GPS_{mod} items (Mdn=2) suggesting that the data is used in more a task-involved manner. There was a difference in the strength of agreement towards GPS_{mod} items, with players scoring the ego-items higher, and the task-items lower than the coaches (Mdn_{GPSego}: Coaches=1.5, Players=2; $Mdn_{GPStask}$: Coaches=5, Players=4), though this was not significant. Because of the difference in agreement between the ego and task oriented modified items, it suggests that the participants do not perceive GPS used in a manner that is ego-involving, which contradicts the findings from Phase 2.

When comparing the responses from both participant groups to the GPS_{mod} and non-GPS items there were significant differences. The coaches' median scores for both the ego and task-oriented scales were the same for both the GPS_{mod} and unmodified items (Figure 4) (Mdn_{task}=5, strongly agree; Mdn_{ego}=-1.5, strongly disagree-somewhat disagree). However, the players' perception of the ego-related scale was significantly lower for the GPS_{mod} items (Mdn=2, somewhat disagree) than the unmodified items (Mdn=4, somewhat agree). Because of the differences in opinion, and the players somewhat disagreeing with the modified items, it suggests that the use of GPS data is unrelated to ego-orientation, which provides sufficient evidence to reject the third null hypothesis and accept the alternative hypothesis. In addition, it suggests they believe the environment has alternative ego-involving elements within it, due to the agreement with the unmodified items.

Although perceptions of performance data feedback within TDEs have been assessed in previous works, none have investigated how the use of GPS is perceived in terms of its goal orientation. Studies that have investigated coaches and players perceptions of GPS data have focussed on if they find it is useful for practice, and the way in which it is fed back as opposed to the psychological impact it has upon the team (Nosek et al., 2021). When looking at the perception of performance data feedback as a whole, Sagar and Jowett (2012) found that athlete's perceive receiving post performance analysis from coaches to be an indicator of a positive reaction from the coach. This was said to elicit positive emotion in the players', with it being shown to motivate them to try and improve their performance, as well as boosting their self-esteem, commitment and satisfaction with their performance environment (Adie & Jowett, 2010; Sagar & Jowett, 2012). However, the manner that the feedback is delivered in is also important. Similar to the findings within the punishment for mistakes subscale in this study, there is a tendency within football coaching to focus too much on delivering negative feedback which can cause detrimental effects to the players confidence (Bachrach et al., 2001). This is as feedback has the ability to cause strong emotional reactions, which can subsequently impact the player's behaviours and attitude (Salcinovic et al., 2022). Therefore it could be beneficial for coaches to deliver feedback to the group in a positive manner, as this can boost motivation, commitment, and team morale, therefore improving the culture too (Belschak & Den Hartog, 2009; Salcinovic et al., 2022).

Whilst this study suggests that the perception of GPS data dissemination at the club is unrelated to ego-involving characteristics, it also indicates that other areas of the club are skewed towards performance orientation. Because of this, the participants' perception of the lower subscales was compared between the GPS_{mod} and unmodified items. Out of the lower order factors, it was identified that there was a significant difference between the participants' level of agreement between GPS_{mod} and non-GPS items for the intra-team rivalry subscale. Participants somewhat agreed with the non-GPS items (Mdn = 4) but disagreed with the GPS_{mod} items (Mdn = 1.5) indicating that GPS is not a tool that is used to fuel rivalries (Figure 5). When looking at the individual items related to this subscale, it was evident that the coaches try to fuel competition between teammates, with them strongly agreeing (Mdn=5) with item 12

("*players are encouraged to outwork their teammates*"). This is synonymous with previous descriptions of intra-team rivalry, where the coach encourages competition to outperform others to gain status in the team (Reinboth & Duda, 2006). Oftentimes, there is a reward element for engaging in this rivalry, such as a place in the starting team or increased playing time (Boardley & Jackson, 2012; Mawritz Jr, 2019). Further ways in which this dynamic is encouraged is through the use of frequent competitions and games in practices, giving players unequal recognition and by punishing mistakes (Newton et al., 2000), a behavioural trait of the coaches' that has already been discussed.

Despite rivalry between football clubs being found to positively improve players' performances due to it being a strong ego-orientated motivator (Kilduff, 2014; Kilduff et al., 2016), its effectiveness within teams has been disputed (Mawritz Jr, 2019). Researchers have described the negative effects that promoting in-team rivalry can have upon a team's performance. Rivalry between teammates has been shown to increase feelings of tension and decrease team satisfaction amongst its members (Newton et al., 2000). Consequentially, this caused a reduction in the effort and performance levels of the team (Newton et al., 2000). Aggression levels amongst the players have also been found to increase, as well as occurrences of unethical behaviour (e.g. unsportsmanlike conduct) (Kistruck et al., 2016). Moreover, as the athletes are competing against each other, social comparison is heightened (Boardley & Jackson, 2012; Mawritz Jr, 2019). This can have detrimental effects on self-efficacy and self-esteem if they perceive themselves to be of less competence than their 'opponent' (Smith & Kim, 2007). As well as this, those who hold intra-team performance goals may display antisocial behaviour towards their teammates more frequently due to greater moral disengagement (Boardley & Jackson, 2012). In turn, this can negatively affect their own as well as their teammates intrinsic motivation, as by comparing themselves to others they are frustrating their need to feel competent if their teammate outperforms them (Boardley & Jackson, 2012). Also, by displaying antisocial behaviour towards the other players, they could damage the player-player relationship and outcast themselves from the group which could negatively impact their feeling of relatedness (Bolter & Kipp, 2018).

4.4.2 Implications

Applied Implications

Regulating Coach Behaviour. The findings from this phase of the project suggest that certain changes are needed from the coaches to improve the motivational climate. The questionnaire revealed a difference in reporting of ego-oriented subscale factors between the coaching and playing groups. Coaches tended to undervalue how ego-oriented they believed the environment to be and overvalue how task-involving the environment is when compared to the players, which was similar to past literature (Møllerløkken et al., 2017). Specifically, there were differences in opinion between the groups when analysing the punishment for mistakes scale. The items that received the strongest level of agreement from the players were items 2 ("*On this team, the coach gets mad when a player makes a mistake")* and 15 ("*On this team, the coach yells at players for messing up"*), both of which the players tended to agree with, indicating that the coach reacts aggressively to mistakes from the players. This can have a deleterious impact not only on the psychological wellbeing of the players, but also on the coach-athlete relationship, which can in-turn negatively impact the team's results (Martin et al., 2009; Sagar & Jowett, 2012). Because of this, it is important that the coaches begin to regulate their behaviour, especially during the period immediately after a mistake (Pensgaard & Roberts, 2002; Wang et al., 2009). By giving more constructive positive feedback, and demonstrating more sympathetic behaviours, a positive effect will be seen on the players perception of competence and subsequently their motivation (Amorose & Horn, 2000; Hollembeak & Amorose, 2005).

Whilst it is possible the difference in reporting is due to bias, it could also be that the coaches wrongly perceive that they are promoting a mastery climate, whilst inadvertently aligning it with performance orientation This can occur due to the coaches unknowingly displaying certain behaviours or lacking experience or awareness as to how their behaviour can impact upon the group (Werthner & Trudel, 2006). With the manager at the club being relatively young compared to those at other clubs this may be a factor. Because of this, it may be beneficial for them to develop their self-regulatory skills through the use of PST sessions (Ercis, 2018). PST would not only help develop the coach's psychological skills, but it may also help to reduce the stress they experience within their role (Birrer & Morgan 2010). Stress can have a

deleterious impact upon them mentally (Bentzen et al., 2014) which could lead to them demonstrating controlling behaviour towards the players (Stebbings et al., 2011). In accordance with previous recommendations, this should be undertaken three times per week (Birrer & Morgan, 2010; Heydari et al., 2018; Julvanichpong et al., 2022).

Lessening Promotion of Intra-team Rivalry. In addition to this, it is also apparent that intra-team rivalry is promoted within training sessions. Rivalry between teammates have been shown to increase social comparison as the players are comparing themselves to each other, which can decrease team morale, as well as effort and performance levels (Newton et al., 2000). It also increases aggression levels and occurrences of unethical behaviour (Boardley & Jackson, 2012; Kistruck et al., 2016; Mawritz Jr, 2019) which can negatively affect self-efficacy and self-esteem (Smith & Kim, 2007). Because of the detrimental effect that social comparison can have, it is recommended that coaches try and find training methods that promote self-comparison. Whilst this is not always feasible due to football being a team sport, there are areas of the club that self-comparison can be utilised. For example with exercise testing, instead of displaying players results in a table ranking them from best to worst, players could be given individualised progress tracking documents that show their development throughout the season. As well as this, the GPS system could be used to help set self-referenced goals. Instead of using the stats to create a Leaderboard, individualised outcome targets, performance, and process goals could be created based on playing position, progression, and what the players want to achieve (Arvinen-Barrow & Hemmings, 2013). Doing so may help to prevent social comparison, and the negatives associated with that, whilst also providing the beneficial effects of effective goal-setting.

Implications for Future Research

Following this study, it would be useful for researchers to develop methods that better investigated the impact that GPS data collection and feedback has upon the motivational climate. Whilst this study investigated the perceived use of GPS data at the club, it failed to fully demonstrate how or if it changes the perception of the environment. In order to gain a better understanding, researchers could make further modifications to the PMCSQ-2, where every item is altered to measure the impact of

GPS. This was not done in the case of this study as the researcher attempted to compare the responses to the modified items and the unmodified items to see if any of the subscales were influenced by the inclusion of GPS, however this may not have provided enough scope to fully grasp the reach of the GPS feedback. Alternatively, more task-involving items could be modified, as although the data shows the participants do not view the use of GPS to be ego-involving, it does not indicate if they view it as task-involving as only 2 task-scale items were altered.

In addition, it would be inciteful to focus on the influence that GPS had on the motivational attributes. A potential way to do so could be through modification of the Psychological Characteristics for Developing Excellence Questionnaire (PCDEQ) (MacNamara & Collins et al., 2011). Doing this would highlight how its usage impacts the athletes on a personal level as opposed to looking at how it is perceived in the environment. Finally it would be useful to investigate how GPS is used and perceived at other clubs within Scottish football and within other sports. Doing so would provide context to this study, and potentially identify how it can be used to better foster motivational attributes of the athletes. Phase 3 focussed specifically on the perception of GPS as its usage was already discussed within the Phase 2 interviews. Because of this, the modified version of the PMCSQ-2 used in this study may not be suitable, and so a questionnaire should be developed that better assesses the usage of GPS. This should include a mixture of open and closed responses to provide depth and context whilst maintaining cross comparability (Hyman & Sierra, 2016).

4.4.3 Strengths and Limitations

One of the strengths of this study is that it investigates a topic that has not been previously researched. Although the benefits of GPS for measuring physical load are well documented (Cummins et al., 2013), there has been no research investigating how its usage is perceived within the footballing environment. Within this, it also compares how it is perceived by both the coaching staff and the players at the club. This was done to discover if there were differences in reporting in case the coaches were unknowingly promoting ego-involving characteristics whilst trying to promote mastery orientation. The study also builds on previous research that has employed the use of the PMCSQ-2. Although the PMCSQ-2 has been used in football settings before

(Møllerløkken et al., 2017), it has not previously been used on athletes within the second tier. It also gathers the coaches' perspectives by modifying the items to be in fitting with previous works (Møllerløkken et al., 2017; Stebbings et al., 2011).

Another strength of the study is that it identified how item 7 was seemingly miscategorised by previous works (Newton et al., 2000). As already mentioned, the wording of item 7 was not befitting of the other punishment for mistake items, but instead more akin to those in the unequal recognition scale. The CFA that had been performed upon the items had revealed that this item was unsatisfactory as a measure for the scale (Newton et al., 2000), yet it was still included within the same subscale. Although further analysis was not conducted after this had been altered, and rectifying the scale was not in fitting with previous iterations of the questionnaire, it was logical to make the change due to the stark difference in the items wording.

This study did have some limitations. Firstly, only one questionnaire was used. Previous studies that have employed the use of the PMCSQ-2 have used the survey in conjunction with other questionnaires, such as the Sport Motivation Scale (SMS) (Csáki et al., 2017) to quantify the level of intrinsic motivation of the participants, or the Achievement Goal Questionnaire for Sport (AGQ-S) to assess the team's orientation towards four achievement goals: mastery avoidance and approach, and performance avoidance and approach (Trenz & Zusho, 2011). By combining the PMCSQ-2 with these other surveys it would build a more holistic perspective on the participants perceptions on the impact of GPS, their perceptions of the motivational climate as a whole and how it impacts their level of self-determination.

Secondly, the researchers altered the subscale that item 7 was related to, without performing CFA or any reliability testing. Whilst the wording of item 7 was more befitting of the unequal recognition scale than it was the punishment for mistakes scale, and the previous study that conducted the reliability tests admitted there were inadequacies in the reliability scores (Newton et al., 2000), the researcher should have conducted a form of reliability testing to see if item 7 could reliably relate to that subscale. As well as this, reliability testing was not conducted on the items that were modified to include GPS. Because of this, it is unclear whether or not the GPS items

provided an accurate measure of the subscales they were intending to measure, which could potentially skew the results.

Thirdly, the researcher failed to cover all six subscales with items relating to the GPS. This was done as the items regarding the subscale Cooperative Learning did not lend themselves well to being modified to GPS related items. Because of this, the researcher held reservations about the validity of the item if modifications were made, therefore it was omitted. As well as this, the items relating to the GPS were heavily stacked towards ego orientation. This could alter the results as there is more opportunity to present ego-oriented views on the system than if there was an equal number. However, the hypothesis was to determine if the GPS had an ego effect based on the findings from Phase 2, which was the reasoning behind the difference in weighting.

Finally, there was a significant difference in size between the two population groups. Because of this, it made it difficult to run any inferential statistics on the data. Despite this, nothing could be done about the size of the coaching population, as all three of the coaches at the club participated in the study, as did 60% of the playing population.

5. Project Discussion

The overarching purpose of this study was to investigate the environmental and cultural influences within a Scottish Championship football club and assess how they influence the motivational characteristics of the players' and coaches' that work there. Furthermore, through the use of the PMCSQ-2 questionnaire, it aimed to discover the participants perceptions of their TDE, and how GPS data collection and feedback impacts them. To achieve this, three phases were used to answer four objectives which were created to answer the overall aim. Phase 1 of the study was a literature review that aimed to understand the key psychological attributes required to thrive within an elite football setting, and to identify factors within high level sporting environments and cultures that can enhance them (Objectives 1 & 2). Phase 2 of the study used semi-structured interviews that aimed to answer all four of the objectives. Phase 3 of the project used an online questionnaire to explore the coaches and players perception of task and ego-involving environmental characteristics and to assess the perceptions of GPS data feedback within their TDE (Objective 2 & 4).

The results of the various phases of this project indicate that there are areas of the club which can be considered positive in the promotion of the motivational attributes, such as the group cohesion, the coach-athlete relationship, and the general agreement with task-oriented survey items. However, there were some inhibiting factors within its culture and environment, namely the perceived ego-orientation of the climate from the players, the issues with the youth academy, political issues with the off-pitch management and the way in which performance feedback is delivered. It also appears as if the majority of the players are not intrinsically motivated, which consequentially impacts upon their key psychological skills that are required in order to achieve high-level performance goals. Finally, although players' and coaches' perceptions of the environment do differ significantly, there is a general consensus that the feedback of GPS data is not perceived to be ego-involving, suggesting that it does not inhibit the promotion of motivational skills. The discussion will consider the theoretical ramifications of the findings, whilst also providing key steps the club can implement in order to enhance the motivation of its employees.

5.1 Improvements for the Club to Implement

The ultimate purpose of this study was to provide the club with valuable insight into the psychological attributes of the on-pitch employees of the club and identify areas of the environment and culture that impact their psychology. Based on the findings, a number of practical steps for the club to implement have been listed below. If implemented correctly, they may positively change the culture and environment, which would subsequently enhance the motivational attributes of the players' and coaching staff.

- Attempting to reduce some of the ego-oriented aspects of the environment and instead promote a mastery approach.
- Implementing a clearly defined leadership group within the playing squad that can deal with smaller issues and give feedback to the coaching staff.
- Clearly structured development pathway for the academy players, with clear established core values that will underpin the development process.
- Stronger leadership is needed from the off-pitch management to align the values of the club with those of the first team as opposed to others with political interests.
- The club could look to try and bring in a sports psychologist who is able to lead PST sessions to improve resilience and self-regulatory skills.

5.1.1 Reducing Ego-Oriented Aspects

The findings of the interviews and questionnaire indicate that there are some elements of the environment and culture that are task-oriented, and other areas that are aligned with ego orientation. Predominantly the focus appears to be on ego orientation, however. The areas of the environment that appear to cause this are the sole focus on results, the aggressive nature of feedback delivery from players and staff, getting punished for mistakes and the promotion of between-teammate rivalry. The culture surrounding the usage of GPS also appeared to be ego-oriented based on the findings in Phase 2, though this was contradicted in Phase 3. Past literature suggests that the person responsible for the climate orientation is the head coach (Smith et al., 2007). More specifically, it is their behaviour and actions that guide the environment and

culture (McGannon & Smith, 2015). The majority of the past research shows that ego-orientation has a detrimental effect on psychological attributes, with it being shown to lower resilience, increase trait anxiety, reduce team cohesion, and negatively impact the perceived competence of the athletes and subsequently their motivation (Boncu, 2020; Burton & Martens, 1986; Carpenter & Morgan, 1999; Gadient et al., 2020; Rottensteiner et al., 2015). Because of this, it is important for the coach to regulate their behaviour so that they can build a task environment (McGannon & Smith, 2015).

However, there is said to be difficulties when attempting to change a coach's mindset. Despite the evidence indicating the benefits of approaching a mastery approach, changing coach behaviour can be difficult as they are often learned from past experiences (Partington & Cushion, 2013). As well as this, the coaches are more likely to follow traditional methods than adopt evidence-based approaches (Harvey et al., 2010). Even within the interview data, one of the participants described how they have taken things they have learned from coaches from their playing days and applied them into their current practices (Coach A). However, by the coach reacting to mistakes by enforcing punishments on the players they can strain the coach-athlete relationship. An aggressive coaching style such as this can be perceived as abusive by players, which can increase the player's sporting anxiety, subsequently dropping motivation and performance levels (Adie & Jowett, 2010; Baker et al., 2000). As well as this, if the coach is publicly shouting at others for making mistakes, it could impact how the players react to each other's mistakes, as the culture they create influences behavioural responses (Andersen, 2011; McGannon & Smith, 2015). Despite this, it is understandable why the coaches react in such a way to mistakes and make winning their sole focus, due to the external stressors surrounding their job (de Dios Tena & Forrest, 2007).

In terms of the steps could be taken to improve the orientation of the climate, the first step could be to try and implement a shift in how feedback is given to players. Shouting at players causes low self-esteem, anxiety, reduced self-efficacy and lower intrinsic motivation as a consequence of the impact it has upon perceived competence (Stirling & Kerr, 2013). As well as this, the coaches could give the players an opportunity to voice their opinions on issues. The questionnaire study revealed discrepancies

between the coaches and players attitudes towards the environment, with the coaches perceiving it to be significantly less ego-oriented than the players. By accepting feedback from them, they may be able to change certain elements that are inhibiting the players psychological attributes (Nadler, 1979). Thirdly, they could reduce the promotion of between teammate rivalry. Whilst it can be a strong external motivator, it also has negative effects on the group cohesion (Boardley & Jackson, 2012; Kilduff, 2014; Kilduff et al., 2016). Lastly, whilst the focus should still be on winning games, perhaps more emphasis should be placed on performing well. Emphasis should be placed on the performance, as by playing well, consequentially the team wins more games. By shifting the focus from what the players have to do to win, to what they have to do to perform well a more task-oriented approach would be adopted, which would reduce the negative consequences of a performance focus.

Changes could also be made based upon the TARGET framework (Epstein, 1989) as this has been shown to be successful in promoting mastery orientation (Kingston et al., 2018). If using this framework, the club should focus on the task, authority, recognition and evaluation structures as they hold a greater weighting than others when changing an elite football environment's orientation (Kingston et al., 2018). In terms of how it could be used to promote mastery characteristics, examples for the task, authority, recognition and evaluation structures have been provided. **Task**: For the task structure, training sessions should be varied often, and made sufficiently difficult, whilst also limiting the opportunity for comparison. They should however promote opportunities for self-referenced goals such as completing a certain percentage of successful passes in the games than the previous day (Ames, 1992). **Authority**: In terms of authority the players should be included in the learning process and given autonomy to make decisions that are perceived as being impactful (Roberts, 2001). For example, their opinions could be asked for in team analysis meetings, as well as being given the opportunity to provide input into training sessions. **Recognition**: Positive behaviours, such as displaying high effort levels, personal improvement and learning from setbacks should be recognised through the use of rewards (Ames, 1992; Keegan et al, 2010; Kingston et al., 2018). For example a trainer of the week award could be used or including more fun activities in training sessions. **Evaluation**: Lastly, evaluation should be private, self-referenced and salient to best promote mastery-characteristics (Ames, 1992). In a practical setting, this could mean

that instead of ostracising players in front of their teammates as was described in the interviews, coaches could arrange private meetings with the players to discuss their performances.

5.1.2 Implementing a Leadership Group.

As mentioned before, oftentimes within team sports the leadership demands of a team outweighs the ability of a single figure, such as the coach or captain (Duguay et al., 2019; Loughead et al., 2006). The participants in Phase 2 described a potential lack of leadership amongst the playing squad, which was said to cause complacency and allow bad role models to influence the group. Strong leadership within the squad is important when trying to build a winning culture as it has the ability to improve team cohesion and identity, player satisfaction, the confidence of the group and the motivational climate (Cotterill & Fransen, 2016; Day et al., 2014). Research suggests that the most optimal way to improve the leadership of a football team is through the creation of a leadership group (Haddad et al., 2021). The leadership group should consist of task, social, motivational and external leaders, with the qualities of the players being matched to the specific role (Fransen et al., 2017). Task leaders help the team to adhere to goals and give advice during games, whereas motivational leaders channel their teammates emotions to get them to perform to their best (Fransen et al., 2017). Social leaders build an enjoyable team atmosphere and act as a confidant to their teammates, whilst external leaders represent the team when dealing with external parties (Fransen et al., 2017). The group as a whole should elect these leaders as opposed to simply one individual (Fransen et al., 2017). This would not only help the coach manage the discipline of the group, but it would also give the players more of a voice when giving feedback to the coach as the different leaders are able to give different perspectives (Fransen et al., 2017).

5.1.3 Changes to the Development Pathway.

From the interviews (Phase 2), it is clear that the participants perceive there to be an issue with the youth development pathway at the club, which was said to have a destabilising effect on the first team. As described, there were three main reasons why this was thought to be the case. Firstly, there is an apparent lack of discipline in the

players that the youth academy is bringing into the first team. According to the participants, this was thought to be due to an issue with the culture in the academy. Participants felt the academy coaches' do not place demands on the younger players coming through, and do not implement techniques to discipline them such as fine systems or duties, which contradicts what is done within elite academies (Mills et al., 2014). Secondly, there was said to be too many academy players being brought into the first team who weren't ready for the transition. This was said to impact the squad, with players describing the younger players as not being mentally strong enough to cope with what was being asked of them by the coaches and senior players. Finally, there was said to be no clear development pathway for the youth players after the removal of the development team.

In order to observe positive change in the academy, the club should develop an ethos, or an organisational core made of strong values, beliefs and goals that are congruent with those of the first team (Henriksen et al., 2010; Mills et al., 2014). This should include a clear philosophy and vision of what the academy wants to achieve, and how it can best support the first team (Mills et al., 2014). The values that are implemented should be holistic in nature, therefore including more than simply footballing values within it (Henriksen et al., 2010). An example has been shown below, extracted from English Premier League side Luton Town FC:

> "The culture within the Club looks to create honest, hard-working players for the first team that typify our statement of values. We look for our staff (from all disciplines) to lead by example in this and expect the players that out Academy creates to follow this behavioural trend." (Luton Town FC, 2023)

This should be driven from the top-down so that there is cohesion between the first team and the academy, and so that the academy graduates are somewhat used to the culture which may help their transition (Mills et al., 2014). Finally, some form of bridge could be formed between the first team and the academy such as an under 23s or a development squad. Doing so may provide the younger players with opportunities to train with the first team without them being directly involved which may increase their motivation (Henriksen et al., 2010) and help the first team as they are not using up

squad places when they are not psychologically ready. This must be implemented in a way to help the first team, with the manager getting control over aspects of the development team to ensure the values and training are congruent.

5.1.4 Off-Pitch Management Aligned Values.

Phase 2 of the project highlighted a disconnect between the off-pitch management at the club and the footballing department. This appeared to be caused by frustration and a lack of trust in their decision making. In terms of improving the relationship between the Board of Directors and the coaching staff at the club, the board must attempt to rebuild trust. To do so, it must align its decision-making processes with that of the organisation's goals (Serrat, 2017). Employees lacking trust in their employers can cause them to take retaliatory action such as a reduction in commitment, rumour spreading and a breakdown of relationships which could negatively impact the organisations performance (Andiappan & Treviño, 2011; Gillespie & Dietz, 2009). As previously described, the participants believe there are outside influences at the club who have their own agendas that are not conducive with a competitive and functioning first team. This is not uncommon in football teams, with previous research mentioning that administrative staff can create issues for the coaches as they try to influence football related decisions to meet hidden agendas, such as media, money, alliances and power struggles (Bentzen, Kenttä, & Lemyre, 2020). To solve this, the off-pitch management could align their values with those of the first team manager so they are making decisions that can benefit them, as opposed to making decisions without including them in the process. This transparency may also aid in rebuilding trust between them and the staff.

As well as this, and perhaps an issue with the fan ownership model, the participants in Phase 2 described there being a lack of clarity in the responses they received from the board, with members giving them differing opinions. In order to fix this, the club could try fitting off-pitch personnel into clearly defined roles, with a clear reporting structure. The forementioned study by Bentzen et al. (2020) described how football clubs are often lead in an unprofessional manner with people employed in various senior roles, but there being a lack of role clarity and ambivalence between the non-footballing staff and the board which makes reporting structures unclear. This can be

detrimental to the cohesion of the club (Eys & Carron, 2001), which as described before, can reduce the mental toughness and motivation of the people within it, subsequently affecting results (Tziner et al., 2003). Because of this, once placed in roles, the reporting structure should be adhered to, and role clarity must be provided.

5.1.5 Psychological Skills of the Group.

Based on what was mentioned during the interviews (Phase 2), it is apparent that some members of the playing squad lack certain psychological skills that are required to achieve on pitch performance goals. The key skills that were identified as being problematic were resilience and self-regulatory skills, specifically emotional control which caused members of the staff and squad to have aggressive outbursts at others. Both lacking resilience and being unable to control behaviour was linked with lower performance levels (Özdemir, 2019; Toering et al., 2009). As well as this, Phase 3 displayed a stark difference in perception of ego-involving environmental characteristics between the coaches and players. This suggested that the coaches could be mistakenly displaying ego-involving behaviours, whilst thinking they are promoting task-oriented behaviours. This can occur if the coach lacks behavioural control, or lacks self-awareness as to how their behaviour can impact upon the group (Werthner & Trudel, 2006).

Because of this, it may be beneficial for both the players and staff members to undergo a series of PST sessions. Whilst the psychological skills can be improved by changing elements of the environment as has been previously discussed, PST could further strengthen their skills. PST techniques that have been identified as being able to improve these skills are imagery and goal setting (Ercis, 2018). In past research coaches and athletes that implemented the use of imagery were found to display much greater self-confidence and as a result, possessed greater self-regulatory skills (Ercis, 2018). As well as this, individual goal setting, alongside imagery has also been linked to improvements in an athlete's ability to cope with difficult scenarios in their career such as high-pressure moments or overcoming injury (Gould et al., 1992; Rose & Jevne, 1993). PST would not only help develop the coach's self-regulatory skills, but it may also help to reduce the stress they experience within their role (Birrer & Morgan 2010). Stress can have a deleterious impact upon them mentally (Bentzen et al., 2014)

which could lead to them demonstrating controlling behaviour towards the players (Stebbings et al., 2011), therefore consequentially the players needs satisfaction improves as their autonomy is less supressed. If the club was able to bring in a psychologist to lead PST sessions with players and staff, then positive changes could be observed due to the improvements it has upon EI and therefore motivation. The psychologist, or group of psychologists should be available to the team at least three times per week, which is in accordance with previous research methods (Birrer & Morgan, 2010; Heydari et al., 2018; Julvanichpong et al., 2022).

5.2 Approach of the Study

For this project, a case-study style approach was used. Due to the research being funded by the football club, the club wanted to gather data that was specific to them hence why an intrinsic approach was used (Stake, 1995). By implementing this approach it allowed the researcher to gather in-depth, rich data, and gain an appreciation of the people, culture, and environment within the club's day-to-day context (Crowe et al., 2011). The researcher approached the case study from an interpretivist epistemological standpoint, as they questioned the issues with the club from multiple perspectives (players and the coaching staff) (Crowe et al., 2011). The case was defined through the creation of research questions informed by the literature review (George & Bennett, 2005), as well as through the club defining what they wanted investigated. Whilst this approach is beneficial to the club, case studies are oftentimes criticised for providing little basis for generalisation (Yin, 2009). This is true in the case of this study, as the club has its own unique environment, with its own unique issues and its own employees that have their perceptions based off of their unique experiences. Therefore the data gathered within this case study cannot be generalised to other environments. However, it is important to note that this study was not designed to produce generalisations, but instead help the team it was designed for to improve their motivational climate and the players' and coaches' psychological skills.

5.3 Future Research

In terms of where this project sits within the literature, it is unique in that it considers a playing population that has not been researched to a large extent. It focusses on full-time, first-team professional footballers that are not at the elite level, at a club that is financially stricken. As mentioned throughout the thesis, the vast majority of research has been conducted upon youth academy athletes or elite level athletes (Martindale et al., 2007; Mills et al., 2014). Whilst this is useful for demonstrating what is required to succeed in youth football or at the upper echelon of performance, it disregards the large majority of professionals in Scotland, with their only being 12 professional teams in the Premiership, and 30 teams in the lower professional leagues. Although the case-study style of this project may prevent the data from being generalised into other populations (Yin, 2009), it provides insight into the struggles that clubs and individuals at this level of football have, which to the researcher's knowledge have not been previously highlighted. Therefore future avenues should consider this population to a greater degree, as the research at both the youth and elite level may not be applicable to teams of this standing, especially when considering the stressors the players and coaches face, as well as the development environments. As well as this, in order to be able to make inferences into the wider Scottish football population, participants from different clubs would have to be included in future studies. This would provide context to the findings of this study, and common themes would be able to be drawn across the clubs.

In order to develop upon the findings of this study at the club, the researcher recommends that the club could implement further surveys to gain a deeper perspective of the players and coaches' views on the environment. To align it with other studies that have investigated the cultures and motivational climate within clubs, the researchers could use the Sport Motivation Scale (SMS) (Csáki et al., 2017) to quantify the level of intrinsic motivation of the participants, or the Achievement Goal Questionnaire for Sport (AGQ-S) to assess the team's orientation towards four achievement goals: mastery avoidance and approach, and performance avoidance and approach (Trenz & Zusho, 2011). Furthermore, a second round of interviews could be conducted post-implementing the recommendations to assess the impact they have had upon the TDE.

5.4 Overall Strengths and Limitations

5.4.1 Strengths

The main strength of this study is that it provides a unique insight into an environment that has, to the researchers' knowledge, not previously been researched. As mentioned previously, whilst there has been a lot of research investigating the environmental and cultural elements of elite youth academies (Martindale et al., 2007; Mills et al., 2014), there is currently no studies researching the same variables within a lower league first team football environment. As well as this, there is little research on the culture within Scottish football. Whilst other countries have been investigated at both the elite and youth level (Hawkins & Fuller, 1999; Mills et al., 2012, 2014), the Scottish football environment has received no attention despite the uniquities described in the interviews. In addition, the research is the first of its kind to investigate the perceptions of GPS data collection and feedback within a motivational climate.

Another strength of the study is that the research was conducted by an employee of the club, who had been working within their role as the first team sports scientist for a year prior to data collection. Due to the time they had to integrate themselves within the environment, they were able to build up a trusting relationship with the prospective participants, which may have caused the participants to be more open with their responses (Guillemin et al., 2018). As well as this, it allowed the researchers to focus the interview script onto issues and uniquities of the culture and environment, such as the internal club politics and the perceived issues with the development pathway as they were observing them unfold daily. As previous studies have noted, there are difficulties when attempting to investigate motivational environments when the researcher is separated from the climate, with the main one being an inability to provide an effective commentary on the issues the employees face on a daily basis (Keegan et al., 2014; Kingston et al., 2018), hence why embedding the researcher within the climate was actioned.

5.4.2 Limitations

Despite this, there were some limitations to the study. Due to the researcher being embedded there is a risk they form biases as they are fully immersed within the culture (Rohner et al., 1973). This is especially the case if they are inexperienced with this

form of research, like the lead researcher was for this project was. Because of this, it is recommended that the researcher presents their own biases explicitly (Lecompte, 1987). In this case, it is not unreasonable to suggest that the researcher holds a bias towards the opinions shared by the coaching staff during the interviews regarding certain aspects of the environment. However, the researcher has attempted to provide a balanced opinion on the topics discussed. As well as this, by triangulating the data and cross-checking the interview script with the supervisory staff, trustworthy measures were taken to further reduce the potential for bias (Aguilar Solano, 2020). Moreover, because cultures are unique to the environment in which they reside, little to no inferences can be made into the cultural factors that influence other clubs. Whilst this is not useful when looking at the far-reaching scope of the study, it does give the club specific and relevant data as well as recommendations that they can implement to improve their own specific TDE. In addition, no current academy coaches or players were included in the study. Whilst there were coaches and players who had worked in the academy within the last five seasons, none of the current coaching staff or players were included. Because of this, it is unclear whether or not there has been a shift in the culture in this current season which may render the results regarding the academy environment unreliable.

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Appendix

Interview Script

Themes	Literature	Opening Question	Reminders	Key Questions	Probes
Rapport building		How did you initially get involved in football?		What were your reasons for starting? How much did you enjoy this involvement?	How old were you when you started? Pushed into it? Choice?
Motivational Attributes	PCDE's (MacNamara, Button & Collins, 2010)	Looking at the topic of psychology in football, do you think having strong mental skills help make you a better player/coach? If you were to describe an elite players mentality, what would it be like?	Resilience. Self-regulation. Goal setting. Support networks. Imagery. Focus. Quality practice. Realistic evaluation. Planning and organising. Coping. Role clarity & dedication.	Out of these skills you've identified, what ones do you think you possess? Do you think this gives an edge? Are there any you could improve on? What about your teammates/other staff? -How would you rate their mental skills? How do you prepare yourself when you're nervous for a game? If you feel nervous or down, do you bottle it up or talk to someone?	If I was to ask what an elite player or coaches' mentality is like, how would you describe it. So, are they motivated, driven, mentally weak, do they concentrate? Is there a routine you go through?

			Motivation	Would you say you give your all and fully focus during practice, or do you sometimes go through the motions? Do you have a set routine that you do every day?	Bottle it up or confide in your network? When you get home, before training etc?
	Deci & Ryan (1985) – Self-determination theory.	You've touched on the subject of motivation. Where does your motivation stem from?	Autonomy Competence Relatedness Amotivated External, introjected, identified, integrated, intrinsic.	What is it that drives you? (Why would you feel guilty?) (Who is it that you fear punishment from? Etc.) Does this differ for different scenarios? (Training, games, extras) What do others do that motivate you?	Fear of Punishment? Love of football? Guilt? Team Talks? Shouting at you? Coaches, teammates?

				Do you think getting the GPS stats influences your motivation at all?	Negatively? Positively? No impact?
	Autonomy	As a member of the club, how would you describe the level of control you get to make your own decisions?		Is self-decision making inhibited or supported by others? Is this the same for everyone? Can you think of any aspect of the club you'd like more control over?	In your training? Your nutrition?
	Relatedness	What qualities do you value in a teammate/ coach? – How would they treat you? Do you think you get on well with the group?		From that, do you think you're like that? Do you think your voice is valued by coaches/players?	Respectful? Work hard? Do you think they care about your opinion on important matters?

	Competence	Tell me about how you view your own footballing abilities.		How would you rate yourself as a player?	Do you think you could play at a higher level?
	PCDE's – realistic evaluation	Do you evaluate your performance after training and games, if so, how? What do you perceive as success in football?	Reflective journaling. Ask for feedback. Imagery. Training log.	Can you describe any personal success you've had, and how you felt? Do you think you've had a successful career so far based on your evaluation?	

	PCDE's – Coping	Has there ever been a point in your career when you've had to comeback from a major setback, either you've screwed up or been injured?		Have you ever gone through a period in your career when you felt like you weren't good enough?	Imposter syndrome/ How did you get yourself through this? Did anyone help you get through this?
	Attributions			When you make a mistake, what is it that usually causes this? What do you typically blame for this? Why does this happen?	What are you thinking at the time? Any specific scenario
	Goal Setting	Do you set any personal goals or targets?		Do you have any long-term goals for your career? Do you think it's important to set goals?	Short/long term. Do you tell anyone them/write them down?

	Goal Orientation (Nicholls, 1984)	What is your main priority when you step onto the pitch?		What is your primary objective? Do you care if you score or not? Would you say you are focussed on your own performance or the collectives?	What are you focussing on during the game?
Culture and Environment	Individualism-Collectivism (Hui & Triandis, 1986)	How do you perceive the culture at the club?		Do you think there is a good team spirit/feel around the club? How would you describe how people treat each other in the club? What is your perception on the club's outlook upon player development? Does everyone have equal opportunity to succeed? Obviously, you were at the club last year, would you say the culture has changed since the new managerial appointment?	Easy to talk to people? Collective feel? Or egotistic? Good/bad? Do people treat younger players with the same respect as the older ones? What's different about it?

		Are there any unspoken rules that people must adhere to, to fit in would you say?		Are there consequences for breaking these? Are they enforced – how so? What impact do you think these consequences have on the environment?	Outcast? Fines? Are people scared to step out of line?
		Is there anything that you can think of that would improve the group dynamic?		How do you think giving short term contracts impacts the club culture?	How so?
		Is the culture at the club different to others you have experienced?		Can you think of any other factors relating to Scottish football or football as a whole that impacts the culture?	

		Have you ever had a period in your career where you've felt insecure about your future? Do you think that wearing GPS monitors during training and games influence the culture at all? How would you assess the influence that club politics has on yourself and the team?		Are the politics at the club different here compared to other clubs you have been at? Can you describe any?	Like you weren't going to make it, or didn't know which club was going to come in for you?
Closing Remarks				Do you have any questions?	

				Is there anything that I haven't asked that you'd like to say? Is there anything you thought I'd ask that I didn't?	