THE MEDIATING ROLE OF SELF-EFFICACY IN THE RELATIONSHIP BETWEEN PERCEPTIONS OF COACHING EFFECTIVENESS AND PERFORMANCE ANXIETY

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ABSTRACT

Stress and anxiety in sporting environments are increasingly important concerns for psychologists. Managers and coaches strive to extract maximum performance from athletes, and so athletes' perceptions of coaches' leadership qualities may play a role in the level of anxiety athletes experience. How much performance anxiety athletes experience, and whether they interpret this as facilitative or debilitative may depend also on athletes' sense of self-efficacy. This thesis investigates whether football players' self-efficacy fully or partially mediates the relation between their performance anxiety and their perceptions of coaches' effectiveness. Samples of professional and semi-professional players rated their cognitive and somatic performance anxiety and their facilitative/debilitative interpretation of these, as well as their own sense of self-efficacy and their perceptions of coaches' effectiveness. Higher level of competition related to greater self-efficacy, greater perceived coaching effectiveness, lower somatic anxiety, and a more facilitative interpretation of anxiety. Depending on the sample, self-efficacy partially or fully mediated the relation between players' perceptions of coaches and their cognitive and somatic anxiety and facilitative/debilitative interpretation. Players' perceptions of coaches were positively related to self-efficacy, and negatively related to somatic anxiety. Cognitive anxiety tended to be higher among high self-efficacy individuals in less competitive settings. Athletes in defensive roles registered higher levels of anxiety. Only weak links between perceptions of coaches and self-efficacy were found in a less competitive university football environment. This suggests that the relationship between perceptions of coaches, self-efficacy and anxiety only develops through significant sporting involvement and experience. Overall, these results suggest that, in professional and semi-professional players, a high sense of self-efficacy is a strong

indicator of lower anxiety and a more positive evaluation of coaches. As self-efficacy is not just self-confidence but involves awareness of the state of development of specific sporting skills, focusing coaching efforts on developing players' self-efficacy can simultaneously benefit their psychological as well as sporting capabilities. It is suggested that reflective practice is used systematically to develop awareness of players' skills as well as psychological coping awareness. Such methodology should be part of the curriculum for training coaches.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Modern competitive sport places an ever-growing emphasis on proficiency and excellence, and the sporting skills and endurance needed to survive in this environment are increasing with time. In particular, athletes competing at the higher levels of spectator sports such as soccer (henceforth football) have to consistently deliver their best efforts under the detailed scrutiny of live action replays, media commentary and fan fervour. Training for competition in this environment can no longer be confined to the domains of physical fitness and athletic skill but must also be devoted to the athlete's psyche (Beattie, Fakehy, & Woodman, 2014; Jones, 2006) because the role of psychological factors in determining successful outcomes is of increasing significance (Manzo, Mondin, Clark, & Schneider 2005; Smoll & Smith, 2005).

Perhaps the most heavily researched psychological factor in the sport setting is performance anxiety (Hagan, Pollmann, & Schack, 2017; Mellalieu, Hanton, & Fletcher, 2006). Anxiety is an emotional response to a stressful situation, and the level and type of anxiety, as well as its effects, can be intuitively expected to be related to athletes' assessments of their own preparedness as well as their judgments about the capabilities of their coaches to prepare them to face the competitive situation. This thesis studies the inter-relationship between these three psychological factors – the anxiety that athletes may experience, how they view their coaches' effectiveness in preparing them, and how they feel about their own capabilities in relation to the performance situation. In particular, the thesis seeks to establish the extent to which athletes' sense of their own capacity mediates between how they judge their coaches'

effectiveness and the level of anxiety they experience (and how they feel anxiety affects their performance). If we can assume that lower anxiety (or at least emotional arousal that athletes find more helpful than harmful for performance) and favourable athlete perceptions of coaches' effectiveness are desirable sport psychological outcomes, then I will argue that an empirical and effective means of organising coach-athlete interactions conducive to these outcomes could be to measure, track and seek to enhance athletes' self-awareness using the concept of sporting self-efficacy (Bandura, 2012; Bray, Balguer, & Duda, 2004).

I have used the terms anxiety, coaching effectiveness and self-awareness of sporting capability on an intuitive basis so far, but each of these concepts is complex and has been researched. In the rest of this chapter, I will first consider the research literature on performance anxiety, self-efficacy (a particular operationalisation of self-awareness of capability) and perceived coaching effectiveness. Following this, I will introduce the studies on football players that I will report in the empirical chapters of the thesis (Chapters 3-7) and discuss their purpose in developing the above-mentioned recommendation to focus on players' sense of self-efficacy as the means to reducing performance anxiety and increasing favourable player evaluation of coaching effectiveness.

Performance anxiety

Individuals who participate in competitive sport are known to have emotional experiences that are associated with the term anxiety (Hagan, Pollmann, & Schack, 2017; Hanin, 2000; Jones, 2003; Lazarus, 2000; Sève, Ria, Poizat, Saury, & Durand., 2007), and this phenomenon of competitive anxiety is one of the most heavily

researched areas of sport psychology (Biddle, 1997; Jones, 1995; Mellalieu, Hanton, & Fletcher, 2006; Woodman & Hardy, 2001). Research has shown that anxiety can play a role in variations in athletes' performance, including impairing their ability to perform to their potential (Hanin, 2007; Jones, 2003; Vallerand & Blanchard, 2000). In the sport psychology literature, competitive anxiety is viewed as an emotional response to a particular stressful situation (Mellalieu, Hanton, & Fletcher, 2006). It is important to distinguish anxiety from the term stress, as stress is considered a factor that occurs in athlete-environment transactions (Lazarus, 1981). The stress situation is one in which individuals make appraisals of events and take coping action (Fletcher, Hanton, & Mellalieu, 2006). The stressors are the demands the situation places on performance (e.g., athletes' level of physical readiness, the quality of the opposition, pressure to succeed, team atmosphere), and strains are psychological, physical and behavioural responses to the stressors (Mellalieu, Hanton, & Fletcher, 2006). The anxiety that athletes experience can have a variety of antecedents such has how prepared the athlete feels to give their best performance (Hanton & Jones, 1995; Lane, Terry, & Karageorghis, 1995) and how the athlete rates their past performance (Jones, Swain, & Cale, 1990).

Much of the empirical research on competitive anxiety has adopted a multi-dimensional conception of anxiety, with cognitive anxiety, somatic anxiety and self-confidence as its dimensions (Martens, Burton, Vealey, Bump, & Smith, 1990). Cognitive anxiety consists of the mental component of anxiety, determined by the negative expectations and worries about the athlete's own level of functioning. It is also determined by the nature of the specific situation (e.g., the strength of the opposition) and the possibility of failure. The literature shows that cognitive anxiety

can influence athletes' outcomes as they may become unable to process information, and their decision-making can suffer (Feltz, Short, & Sullivan, 2008; Jones, 1995; Muris, 2002; Nicholls, Polman, & Levy, 2010). Somatic anxiety is the physical component of anxiety and includes an individual's perception of their own physiological responses (e.g., heart rate, breathing, sweating, or muscular tightness) (Burton, 1998; Woodman & Hardy, 2001). Cognitive and somatic anxiety, and self-confidence, often affect one another: the mental preparation of the athlete for a competition or game can affect his or her physical preparation and self-confidence (Martens et al., 1990). For example, if their mental preparation for the game involves high levels of negative overthinking, this will reflect on physical aspects, resulting in responses such as increased sweating or pulse rate, etc. The opposite is also possible, because if an athlete is not ready physically, this can affect his or her mental preparedness, and in turn, increase negative anxiety, thus increasing the possibility of failure, which will decrease his or her self-confidence (Martens et al., 1990; Woodman & Hardy, 2003). This line of research has confirmed that winners tend to have a significantly lower level of somatic and cognitive anxiety and a significantly higher level of self-confidence (Bruton, Mellalieu, Shearer, Roderique-Davies, & Hall, 2013; Martens et al., 1990). To operationalise the multi-dimensional theory, Marten et al. (1990) developed the Competitive State Anxiety Inventory-2 (CSAI-2) to enable measurement of athletes' intensity of cognitive and somatic responses, and their self-confidence. Research using this instrument has demonstrated the utility of the multi-dimensional approach, particularly the separate consideration of cognitive and somatic anxiety with respect to antecedents, temporal characteristics, outcomes, achievement expectancy as well as response to intervention (Mellalieu, Hanton, & Fletcher, 2006).

It has been suggested that multidimensional anxiety is best understood as a physical and psychological process that has a time course of occurrence so that the emotional responses can be viewed as variations of affect over the period around the competitive event (Hagan, Pollmann, & Schack, 2017). This view has led some researchers to develop a time-to-event approach to preparing athletes for competition (Cerin, Szabo, Hunt, & Williams, 2000; Hanton, Mellalieu, & Young, 2002). If the athlete's evaluation of expected performance is stable in the run up to competition, then the multidimensional anxiety theory (MAT) suggests that cognitive anxiety and self-confidence should remain stable in the time period leading up to competition (Hagan et al., 2017). In contrast, it is proposed that somatic anxiety remains stable initially, but then rises rapidly just before the event, reaching its peak at competition onset, before subsiding. There is research supporting these expectations (e.g., Gould et al., 1984), but other studies have found fluctuations in cognitive anxiety and self-confidence in the period before competition (Hanton, Thomas, & Maynard., 2004).

One reason for this lack of consistency in temporal effects could be the focus on measuring the intensity of experienced anxiety without considering the frequency of anxiety (Swain & Jones, 1993) or its direction (Jones & Swain, 1992). The frequency refers to the how often the athlete spent time attending to the symptoms, and this aspect has received support in that individuals may be better at accurately reporting frequency than intensity of anxiety over the pre-competition period (Thomas, Maynard, &Hanton, 2004). The direction aspect refers to the athlete's interpretation of anxiety as being a negative or a positive influence on their performance (Jones, 1995). Jones (1995) suggested that players who see themselves as capable of achieving their goals tend to interpret their anxiety symptoms as facilitative. Meanwhile, athletes with

negative expectations about achieving their goals are more likely to interpret their mental state as harmful to performance. The literature now suggests that athletes can interpret their anxiety symptoms as either facilitative or debilitative (Hanton & Connaughton, 2002; Hanton, O'Brien, & Mellalieu, 2003; Mellalieu, Hanton, & Fletcher, 2006). This control model of competitive anxiety (Jones, 1995) develops the concepts of facilitative or debilitative anxiety by considering athletes' anxiety experience in relation to match stressors. It suggests that anxiety's impact on performance may not be as related to its intensity, as to whether the athlete perceives it as assisting or hindering their performance. Thus, an increase in the level of anxiety could favour good performance in some athletes if they interpret it as facilitative. Kais (2005) discovered, for example, that there was no difference in the level of somatic anxiety between samples of elite and non-elite beach volleyball players, but the elite players viewed anxiety as facilitating, while non-elite players viewed it as debilitating. More broadly, the literature suggests that competitive state anxiety has both facilitative and debilitative functions (Hanin, 2010; Polman & Borkoles, 2011). The key elements in how anxiety affects an athlete, that is, whether it is facilitative or debilitative, are the athlete's beliefs about their own skills and resources (Hanton, Thomas, & Maynard, 2004; Kais, & Raudsepp, 2005), and their ability to apply these in the competitive situation. Such beliefs are addressed next in terms of the concept of sporting self-efficacy. Note that some researchers hold that notions of facilitative or debilitative anxiety are a fallacy (Polman & Borkoles, 2011), and that coping is related to different appraisals of emotional experience. This thesis uses the facilitative/debilitative distinction, but it does not require a definition of 'interpretation' that is distinct from 'appraisal'.

A number of athlete and situational factors that affect competitive anxiety have also been identified. For instance, there is evidence that highly skilled athletes can experience lower anxiety intensity (Campbell & Jones, 1997; Gal-Or, Tenenbaum, & Shimrony, 1986) and may also have a more facilitative interpretation of how anxiety affects them (Jones, Hanton, & Swain, 1994). Situational factors include the task requirements of the sport in question (Krane &Williams, 1987; Hassmen & Blomstrand, 1995; Jones, Swain, & Cale, 1991), and whether or not the exposure experienced by the athlete is in an individual or team competition (Woodman & Hardy, 2003). There may also be broader factors at the cultural level affecting the experience of competitive anxiety. Research on somatisation suggests, for example, that in non-Western cultures the body and mind can be more closely connected in the way distress is expressed (Dzokoto, 2010), and this may lead to a greater tendency to report physical symptoms during periods of psychological stress (Kirmayer, Dao, & Smith, 1998; Kleinman & Good, 1985).

An important issue that connects with research on competitive anxiety is what athletes do to cope with the effects of anxiety. Research on coping has contrasted problem-focused, emotion-focused and avoidant coping strategies (Kurimay, Pope-Rhodius, & Kondric, 2017). Problem-focused coping refers to active efforts towards changing the athlete-environment relationship in an attempt to eliminate the stressor. Emotion-focused strategies focus on attempts to diminish the emotional effects of stressors. Avoidant coping involves ignoring or not engaging with the stressor. In the context of sport, problem-focused strategies have been associated with positive effects whereas emotion-focused and avoidant coping have been linked to negative effects (Crocker & Graham, 1995; Kashdan, Barrios, Forsyth, & Steger, 2006). The effects of an avoidant

approach can depend on the situation, however. In some situations, avoidant coping can help performance by reducing state anxiety after errors (Krohne & Hindel, 1988), and avoidant coping may be better than problem-focused strategies in situations where the athlete has a low level of control over events (Roth & Cohen, 1986). Relating coping strategies back to the intensity and directionality of experienced anxiety, respectively, Ntoumanis and Biddle (2000) suggested that high cognitive anxiety intensity is related to emotion-focused coping and avoidance, whereas facilitative cognitive anxiety tends to be linked with problem-focused coping. Research has also found that elite athletes can protect themselves from debilitative effects of anxiety by using a range of cognitive skills such as mental rehearsal, thought-stopping, or positive self-talk (Hanton, Mellalieu, & Hall, 2004). Conversely, athletes who are skilled in relaxation strategies are able to lower anxiety intensity and increase their level of facilitative interpretation of anxiety (Fletcher & Hanton, 2001). Aside from athlete-led coping strategies, research has also demonstrated the effectiveness of more structured interventions using specific cognitive skills (e.g., imagery) (Hale &Whitehouse, 1998; Page, Sime, & Nordell, 1999) and multimodal skill packages (goal-setting, imagery and self-task) (Hanton & Jones, 1999; Mamassis & Doganis, 2004) in changing anxiety interpretation in athletes.

Self-efficacy

The roles played by athletes' impressions of their own capability in their performance and approach to competition have been extensive studied within sport psychology (Feltz, 1988; Feltz, et al., 2008). Self-beliefs about capability have been researched as self-confidence or self-efficacy. Although these two terms are sometimes used interchangeably (Feltz et al., 2008), there are important differences in the content and

scope of the two concepts (Bandura, 1997; Vealey, 1986). The term self-confidence usually refers to global beliefs about one's capability in a sport and relates to the measurement and understanding of what people assume they are able to do. In sports, this is a matter of the athlete's ability to believe that he/she can be successful (Manzo, et al., 2005; Woodman & Hardy, 2001). Thus, the concept of self-confidence relates to what people believe they can achieve, but without specific reference to the actual skills and capacities they possess to make this possible (Hann, 2000; Feltz, Short, & Sullivan, 2008). Bandura (1997) contrasts this with his notion of self-efficacy, which addresses people's beliefs in their ability to perform the required skills in a particular situation (Bandura, 2001, 2012). As this situational element suggests, Bandura (1986) developed the concept of self-efficacy to address the link between an actor's mental estimate of task-related capability and the external influences that may impact the task's performance. Bandura stresses that the contrast between self-confidence and self-efficacy is important because, in his terms, self-confidence simply relates to the level of faith and conviction but does not include specific consideration of the perceived competencies for the task (Beattie et al., 2014; Manzo, et al., 2005; Morris, & Summers, 1995). Self-efficacy, on the other hand, takes into account both the level of perceived competencies and the level of belief. Self-efficacy judgments are dynamic in nature and are based on mastery experiences (instances of successfully executing a skill or controlling an environment), vicarious experiences (observations of others' efforts and successes, particularly those of role models), verbal persuasion (by influential individuals), and physiological and affective states (Bandura, 1997). Measurement of the level of self-efficacy involves probing the level of belief associated with the specific skills that need to be executed and situations that need to be faced (Bray, Balguer, & Duda, 2004). Thus, detailed self-awareness at the level of

individual skills and situational competencies inform the self-efficacy judgment as much as one's overall impression of preparedness for competition. This specificity of self-efficacy makes it more useful to study in the context of coaching because coaches' influence on the athletes' technical skills, strategic application, ability to sustain motivation, as well as general toughness can be reflected systematically in the athletes' measured judgment of self-efficacy.

A key aspect of self-efficacy theory is that individuals are more likely to engage in activities for which they have high self-efficacy and are less likely to engage in those for which they do not (Feltz, et al., 2008; Van der Bijl & Shortridge-Baggett, 2002). Individuals' self-judgments of how able they are to work at particular levels of tasks with the required effort and persistence affect their behaviour, emotions, and thinking process. Thus, self-efficacy can have a large impact on an athlete's behaviour (Feltz, et al., 2008; Horn, 2008; Valiente, & Morris, 2013). For example, positive self-efficacy predicts positive affect among wheelchair basketball players and negatively predicts negative affect (Martin, 2008). Players' self-efficacy impacts both positive (e.g., enjoyment, satisfaction) and negative (e.g., anxiety, boredom) affective results, mainly through the creation of attention biases and their influence on how we interpret important life events (Bandura, 1997, 2012). Importantly, those with high levels of self-efficacy are more likely to focus their attention on positive aspects of life experiences and interpret them in more positive ways, whereas those with low levels of self-efficacy tend to attend to negative components and to interpret experiences negatively. Indeed, meta-analytical research suggests that self-efficacy facilitates performance accomplishments in sport (Bandura, 2012; Horn, 2008). There is also recent work showing that a positive relationship develops between self-efficacy and

sporting performance over the course of sport-skill training (Beattie et al., 2014). For example, recent work on the development of self-efficacy in golf has linked it to specific predictive performance accomplishment information (PAI) such as handicap (in the case of skilled golfers) and practice satisfaction (in less skilled players) (Bruton, Mellalieu, Shearer, Roderique-Davies, & Hall, 2013; Sitzmann & Yeo, 2013).

Self-efficacy and anxiety

According to Bandura (1997), self-efficacy plays a key role in self-regulation in a range of life situations. Bandura states that the incapability to influence social conditions that significantly affect one's life can result in increased feelings of hopelessness as well as anxiety. Three important ways in which low sense of self-efficacy may increase feelings of anxiety have been identified by Bandura (1997). Firstly, when the person has expectations of achieving a high standard, a low sense of self-efficacy can create a despondent mood and anticipatory apprehension. This happens particularly when people's personal standards of merit are set well above their perceived efficacy. Secondly, when a low sense of self-efficacy hinders formation of positive social relationships, this can bring lack of satisfaction to peoples' lives and prevent them from managing stressful experiences, promoting feelings of anxiety. As a result of this lack of self-efficacy, people believe that they cannot meet others' evaluative standards. This is also likely to enhance anxiety in social situations. Finally, low self-efficacy affects the exercise of control over negative thoughts, which may also increase anxiety (Bandura, 1997, 2012). Most people will experience anxious and worrying thoughts from time to time in their lives. While some may successfully manage the negative thinking, others may not have the capability to do this. The latter is known to activate a further series of negative thoughts and felt anxiety (Bandura,

2001; Haney & Long, 1995). Also, anxiety can escalate when an athlete faces a demanding sports situation (Lazarus, 1999; Martens, et al., 1990) and begins to doubt their capability to execute the relevant skills which the intensity of the situation demands, especially under certain circumstances such as strong competition (Feltz, et al., 2008; Haney, & Long, 1995).

The relationship between anxiety and self-efficacy has been examined by a number of studies (e.g., Cartoni, Minganti, & Zelli, 2005; Haney & Long, 1995; Hazell, Cotteril, & Hill, 2014; Martin & Gill, 1991; Muris, 2002), which have mostly found a reciprocal relationship. Research has also found that both self-efficacy and anxiety influence athletes in a competitively demanding situation. A sense of self-efficacy reinforces the physical execution of skill, while mental or cognitive anxiety may have a detrimental effect on it if the athlete interprets the mental state as debilitative (Feltz, 1988; Feltz, et al., 2008). In some situations, athletes may give the outward impression that they are high in self-efficacy, but at critical moments of competition, their self-efficacy can drop and this may result in negative or debilitative anxiety (Feltz, et al., 2008; Lavallee, et al., 2004).

Anxiety levels of the athletes can change as a result of situational stressors and threats that make them less able to focus on the task at hand due to lack of self-efficacy (Martens et al., 1990; Mowlaie, Besharata, Pourbohlool, & Azizi, 2001). George (1994) found significant negative relationships between self-efficacy and anxiety. Besides that, Treasure, Monson, and Lox (1996) also found self-efficacy to be positively correlated with positive effect (e.g., resolution, motivation) and negatively correlated with negative affect (e.g., anxiety, worry). Consequently, Treasure et al.

suggested that more effective athletes, who have higher levels of self-efficacy, not only have lower levels of anxiety before or during competition, but also keep a more positive affective state. High self-efficacy expectations have also been revealed to be accompanied by low anxiety, positive affect, and high sport confidence in athletes (Boardley et al., 2015; Garza, & Feltz, 1998; Martin, & Gill, 1995).

The degree to which an athlete is able to manage the influence of anxiety is dependent on their experience (Hagan, Pollmann, & Schack, 2017; Jones, 2003; Sève et al., 2007) as well as their self-efficacy process (Feltz, et al., 2008; Schunk, 1995). This was demonstrated, for example, in Besharat and Pourbohlool's study (2011) which tried to gain a better understanding of the effects of sport self-efficacy on anxiety, using a sample of Iranian athletes. The participants totalled 246 professional athletes of different sports at national and international level (sports include football, as well as wrestling, taekwondo, basketball, volleyball, track and field, swimming, gymnastics and weight lifting). Results indicated that self-efficacy was negatively correlated with competitive anxiety, but positively correlated with sport achievement.

Bandura (1997), Jackson, Robert, and Beauchamp (2010), Vargas-Tonsing (2009), have all noted that there is a negative relationship between self-efficacy and anxiety. The sense of control an athlete feels, which is strongly linked to their self-efficacy, can affect perception of potential threat, and change their evaluation of the situation from positive to negative or negative to positive (Jones, 2003; Manzo, et al., 2005). It also affects whether certain aspects of the competitive situation (referees, officials, changes to the field, the weather, or opponents) are viewed as threats to successful performance. Self-efficacy, and a positive framing of anxiety, can therefore strengthen

a performance by using the symptoms of anxiety as a facilitative force. This means that athletes with high self-efficacy may be able to use competitive anxiety to their advantage to improve their outcomes (Hanton & Connaughton, 2002; Hanton et al., 2003; Jones & Hanton, 2001). The relationship between anxiety, its facilitative or debilitative effect, and self-efficacy is central to the work presented in this thesis, which studies these relationships in relation to the way in which football players perceive their coaches' effectiveness. The next section considers the concepts of coaching efficacy and effectiveness.

Coaching efficacy and effectiveness

The above discussion on self-efficacy concerned athletes' knowledge or awareness of their own capabilities, and the effects of this type of self-awareness on their emotional regulation in the face of performance pressure. The method and content of athletes' preparation for competition is only partly down to their own resources and effort. A significant influence on their development and preparation must come from their coaches (past and present). It seems intuitive that the self-efficacy of athletes would be enhanced by being coached effectively, but the effectiveness of coaching is itself a much-debated notion. In synthesising research on coaching expertise or effectiveness over the period of 1970-2008, Côté and Gilbert (2009) suggested that conceptual models of coaching all acknowledge that three key variables should underpin views of coaches' functioning – the strength of their knowledge base, the outcomes of their trainees, and the contexts within which they operate. The knowledge base concerns the content knowledge that the coach can impart about the sport in question, the pedagogical knowledge of what affects students' ability to learn, and the pedagogical-

content knowledge of how best to convey content knowledge to trainees (Berliner, 1991). Côté and Gilbert (2009) cite Collinson (1996) as having suggested an alternative categorisation of coaching knowledge in terms of professional knowledge (subject and pedagogical knowledge), interpersonal knowledge (relationships with athletes, management and community), and intrapersonal knowledge (self-reflection and ethical framework). The term holistic coaching is applied where coaching is seen as imparting not only sport-specific skills but also overall development of athletes through coaches' social competencies (Cassidy, Jones, & Potrac, 2009; Thelwell et al., 2008).

Horn (2008) broadened the definition of effective coaching as either leading to successful performance outcomes (e.g., rate of winning or attainment of higher competitive level) or positive psychological responses in athletes (e.g., increase in perceived ability or self-esteem). The latter criterion links with transformational leadership theory (Turnnidge & Côté, 2018) which values behaviours that empower, inspire and challenge athletes to enable them to reach their full potential (Bass & Riggio, 2006). Transformational leadership concerns four dimensions of coaching behaviour: idealised influence (coaches behave as role models and gain trust and respect), inspirational motivation (coaches raise expectations and communicate a compelling future vision), intellectual stimulation (coaches encourage athletes to think for themselves and contribute ideas), and individualised consideration (coaches recognise and develop individual needs). A key distinction made in this context is between transactional leadership behaviours (monitoring, rewarding, or punishing) and transformational behaviours (that develop the athlete more generally in the aforementioned ways).

Coaches' impact on the athletes they train is bound to be influenced by their interpersonal expertise and style. Coaches operate within a web of relationships with their athletes, management, supporting community, and also within the coaching team itself (Bowes & Jones, 2006; Jones & Wallace, 2006). In applying activity theory to coaching, Jones, Edwards and Filho (2016) noted that the coach is not an autonomous agent but enmeshed in social and cultural interconnections. The strong constraints on coaching behaviour generated by these interconnections have been examined in studies of micro-politics (e.g., Thompson, Potrac, & Jones, 2013). A social setting such as a team of athletes being trained by a team of coaching personnel self-organises through the day-to-day actions of the members. Effective coaches must first navigate these interpersonal dynamics successfully before they can be in the position of implementing their philosophy or strategies. Performance in these interpersonal challenges and the competitive outcomes achieved can underpin coaches' overall confidence in their own capabilities (Bolter & Weiss, 2013; Malete, Chow, & Feltz, 2013; Mathers, 1997; Smoll & Smith, 2005; Sullivan & Kent, 2003).

To operationalise coaches' confidence in their own abilities, Feltz, Chase, Moritz, and Sullivan (1999) created the coaching efficacy model by using Bandura's self-efficacy theory (1997) as the guiding framework (see Boardley, 2018, for a recent review of coaching efficacy research). Feltz et al. (1999) proposed that coaching efficacy consists of four dimensions – motivation, technique, game strategy, and character-building–so that coaching efficacy can be described as multidimensional in nature. Motivation efficacy refers to coaches' confidence in their own ability to influence athletes' psychology and state of mind. Game-strategy efficacy refers to their confidence regarding coaching their teams to successful performances in competition.

Technique efficacy refers to confidence in skills related to diagnosing technical deficits and instructing players to improve. Character-building efficacy refers to coaches' confidence in their own ability to contribute to their athletes' personal development and positive attitude (Feltz et al., 1999; Boardley, Kaussanu, & Ring, 2008). In the Feltz et al. (1999) model of coaching efficacy, a high level of coaching efficacy is expected to result in more positive outcomes for coaches, such as enhanced commitment to coaching (Sullivan & Kent, 2003), or giving positive feedback to players (Sullivan & Kent, 2003), as well as for athletes, for example, team efficacy, satisfaction with coaching, and team performance (Myers, Vargas-Tonsing, & Feltz, 2005; Vargas-Tonsing, Myers, & Feltz, 2004).

Coaches' self-efficacy is their own view of how capable they are, but such self-efficacy judgments may not be straightforwardly related to how the athletes they train perceive the coaches' effectiveness. Here, effectiveness can be defined as the extent to which coaches can implement their knowledge and skills to positively affect the learning and performance of their athletes (Kavussanu, Boardley, Jutkiewicz, Vincent, & Ring, 2008; Malete & Sullivan, 2009). Researchers have found support for the same four dimensions as in coaching efficacy when studying athletes' perceptions of their coaches' effectiveness (e.g., Boardley et al., 2008, Boardley, Jackson, & Simmons, 2015; Duarte, Garganta & Fonseca, 2014; Kavussanu et al., 2008; Kassim & Boardley, 2018; Santos, Corte-Real, Regueiras, Dias, Martinek, & Fonseca, 2018). In this context, motivation effectiveness becomes the athletes' perceptions of their coach's ability to influence the psychological skills of his/her athletes. Game strategy effectiveness is the athletes' perception of their coach's ability to coach and lead his/her team to a successful performance during competition. Technique effectiveness

refers to the athletes' perceptions of their coach's instructional and diagnostic skills. Finally, character-building effectiveness is the athletes' perceptions of their coach's ability to influence his/her athletes' personal development and positive attitude toward sport (Boardley, Kavussanu, & Ring, 2008; Bolter & Weiss, 2012; 2013). Kavussanu, Boardley, Jutkiewicz, Vincent and Ring (2008) used Feltz et al's (1999) coaching efficacy framework to study the perceived coaching effectiveness judgments given by athletes along the same four dimensions as incorporated in the coaching efficacy framework. On average, coaches' ratings of their own coaching efficacy were significantly higher than the effectiveness ratings given to them by the athletes they trained. This underscores the importance of considering the athletes' perspective on the coaching they receive when assessing the coaches' impact. It also highlights the importance of investigating the quality of the coach-athlete relationship and its effects on athletes' performance and psychology (Davis, Appleby, Davis, Wetherell, & Gustafsson, 2018; Jowett, 2017).

Recent research has indeed placed considerable importance on the coach-athlete relationship, and its influence on athletes' growth beyond the honing of sport-specific skills. For example, Davis et al. (2018) have shown that a positive coach-athlete relationship predicts better cognitive performance among athletes, and a negative relationship predicts worse cortisol response and exhaustion following intense exercise. Nicholls, Levy, Jones, Meir, Radcliffe, and Perry (2016) investigated how aspects of the coach-athlete relationship affect athletes' challenge and threat appraisal. Closeness in the relationship was found to positively relate to challenge appraisal and negatively relate to threat appraisal. However, commitment in the coach-athlete relationship related positively to threat appraisal, a negative outcome for athletes.

Commitment was also found to be related to disengagement-oriented coping. This coping style is known to adversely affect athletes' performance. Such results highlight the fact that, even where strong connections between coaches and athletes have been formed, the effects on athletes can be positive or negative (Anthony, Gordon, Gucciardi, & Dawson, 2018; Myers, et al., 2005; Smoll, Smith, & Cumming, 2007; Vargas-Tonsing, 2009). Research has shown that the nature of coaches' motivation and drive for their sport can lead to patterns of behaviour that affect how the athletes perceive their relationship with their coach. Lafraniere et al. (2011) contrasted harmonious against obsessive passion for coaching and showed that coaches with a harmonious approach tend to exhibit autonomy-supportive behaviours whereas an obsessive approach tends to produce controlling behaviours. Importantly, athletes were happier and formed a more positive perception of their relationship when coaches engaged in autonomy-supportive behaviours (Bolter, & Weiss, 2013; Jones, Housner, & Kornspan., 1997; Kenow, & Williams, 1999).

Importantly, research has also focused on the relationship between athletes' perceptions of their coaches' effectiveness and athletes' own self-efficacy. For example, Boardley, Kavussanu, and Ring (2008) examined the relationship between rugby players' perceptions of coaching effectiveness based on the coaching efficacy model and the players' self-efficacy. They found that players' perceptions of technique effectiveness positively predicted players' task self-efficacy beliefs. Assuming the coach's actions lead to this increase in athlete efficacy, it then follows naturally that players' perceptions of their coach's effectiveness will increase further due to the positive effect of the coach on athletes' self-beliefs (Hwang, Feltz, & Lee, 2013; Smoll, & Smith, 2005). The coach's efficacy influences the athletes' perceptions of

the task and this may have a positive or negative effect on athletes' outcomes (Horn, 2002; Smoll, & Smith, 2005). In many instances, perceptions of coaches and their motivational strategies can have a direct impact on the athletes' performance (Wang, Marchant, Morris, & Gibbs 2004; White & Zellner, 1996) and the development of their sportsmanship (Malete, Chow, & Feltz, 2013). This has been discussed in detail by a number of researchers (Raglin, 1992; Smith Smoll, & Cumming, 2007; Woodman & Hardy, 2003). The impact that coaching can have on an athlete also depends on the personal characteristics of the individual, which can also influence the ability of the athlete to respond to external stimuli (Cross, 1999; Myers, 2013; Wang et al., 2004; White & Zellner, 1996). This relates to the self-efficacy of the athlete. For example, Kenow and Williams (1992), using a sample of female intercollegiate basketball players, investigated the relationship of self-confidence, as well as competitive, cognitive and somatic anxieties, with the perception and evaluation of coach's actions. They concluded that athletes who evaluated their coach's actions through a more negative perspective tended to have higher cognitive anxiety and lower self-confidence, and moreover, that anxiety had a significant influence on the relationship between the athlete and the coach.

The present studies

The purpose of this thesis is to investigate what role players' self-efficacy may play in the way their evaluations of coaches' effectiveness relates to their performance anxiety. If I find that self-efficacy plays a mediating role in this relationship, I hope to argue that focusing significant coaching attention to developing players' self-efficacy may be an efficient and productive way to develop players, improve their regard for

coaching input, lower their performance anxiety and shift their evaluation of anxiety towards being a facilitative influence on their performance.

The goals of the project developed through my own experience of playing club and international football in Kuwait, an environment consisting of mostly local semi-professional and a small number of international professional players with coaches ranging from formally trained local staff to internationally experienced and successful individuals brought in from European or South American settings (see below for further context). My ultimate goal is to develop practical methods by which focusing coaching attention on aspects of players' psychology that link closely and specifically to their football skills (such as the construct of self-efficacy) can improve the process of player development and coach acceptance. Thus, this work aims to develop psychological understanding directed at developers of coaching methodologies that may be broadly applicable to a range of competitive club football settings. Based on my application interest, ease of access, and my own playing experience, I have focused the present work on samples of players from the Kuwaiti leagues. However, in the first two empirical chapters, I have also studied an international sample of professional players from the English leagues to place the Kuwaiti results into an international context.

Professional football is played across the full range of standards and levels of professionalisation. This range spans club leagues employing part-time players and coaches with modest experience and qualifications at one end, and at the other end, globally followed leagues with clubs employing elite players on high-value, full-time contracts, coached by renowned personalities with extensive managerial and

competitive playing experience at the highest level. The range of competitive pressure, public scrutiny and coaches' power over players' opportunities vary across this spectrum, and it is possible that the impact of how coaches' abilities are perceived by players on the latter's self-efficacy, anxiety and facilitative-debilitative interpretation varies with context. On the other hand, the strategies and techniques of the game may be largely shared among all competition settings, and the substantive points on which coaches influence their players may be relatively similar.

To investigate the effects of these contextual differences on the players' perceived coaching effectiveness, self-efficacy, cognitive and somatic anxiety, and the facilitative/debilitative evaluation of anxiety, I start the empirical work in Chapter 3 by comparing the players' levels of these variables between a professional and a semi-professional setting, and at two levels of competition within each setting. At one end, I studied players from the two football leagues in Kuwait, where players are part-time professionals and coaches range from mostly local staff in the lower league (Division One) to a handful of internationally recruited coaches in the upper league (Premier). Club football in Kuwait is organised in two leagues, the Premier league and Division One. In total, 14 teams compete in their respective league and a range of cup competitions. The Premier league employs a limited number of international professional players (who may play international football for their own national teams) and semi-professional Kuwaiti players for whom football is not the sole source of income. Some coaches in the Premier league come from an international pool of professionals with successful records in club football across Europe, South America, Africa or other Asian leagues. Others are local coaches with higher education in coaching through training qualifications offered by the Kuwait Football Association

(accredited by the Asian Football Confederation). Premier leagues games receive TV and radio coverage, and many games have substantial live viewing figures. This league is extensively covered in news and social media. Division One teams tend to employ only local players and local coaches, and its games do not receive the level of media coverage or following seen in the Premier league. The Kuwaiti national team, whose international matches have the highest media and spectator following, is drawn almost entirely from Premier league teams. The national team made on World Cup finals appearance (1982), where they drew against Czechoslovakia but lost to England and France.

At the other end, I studied players from two consecutive levels of the English professional leagues with internationally recruited, elite players and coaches. I hypothesise that players at the higher level of competition in both settings will report higher self-efficacy, and lower performance anxiety (in particular, the cognitive component of anxiety). But despite the obvious differences in the settings, I expect the impact of perceived coaching effectiveness on players' self-efficacy, anxiety and facilitative-debilitative interpretation of anxiety to be broadly similar in both settings. Importantly, I expect this comparative investigation to provide a clearer picture of how sensitive these variables are to changes in players, coaches and sporting context in the competitive football setting.

In Chapter 4, I examine the inter-relationships between perceived coaching effectiveness, cognitive and somatic anxiety and their debilitative and facilitative interpretation, and players' self-efficacy (Figure 1.1).

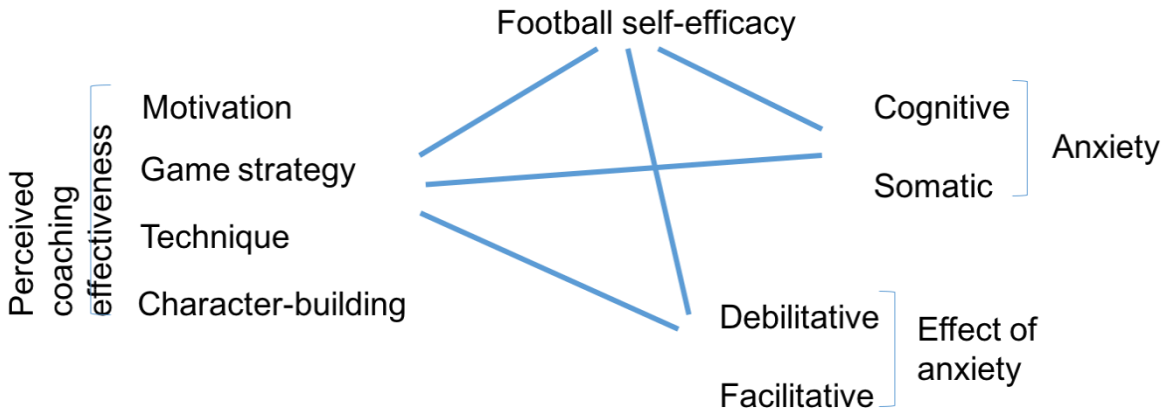


Figure 1.1. Schematic diagram of the variable relationships investigated in the thesis. See text for details.

First, I investigate the link between perceived coaching effectiveness and performance anxiety and its facilitative or debilitative interpretation. I expect that perceptions of high coaching effectiveness are related to lower levels of performance anxiety, and so to the players' evaluation of anxiety as a facilitative influence. Second, I investigate the extent to which the four dimensions of perceived coaching effectiveness are related to players' sense of self-efficacy. Based on previous research in other sports (e.g., Boardley et al., 2008, 2015; Kavussanu et al., 2008; Manzo, et al., 2005), I hypothesise that the dimensions of perceived coaching effectiveness will positively relate to players' self-efficacy. Next, I analyse how players' sense of self-efficacy relates to the cognitive and somatic aspects of their performance anxiety, and whether these feelings are seen as facilitative or debilitative. I expect that higher self-efficacy will be associated with lower anxiety. Then, I examine how players' sense of self-efficacy relates to their facilitative or debilitative interpretations of cognitive and somatic anxiety. Here, I expect that higher self-efficacy increases the probability of viewing

competition as a challenge, and therefore the evaluation of performance anxiety as a facilitative influence.

As I have already mentioned, my main point of interest in the thesis is the extent to which perceived coaching effectiveness directly relates to anxiety and its facilitative-debilitative interpretation, or indirectly through its effect on players' sense of self-efficacy. Aside from its use of samples of professional and semi-professional footballers (the bulk of the work on self-efficacy and coaching effectiveness has been done in the youth sports setting), this project's investigation of the nature of this mediation by self-efficacy is its key novel contribution. If players' self-efficacy, a measurable, well-studied psychological construct is found to mediate the relationship between players' anxiety and their reception of coaching input, nurturing and growing self-efficacy can be a very useful target in programmes for developing players (and training coaches). In the final chapter of the thesis, I suggest that focusing on developing players' self-efficacy through a variety of practical measures may be a very efficient way of attaining four desirable psychological outcomes: players have greater awareness of their own capabilities at the level of specific skills (self-efficacy), they are more favourable to their coaches' input (perceived coaching effectiveness), they experience less performance anxiety (cognitive and somatic anxiety), and they are more inclined to judge this emotional arousal as facilitative of their performance.

In Chapters 5 and 6, I carry out investigations analogous to those in Chapters 3 and 4, but rather than focusing on the differences between professional and semi-professional players, I focus on the contrast between players who mostly take on attacking or defending roles. In football, attacking and defending players have been attributed

different skills by some researchers (Dureha, Singh, Yaduvanshiand, & Mishra, 2010; Eloff, Monyeki, & Grobbelaar, 2011; Sewell & Edmondson, 1996), but not all studies have found position-based psychological differences among football players (Jooste, Steyn, & Van Den Berg, 2014; Kurt, Catikkas, Ömürlü, & Atalag, 2012). In other sports, such as American football, significant differences have been found between attacking and defending players in anxiety control, concentration and confidence (Cox & Yoo, 1995). Psychological differences between hookers and half-backs on one hand, and locks, wings and fullbacks on the other have also been reported (Andrew, Grobbelaar, & Potgieter, 2007).

In football, playing positions have traditionally been associated with attacking or defending functions. Unlike in some other sports, such as American football, the allocation of specific positions to these roles is rarely strict or unchanging, and current trends point to increasing fluidity in role fulfilment. As the flow of the game consists largely of gaining or retaining possession of the ball, and constructing and implementing attacking moves, there are multiple opportunities to contribute to goal-scoring efforts. A large majority of offensive moves fail, and are expected to fail, and when one is successful, it brings instant gain and celebration for the team. Thus, success in attacking roles is associated with specific, rare, and highly memorable events (Eloff, Monyeki, & Grobbelaar, 2011; Jooste, Steyn, & Van Den Berg, 2014; Sewell & Edmondson, 1996). In contrast, the role of defense is to prevent opponents' attacks from being successful. This role is played out across extended time periods and spread across many attacking moves built by opponents. Success in this role is marked by the lack of scoring events, and rarely are successful defensive moves as visible or memorable as goal-scoring or even near-miss offensive ones. On the other

hand, defensive weakness builds a tense atmosphere when opponents attack (quite unlike when offensive weakness fails to create scoring opportunities), and errors leading to goals against the team can accrue personal blame more readily than errors in converting scoring chances into goals. Thus, a player operating in a primarily defensive role may relate more readily to the mindset of loss avoidance (Andrew, Grobbelaar, & Potgieter, 2007; Kahneman & Tversky, 1992).

Accordingly, football coaches train the players not only on strength and fitness exercises, but also provide tactical and technical training, with specific exercises depending on playing position (Akin, Kireker & Koklu, 2009). Thelwell, Greenlees, and Weston (2006) suggested, for example, that midfield players require different technique skills, such as their ability to complete passes, specially the throw pass which is the last assist to the goal. In contrast, defending positions need to block opponents' moves, make successful tackles and carry out interceptions. Meanwhile, attacking players in forward positions have to move into empty spaces to receive passes, then control the ball, and master the opportunistic skills of completing assisting or scoring shots under pressure from defenders nearby.

Based on these differences, I predict that players who occupy defensive roles more often would be more susceptible to somatic and cognitive anxiety (as a result of their concern with loss avoidance). I also predict that such players would interpret their anxiety as more debilitative. Based on the tactical differences in these roles, I expected that players with mostly defensive roles would value coaches' motivation and character-building more highly, whereas players operating mostly in offence would be more concerned with coaches' game strategy effectiveness. As technique underpins

both types of role, I did not expect group differences in this respect. In Chapter 5 (mirroring the structure of Chapter 3), I first investigate differences in perceived coaching effectiveness, anxiety and its interpretation and self-efficacy between players with primarily defending and attacking roles (as judged by their coaches). Following this investigation of differences between attack and defence-focused players, in Chapter 6 I consider the inter-relationships between the dimensions of perceived coaching effectiveness, cognitive and somatic anxiety, and their debilitative and facilitative interpretation and players' self-efficacy.

The players and coaches studied in Chapters 3-6 are engaged in football in professional or semi-professional capacities and have significant commitment to training and competition. The players are experienced in working with coaches and have developed by absorbing intensive coaching input. As a result, these individuals have a history of engaging in a kind of committed coach-player relationship that cannot be expected in less intensive recreational or extra-curricular settings in which football is played by amateurs. To what extent can we expect to see the same type of links between players' evaluation of coaches and their own self-efficacy and anxiety in settings where the coach-player interactions are not as intense as in professional or semi-professional competition? Do the psychological links hypothesised in these advanced settings develop only through long and intensive relationships between committed coaches and players? To investigate how or whether perceived coaching effectiveness links to the recreational or extra-curricular players' sense of self-efficacy, Chapter 7 studies a sample of players from Kuwaiti university teams.

In the final chapter of the thesis, I summarise the results and consider the overall picture that emerges regarding the links between how football players perceive their coaches' effectiveness, their own self-efficacy, and their performance anxiety and debilitative and facilitative effects. I then consider the implications of these results for the training and deployment of coaching in settings of different standards. In particular, I discuss the implications of the role played by players' self-efficacy, and how the development of this property can be a coherent and productive way to promote football players' psychological environment.

CHAPTER 2

MEASUREMENT INSTRUMENTS

This thesis investigates relationships between players' football self-efficacy, their cognitive and somatic anxiety, the extent to which they feel the anxiety is facilitative or debilitative in the performance setting, and how they perceive their coaches' effectiveness in motivating them, giving them technique and game strategy input and helping to build their sporting character. As outlined in Chapter 1, the investigation consists of three sets of studies. Chapters 3 and 4 are concerned with comparing professional and semi-professional players with respect to the psychological variables of interest (Chapter 3) and studying the inter-relationships between the variables in these two groups (Chapter 4). Chapters 5 and 6 are concerned with comparing players with primarily attacking and defending orientation (as judged by their coaches) with respect to the psychological variables (Chapter 5) and studying the inter-relationship between the variables in these groups (Chapter 6). Finally, Chapter 7 investigates whether the relationship between perceived coaching effectiveness and players' self-efficacy found in professional and semi-professional players can also be seen in the extra-curricular sport participation environment in universities.

Here, I describe the instruments I used to measure perceived coaching effectiveness, football self-efficacy, cognitive and somatic anxiety and their debilitative and facilitative interpretation.

Measures

Coaching Efficacy Scale (CES)

The Coaching Efficacy Scale (Feltz et al., 1999) was adapted to measure participants' perceptions of coaching effectiveness in the manner of Kavussanu, Boardley, Jutkiewicz, Vincent, & Ring, 2008). In this adaptation, the same items are used to gather players' ratings of their coaches' efficacy (as compared to coaches judging their own efficacy in the Coaching Efficacy Scale). I used this scale was to measure participants' perceptions of the following four constructs: (1) motivation effectiveness (7 items), (2) game strategy effectiveness (7 items), (3) technique effectiveness (6 items), and (4) character-building effectiveness (4 items). Each item was framed by 'In your opinion how effective is your coach in his ability to…'. The items included 'keep confidence in his players' for motivation, 'pick up opposing team's weaknesses during competition' for game strategy, 'instruct the skills of your sport' for technique, and 'set an attitude of respect for others' and 'stabilize an attitude of good moral character' for character-building. Participants rated each item on a scale from 0 (not at all effective) to 10 (extremely effective). Responses to the items for each subscale were averaged, leading to subscale scores ranging from 0 to 10, with higher scores indicating greater perceived coaching effectiveness. These sub-scales have been shown to have excellent (Cronbach's $\alpha > 0.9$) to good ($\alpha > 0.8$) internal consistency by Feltz et al. (1999) with Cronbach's α of .91 for motivation, .88 for game strategy, .89 for technique, .88 for character-building, and .95 for the total scale.

Football Self-Efficacy Scale (FSES)

The Football Self-Efficacy Scale (Bray, Balaguer, & Duda, 2004) measured participants' confidence in their ability to perform 12 independent soccer skills in a competition setting. Consistent with Bandura's (1997, 2001) recommendations for the measurement of self-efficacy, items in the FSES refer to individual soccer skills identified by expert coaches who worked alongside athletes at the same level of competition. These skills are (1) dribble past an opponent, (2) pass the ball accurately, (3) challenge an opponent for the ball, (4) trick an opponent, (5) protect the ball, (6) head the ball accurately, (7) continue playing when losing motivation, (8) fool an opponent, (9) recover the ball, (10) provide support under pressure, (11) drive (strike) the ball, and (12) shoot accurately at goal. Each item was rated on a scale of 0% ('not at all confident') to 100% ('extremely confident'). The self-efficacy score formed from these items has a good level of internal consistency indicated by a Cronbach's α=0.86 (Bray, Balaguer, & Duda, 2004).

The FSES was originally constructed in the context of youth football in Spain, but it has since been used in other youth football settings for research similar to the present project where relationships between players' perceptions of coaches (e.g., the motivation climate they create) and their own self-beliefs and behaviours such as self-efficacy and self-talk have been studied (Haznadar, 2012; Zourbanos et al., 2016). Other recent research on self-efficacy has used the general self-efficacy scale (GSES) developed by Jerusalem and Schwarzer (1992), used for example, by Mouloud and Elkader (2017) with Algerian youth players, or the general self-efficacy scale of Sherer et al. (1982) used by Mulazimoglu et al. (2016) with Turkish amateur league players.

I chose to use the FSES because the items in that scale are football-specific, and the ultimate practical goal of the present research is to support the suggestion that efforts to develop specific football skills can be integrated with efforts to develop players' self-belief, lower their anxiety and improve their reception of coaches' advice, through the use of football-specific self-efficacy measurement. This is also the reason why I did not use the self-confidence dimension of the CSAI-2R (see below). As I have suggested when contrasting the notions of self-confidence and self-efficacy in Chapter 1, self-efficacy differs from self-confidence in the depth at which it draws on self-awareness of specific competencies relevant to the domain in question. As I will argue later in the thesis, it is this skill-linked nature of self-efficacy that underlies its potential practical utility. I note that the FSES has limitations as a comprehensive instrument for measuring self-efficacy across all football skills. For example, the items in FSES may not adequately reflect some crucial football skills such as various aspects of ball control, different types of passing, or tracking. The extent to which FSES may be unbalanced between attacking and defending competencies is also an issue that is brought out and discussed in Chapter 5. Clearly, if the present research is able to show how central a role self-efficacy can play in football coaching, significantly improved measures of the construct for use in football would be worth developing.

Competitive State Anxiety Inventory revised (CSAI-2R)

The 17-item Competitive State Anxiety Inventory revised (CSAI-2R) validated by Cox, Martens, and Russell (2003) assessed cognitive anxiety (5 items), somatic anxiety (7 items) and self-confidence (5 items). Items probing cognitive anxiety focus on thoughts and feelings associated with competitive performance (e.g., 'I feel

nervous', 'I am concerned about losing', 'I'm worried that others will be disappointed with my performance), whereas items concerning somatic anxiety focus on physiological states (e.g., 'my body is tight', 'my heart is beating fast', 'my hands are clammy'). The items on self-confidence include 'I'm confident I can meet the challenge', 'I'm confident about good performance', and 'I'm confident of dealing with pressure'. Respondents rate these feelings before competition on a 4-point scale (1 = not at all, 2 = somewhat, 3 = moderately and 4 = very much). Participants also rated the degree to which symptom intensities were regarded as facilitative (positive) or debilitative (negative) to subsequent performance on the direction scale developed by Jones and Swain (1992): -3 ('very debilitative') to +3 ('very facilitative') with 0 indicating neither 'Neither debilitative nor facilitative'. The factorial validity of the CSAI-2R was previously established by (Cox, Martens, & Russell, 2003) using confirmatory factor analysis (CFA) on data from 331 athletes, which showed a good fit of the hypothesised measurement model to the data (CFI = .95, NNFI = .94, RMSEA = .054). Internal consistency of the direction scale yielded good Cronbach's α values from 0.80 to 0.89 for cognitive anxiety and 0.72 to 0.84 for somatic anxiety (Hanton, Jones, & Mullen, 2000; Jones & Hanton, 1996).

CHAPTER 3

EFFECTS OF THE LEVEL OF PROFESSIONALISATION AND RELATIVE COMPETITIVE STANDARD ON PERCEIVED COACHING EFFECTIVENESS AND PLAYERS' SELF-EFFICACY AND PERFORMANCE ANXIETY

INTRODUCTION

I now begin the empirical investigation of football players' reports of their coaches' effectiveness and of their own football self-efficacy and performance anxiety. This chapter's analyses focus on these variables' group differences between professional and semi-professional, and higher and lower competitive levels. Chapter 4 goes on to investigate inter-relationships between these variables. One group of interest here are professional football players who play for clubs in the English leagues, train on a full-time basis, have to play when told to, and are under significant career, financial, fan and media pressure to produce winning performances. The second group of interest, the semi-professional players we investigate, do not have football as their full-time occupation – they have separate occupations as their main source of income (Gissis, 2013; Papaevangelou, Metaxas, Riganas, Mandroukas, & Vamvakoudis, 2012). However, they are not amateurs at football as they play for payment at the top clubs in the Kuwaiti league. Both groups play for clubs that are followed by fanbases and scrutinised by their respective national media. Also, both groups contain players who experience international football (e.g., world cup qualifiers).

Based on differences in time commitment, professionalisation, performance pressure and financial stakes, I expected group differences in the psychological variables of perceived coaching effectiveness, football self-efficacy, and performance anxiety. Broadly, I expected the standard of coaching and players' involvement with coaches to be higher in the professional group. I expected therefore that the professional players should perceive their coaches' effectiveness to be higher. Based on the higher quality and greater experience of the professional players, I expected that their self-reported football self-efficacy would be higher. Also based on professional players' higher level of training, competition-readiness and experience of high-pressure situations, I expected them to report lower cognitive and somatic anxiety.

Within the professional and semi-professional groups, I included players from two adjacent leagues in terms of competition level. The purpose behind contrasting players from an upper and a lower level in both settings was to study the extent to which the standard of competition within each setting would affect the psychological variables of interest. Assuming that coaching standard would be higher at upper levels of competition, I predicted that perceived coaching effectiveness would be greater. Assuming that the players in the upper level of competition are more capable and more accustomed to competition pressure, I predicted that football self-efficacy of players in the higher level would be higher, and their performance anxiety lower.

In summary, the analyses presented in this chapter tested whether scores in the adopted measures of perceived coaching effectiveness, football self-efficacy and performance anxiety were sensitive to changes the level of experience and professionalism achieved by the players, and the competitive pressure under which they perform. My intuitive

knowledge of the game leads to the expectation that higher level of experience and professionalisation would accompany higher self-efficacy and better anxiety management, and higher coaching skill (usually available at the higher levels of competition) would lead to higher perceived coaching effectiveness. Support for the stated hypotheses would therefore provide a level of face validity to the adopted measures.

METHOD

Participants

Two samples were drawn from the professional soccer leagues in England and Kuwait. The participants recruited in England were 90 male players from 8 clubs, 4 clubs each from two consecutive levels of the English professional leagues (45 participants from each level). The participants recruited in Kuwait were 112 male semi-professional players from the 14 clubs competing in the two professional Kuwaiti leagues (8 players from each of 7 clubs in both leagues; 56 players from each league). Within each club, participants were recruited through opportunity sampling. Participants gave informed consent under the condition that their personal, club or league identity would not be retained in the data, and all reports would be completely anonymized. In the case of the English leagues, none of the clubs were promoted or relegated the year before or after the season of data collection. Ethical approval for the research reported in this chapter was granted by the College of Business, Law and Social Sciences Research Ethics Committee of Nottingham Trent University.

Procedure

Potential participants were approached through personal contacts, and when they agreed to participate, they were asked to fill out the questionnaires up to a day before a league match occurring a minimum of two months after the pre-season had started. This timing was selected in order to ensure that participants could fully consider their responses to the coaching effectiveness questions in the context of the current season. Before they were given the questionnaires, potential participants read an information sheet outlining the nature of the study and the conditions of complete anonymity under which they were being invited to participate. They were informed that the whole process would take a maximum of 10 to 15 minutes, and that they were free to withdraw at any point or refuse to answer particular questions. Once they gave their informed consent, participants were given the Football Self-Efficacy Scale (FSES; Bray, Balaguer, & Duda, 2004), Coaching Efficacy Scale (CES; Feltz, Chase, Moritz, & Sullivan, 1999), and the Competitive Sport Anxiety Inventory (CSAI-2R; Cox, Martens, & Russell, 2003; Jones & Swain, 1992) questionnaires to fill out. For participants in Kuwait, Arabic translations of the questionnaires were created by a bilingual researcher. These Arabic translations were back-translated into English by an independent bilingual researcher, and the resulting version was found to not contain anomalies by the authors.

Measures

Perceived coaching efficacy, players' football self-efficacy and their performance anxiety were measures using the Coaching Efficacy Scale (CES), Football Self-

Efficacy Scale (FSES), and the Competitive State Anxiety Inventory revised (CSAI-2R), respectively. These measures are introduced and summarised in Chapter 2.

Data Analysis

Data were analysed using multivariate or univariate analysis of variance (MANOVA and ANOVA) using IBM SPSS v23. Post-hoc means comparisons used Fisher's LSD with Bonferroni correction. The significance level was set at $p<0.05$.

RESULTS

Perceived Coaching Effectiveness

A 2 (Professionalisation: pro, semi-pro) x 2 (Competition level: Upper, Lower) multivariate analysis of variance (MANOVA) was conducted with the dimensions of perceived coaching effectiveness (motivation, game strategy, technique and character-building) as the dependent measures.

The main effect of professionalisation on the combined dependent variable was significant, F (4, 195) = 109.29, Wilks' Lambda = 0.31, $p < .0001$, $\eta_p^2 = .69$. The main effect of competition level was also significant, F (4, 195) = 178.01, Wilks' Lambda = 0.22, $p < .0001$, $\eta_p^2 = .79$. The professionalisation x competitive level interaction was also significant, F(4, 195) = 51.52, Wilks' Lambda = 0.49, $p < .0001$, $\eta_p^2 = .51$.

Next, I consider the between-subjects effects on each dependent measure. On CES-Motivation, the main effect of professionalisation (F (1, 198) = 104.61, p < .0001, η_p^2= .35) and the interaction between professionalisation and competitive level (F (1, 198) = 165.28, p < .0001, η_p^2= .46) were significant. As shown in Figure 3.1 (top-left panel), in the pro group, the Upper level gave significantly higher CES-Motivation scores than the Lower level, but in the semi-pro group, the pattern was reversed. CES-Motivation scores given by the Lower level did not differ as a function of the level of professionalisation. However, the CES-Motivation scores given by the Upper level were significantly lower in the semi-pro group.

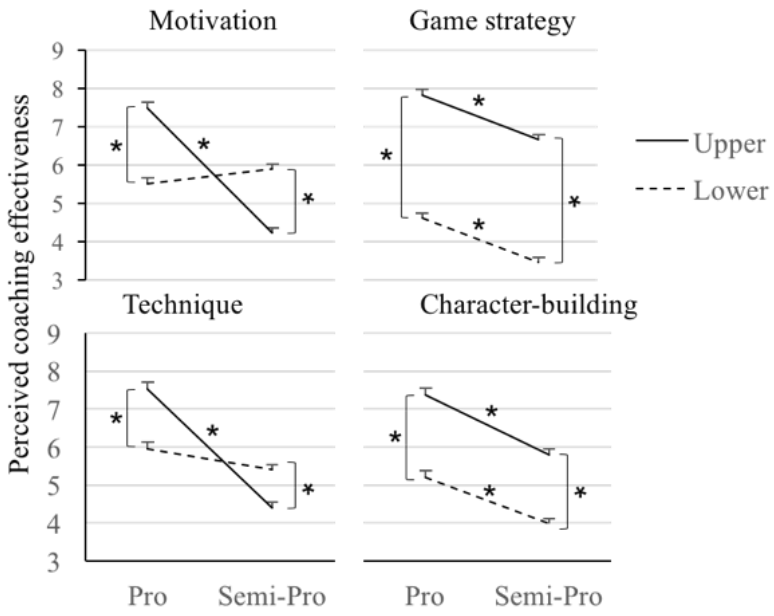


*Figure 3.1. Perceived coaching effectiveness judgements of upper and lower level players in the Pro and Semi-pro groups. * indicates significant Bonferroni-corrected mean difference. The upper level Pro group gave higher ratings than the lower level Pro group on all four dimensions of perceived coaching effectiveness. This pattern was the same in the Semi-Pro group only for the game strategy and character-building*

dimensions. For motivation and technique, upper level Semi-Pro players rated their coaches lower than their lower level counterparts.

On CES-Game strategy, the main effects of professionalisation ($F(1, 198) = 76.54$, $p < .0001$, $\eta_p^2 = .28$) and competitive level ($F(1, 198) = 599.07$, $p < .0001$, $\eta_p^2 = .75$) were significant, but the interaction was not. As shown in Figure 3.1 (top-right panel), the Upper level players of both groups gave their coaches higher CES-Game strategy scores. Similarly, the pro group gave their coaches higher CES-Game strategy scores.

On CES-Technique, the main effect of professionalisation ($F(1, 198) = 144.91$, $p < .0001$, $\eta_p^2 = .42$) and the interaction between professionalisation and competitive level were significant ($F(1, 198) = 70.72$, $p < .0001$, $\eta_p^2 = .26$). Figure 3.1 (bottom-left panel) shows that, for the Lower level players, CES-Technique scores did not differ between the pro and semi-pro groups. The Upper level players in the Pro group gave their coaches higher CES-Technique scores than their counterparts in the Lower level, but the reverse was the case in the semi-pro group.

On CES-character-building, the main effects of professionalisation ($F(1, 198) = 75.43$, $p < .0001$, $\eta_p^2 = .28$) and competitive level ($F(1, 198) = 151.50$, $p < .0001$, $\eta_p^2 = .43$) were significant, but the interaction was not. As shown in Figure 3.1 (bottom-right panel), the Upper level players of both groups gave their coaches higher CES-character-building scores. Similarly, the pro group gave their coaches higher CES-character-building scores.

Performance Anxiety

A 2 (Professionalisation: pro, semi-pro) x 2 (Competition level: Upper, Lower) MANOVA was conducted with cognitive and somatic anxiety scores as the dependent measures.

The main effect of professionalisation on the combined dependent variable was significant, $F(2, 197) = 37.44$, Wilks' Lambda = 0.73, $p < .0001$, $\eta_p^2 = .28$. The main effect of competition level was also significant, $F(2, 197) = 280.14$, Wilks' Lambda = 0.26, $p < .0001$, $\eta_p^2 = .74$. The professionalisation x competitive level interaction was also significant, $F(2, 197) = 102.14$, Wilks' Lambda = 0.49, $p < .0001$, $\eta_p^2 = .51$.

Then, I consider the between-subject effects on each dependent measure. On cognitive anxiety, the main effect of professionalisation ($F(1, 198) = 21.05$, $p < .0001$, $\eta_p^2 = .97$) and the interaction between professionalisation and competitive level ($F(1, 198) = 202.60$, $p < .0001$, $\eta_p^2 = .51$) were significant. As shown in Figure 3.2 (top-left panel), in the semi-pro group, the Upper level reported significantly higher cognitive anxiety scores than the Lower level, but in the pro group, the pattern was reversed, but with a smaller mean difference.

On somatic anxiety, the main effects of professionalisation ($F(1, 198) = 32.10$, $p < .0001$, $\eta_p^2 = .14$) and competitive level ($F(1, 198) = 555.93$, $p < .0001$, $\eta_p^2 = .74$) were significant, but the interaction was not. As shown in Figure 3.2 (top-right panel), the semi-pro group reported higher somatic anxiety than the pro group, and the Lower

level players of both groups reported higher somatic anxiety than the Upper level players.

Debilitative and facilitative Interpretations of Anxiety

A 2 (Professionalisation: Pro, Semi-pro) x 2 (Competition level: Upper, Lower) MANOVA was conducted with debilitative and facilitative scores for cognitive and somatic anxiety as the dependent measures. Higher scores on these scales corresponded to facilitative, and lower scores to debilitative interpretation of anxiety. The main effect of professionalisation on the combined dependent variable was significant, $F(2, 197) = 125.41$, Wilks' Lambda = 0.44, $p < .0001$, $\eta_p^2 = .56$. The main effect of competition level was also significant, $F(2, 197) = 165.07$, Wilks' Lambda = 0.37, $p < .0001$, $\eta_p^2 = .63$. The professionalisation x competitive level interaction was also significant, $F(2, 197) = 99.77$, Wilks' Lambda = 0.50, $p < .0001$, $\eta_p^2 = .50$.

Next, I consider the between-subject effects on each dependent measure. On debilitative and facilitative interpretation of cognitive anxiety, the main effect of professionalisation ($F(1, 198) = 139.19$, $p < .0001$, $\eta_p^2 = .41$) and the interaction between professionalisation and competitive level ($F(1, 198) = 196.36$, $p < .0001$, $\eta_p^2 = .50$) were significant, but the main effect of competitive level was not. As shown in Figure 3.2 (bottom-left panel), Lower level players from the two groups did not differ in how debilitative or facilitative they felt their cognitive anxiety to be (the mean score was neutral within the scale). Compared to this, Upper level players in the pro group reported a more facilitative effect of cognitive anxiety, whereas Upper level players in the semi-pro group reported a more debilitative effect.

On debilitative and facilitative interpretation somatic anxiety, the main effects of professionalisation ($F(1, 198) = 99.42$, $p < .0001$, $\eta_p^2 = .33$) and competitive level ($F(1, 198) = 331.60$, $p < .0001$, $\eta_p^2 = .63$) were significant, but the interaction was not. As shown in Figure 3.2 (bottom-right panel), Upper level players reported a more facilitative influence of somatic anxiety than Lower level players, and the semi-pro group reported a more debilitative influence of somatic anxiety than the pro group.

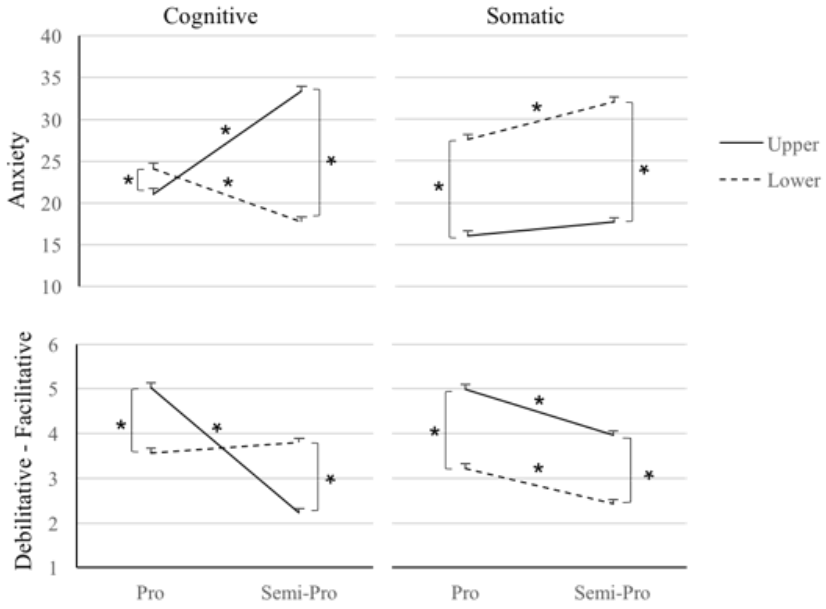


*Figure 3.2. Cognitive and somatic anxiety scores (top panels) and the extent to which anxiety was facilitative or debilitative (bottom panels) for upper and lower level players in the Pro and Semi-pro groups. In the bottom panels, higher scores indicate facilitative and lower score debilitative effects of anxiety. * indicates Bonferroni-corrected mean differences. Upper level Pro players reported lower somatic and cognitive anxiety, and a more facilitative interpretation of both than lower level Pro players. This pattern was the same for Semi-Pro players in the case of somatic anxiety*

and its interpretation but reversed in the case of cognitive anxiety and its interpretation.

Football Self-Efficacy

A 2 (Professionalisation: Pro, Semi-pro) x 2 (Competition level: Upper, Lower) ANOVA was conducted with football self-efficacy as the dependent measure. The main effect of professionalisation was significant, $F(1, 198) = 73.04$, $p < .0001$, $\eta_p^2 = .27$. The main effect of competition level was also significant, $F(1, 198) = 798.49$, $p < .0001$, $\eta_p^2 = .80$. The professionalisation x competitive level interaction was also significant, $F(1, 197) = 30.36$, $p < .0001$, $\eta_p^2 = .13$. As shown in Figure 3.3, the Upper level players of both groups self-reported higher football self-efficacy scores, and the pro group reported higher scores than the semi-pro group.

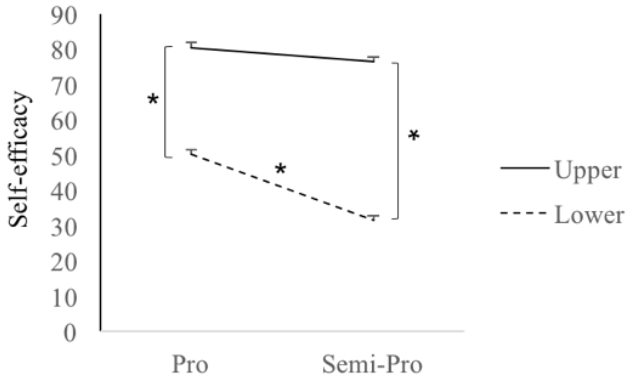


*Figure 3.3. Football self-efficacy scores of upper and lower level players in the Pro and Semi-pro groups. * indicates Bonferroni-corrected mean differences. Upper level Pro and Semi-Pro players reported higher self-efficacy than their lower level*

counterparts. The only difference between Pros and Semi-Pros occurred in the lower level, where self-efficacy was lower among the Semi-Pro players.

DISCUSSION

The purpose of this chapter was to investigate whether the perceived coaching effectiveness, self-efficacy, cognitive and somatic anxiety, and the facilitative/debilitative interpretation of anxiety, were sensitive to the level of professionalisation (i.e., professional players in the English leagues and semi-professional players in the Kuwaiti leagues) and the level of competition within that. As stated in the introduction, my expectation was that professional players and players in the upper level of competition within the two levels of professionalisation should give their coaches higher effectiveness scores. These players should also rate their own self-efficacy as higher, and their own anxiety lower, and facilitative interpretation of anxiety higher. The intuitive basis for these expectations was that a higher standard of coaching is available to the professional sample, and also coaching standard is higher at upper levels of competition. Equally, professional and upper level players are more experienced and skilled on the whole, and I would expect this to be reflected in higher self-efficacy judgments. Assuming this ordering of skill and experience, I also expect these players to experience less anxiety and to be more likely to interpret emotional arousal as facilitative to performance.

Broadly, the literature also supports these intuitive predictions, if not always directly. Studies have shown that players of higher skill and better record of winning report lower somatic and cognitive anxiety (Bruton, Mellalieu, Shearer, Roderique-Davies,

& Hall, 2013; Campbell & Jones, 1997; Gal-Or, Tenenbaum, & Shimrony, 1986; Martens et al., 1990). Even where the reported anxiety levels did not differ between elite and non-elite players of a sport elite players were more likely to report anxiety as a facilitative factor (Kais, 2005; see also Jones, Hanton, & Swain, 1994). Players of higher skill competing at elite level have also been shown to protect themselves better against the debilitative effects of anxiety because they use a range of psychological skills (Hanton, Mellalieu, & Hall, 2004) and relaxation strategies (Fletcher and Hanton, 2001). There is also research that points to experience by itself as a mitigator of the influence of anxiety (Hagan, Pollmann, & Schack, 2017; Jones, 2003; Sève et al., 2007).

In general, the present results showed that upper competitive-level players and those in the pro group reported greater coaching effectiveness and football efficacy, and lower anxiety. In outline, this is the pattern I expected. However, there were a number of details in the results that require further consideration as they do not match the general pattern.

Let me consider the results for the four dimensions of perceived coaching effectiveness first. The results showed that players from the lower level of the pro and semi-pro groups did not differ in how motivating they judged their coaches to be. However, at the higher level, the pro players gave significantly higher motivation scores to their coaches. Among pros, the upper level players judged coaches to be more motivating than lower level players, but among semi-pros, this pattern was reversed.

In the pro setting, the quality of coaches is expected to be higher in the upper level of competition. This is reflected in players' higher rating of the coaches' motivation effectiveness than in the lower level. In the semi-pro setting, the upper level players unexpectedly reported lower motivation effectiveness in their coaches. This reversal may reflect a higher level of pressure relative to their ability felt by the upper level semi-pro players.

In both the pro and semi-pro groups, upper level players gave higher ratings to their coaches' game strategy effectiveness, which reflects upper level players' estimation of their coaches' better tactical knowledge and understanding of the game. In the upper levels, playing styles tend to be more similar across players and teams, so it may also be easier for players to follow coaches' tactical advice. Again, scores were higher in the pro setting which reflects the elite level of coaching available. The pattern for the character-building dimension of perceived coaching effectiveness was the same as for game strategy, likely also reflecting the higher coaching quality in the pro group and the upper levels of both groups.

In the case of technique effectiveness, the upper level players in the pro group gave their coaches higher technique scores than their counterparts in the lower level, but the reverse was the case in the semi-pro group. Overall, pro players rated their coaches higher for technique effectiveness, which likely reflects the higher quality of coaching here than in the semi-pro setting. This pattern was reversed in the semi-pro setting. Here, lower rating in the upper level probably reflects an imbalance between what coaches require and what players are able to deliver.

While the group differences in anxiety showed in the semi-pro group, the upper level reported significantly higher cognitive anxiety scores than the lower level, but in the pro group, the pattern was reversed. Overall, the pro players reported lower cognitive anxiety than semi-pro players which reflects their greater experience of competition and more developed ability to control their worrying. In the pro setting, upper level players reported lower cognitive anxiety, again reflecting better ability to control worrying. Semi-pro players in the upper level reported higher cognitive anxiety than their counterparts both in the pro setting and in the lower level of competition in the semi-pro setting. These players may feel insecure about their ability to deliver the expected performance and may also be concerned about the possibility of their team's relegation to the lower level. As there are only two levels of competition in the semi-pro setting, the lower level players may not suffer the same level of worry about relegation.

With respect to somatic anxiety, the pro group reported lower somatic anxiety than the semi-pro group, and upper level players of both groups reported lower somatic anxiety than the lower level players. The pros and upper level players in both settings appear better able to withstand the pressure of competition. This may also reflect their greater level of physical fitness, and more disciplined preparation for competition. Greater experience of tough competition may also desensitise these players to competition pressure.

With respect to the debilitative and facilitative interpretation of cognitive anxiety, overall the pro players' more facilitative interpretation of cognitive anxiety reflects their greater experience of competition. They are better able to channel their cognitive

anxiety to improve focus and performance. Upper level players in the pro group reported a more facilitative effect of cognitive anxiety, whereas upper level players in the semi-pro group reported a more debilitative effect. Upper level players would be expected to report more facilitative effects of anxiety because of their greater experience and better game preparation. This was the case for the pro players, but the upper level semi-pro players unexpectedly reported a more debilitative effect. This may again reflect these players' worries of not being able to meet the expectations of competition at the higher level. In the semi-pro setting studied here, international elite coaches are often brought in at high expense, and the players may struggle to meet these coaches' expectations or even to communicate and bond with them across cultural barriers. These factors do not affect the lower level as the coaches are mostly all local, and so the pressures on players are not of that order.

Considering the debilitative and facilitative interpretation somatic anxiety, the upper level players reported a more facilitative influence of somatic anxiety than lower level players, and the semi-pro group reported a more debilitative influence of somatic anxiety than the pro group. The pro players and the upper level players in both settings are better prepared for competition and have higher sense of self-efficacy, and therefore feel less somatic anxiety. This is what would be expected based on experience and quality differences. For example, as noted earlier, Kais (2005) established that groups of elite and non-elite beach volleyball players do not differ in the level of somatic anxiety. Elite volleyball players viewed anxiety as facilitating, while non-elite players viewed it as debilitating for their performance.

With respect to group differences in football self-efficacy, the main effect of competition level was significant. The interaction between professionalisation and competition level was also significant. As expected, pro players and upper level players of both settings have greater belief in their abilities. This reflects actual playing standards in these groups and settings.

In summary, group differences mostly reflected the expected advantages in coaching quality, player experience, skill and preparation at the pro and higher levels of competition. However, it should be noted that the upper level of the semi-pro group showed some unusual patterns. First, they gave their coaches lower scores for motivation and technique than the lower level semi-pro players did. They also reported higher level of cognitive anxiety than the lower level semi-pro players and found this anxiety more debilitative than the lower level semi-pro players. These results were found even though the upper level in the semi-pro setting has the better and more experienced players, and also more experienced coaches, often elite coaches brought in from abroad at significant expense. Clearly, elite coaching has some negative psychological impact in this setting. The players reported self-efficacy levels as high as the upper level pro players. As has been noted, the literature suggests that high self-efficacy or self-confidence should result in lower anxiety scores, So, the elevated cognitive anxiety and its debilitative interpretation in these semi-professional players appears to be the result of worrying that they cannot meet their coaches' expectations. Low scores given to the coaches for motivation and technique may also reflect this and other communication problems that may arise due to cultural or language barriers (in those cases where elite coaches are brought in from abroad). Apart from this concerning anomaly, which I revisit in Chapter 8, the observed group differences in

perceived coaching effectiveness, self-efficacy and performance anxiety suggest that these variables have face validity in the sense of reflecting expectations based on previous research. The next chapter investigates the inter-relationships between these measures.

CHAPTER 4

RELATIONSHIPS BETWEEN PERCEIVED COACHING EFFECTIVENESS, SELF-EFFICACY AND PERFORMANCE ANXIETY IN PROFESSIONAL AND SEMI-PROFESSIONAL PLAYERS

INTRODUCTION

Chapter 3 began the investigation of professional and semi-professional football players' perceived coaching effectiveness, self-efficacy, cognitive and somatic anxiety, and the extent to which anxiety was felt to be facilitative or debilitative in the competitive context. In that chapter, the focus was on the effects of the level of professionalisation (pro vs. semi-pro) and relative competitive level (upper or lower league) on these measures. In the present chapter, I consider the inter-relationships between perceived coaching effectiveness, self-efficacy, performance anxiety and its debilitative and facilitative interpretation (Figure 4.1).

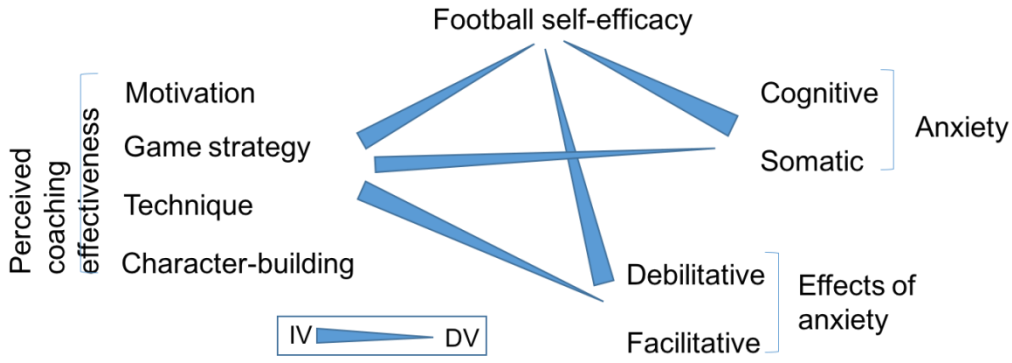


Figure 4.1. Proposed pathways of direct influence between perceived coaching effectiveness, performance anxiety and football self-efficacy. The relationships shown are the same as in Figure 1.1. Additionally, the designation of variables as

independent or dependent in regressions carried out in this chapter are shown here. These designations do not represent directional hypotheses. The allocation of IV and DV status is based on the multiple regression model of multiple IVs and single DV that I have used to ascertain the strength of direct relations between variables.

First, I investigate the extent to which the dimensions of perceived coaching effectiveness predict players' self-efficacy and anxiety scores. It would be expected that more effective coaching is associated with higher self-efficacy in players and contributes to lower levels of felt anxiety. Equally, I expect that the anxiety that naturally accompanies competitive performance is seen by effectively coached players as more facilitative than debilitative. Next, I investigate whether performance anxiety and its debilitative and facilitative interpretation are associated with players' self-efficacy. Players reporting higher self-efficacy would be expected to experience lower levels of performance anxiety, and also find the anxiety they do experience to be a facilitative rather than debilitative influence.

In evaluating the contributions of perceived coaching effectiveness on players' performance anxiety and whether it is facilitative or debilitative, the key question is the extent to which any such influence operates directly or is mediated by the way coaches' effectiveness relates to players' sense of self-efficacy. The experience of performance anxiety is largely tied to specific competitive events and is arguably less stable or persistent in players' psychology than their sense of self-efficacy (Boardley, Jackson, & Simmons, 2015; Kavussanu et al., 2008). It is possible that perceived coaching effectiveness affects players' self-efficacy and/or their performance anxiety, but that the effects on anxiety are not mediated by self-efficacy. If some or all of the

effects of the dimensions of perceive coaching effectiveness on anxiety variables are mediated by their effects on self-efficacy, then the coaches' influence on players' self-knowledge, confidence and performance potential is more enduring and likely to persist across individual performance situations.

To investigate the possible direct influences, I first carry out multiple regression analyses with the four dimensions of perceived coaching effectiveness as the predictors and players' self-efficacy, cognitive and somatic performance anxiety and their debilitative/facilitative interpretation as predicted measures. Next, I use multiple regressions with somatic and cognitive anxiety, and their facilitative-debilitative interpretation as the predictors, and self-efficacy as the predicted measure. Based on the direct influences indicated by these analyses, I carry out path analyses to test our mediation hypotheses. Note that the designations of variables as predictors or predicted are not intended to indicate any directional or causal hypotheses. These are dictated by the multiple regression model (multiple IVs, single DV) used to ascertain the strength of direct relationships between variables. These direct relationships (i.e., regression coefficients) obtained through regression are used to construct the path analyses that follow.

The analyses reported in Chapter 3 showed several key differences between the pro and semi-pro groups. With respect to perceived coaching effectiveness, for instance, we saw that the two competitive levels of these groups reported opposite responses for the motivation and technique dimensions (Figure 3.1). The two levels also diverged in their anxiety responses across the two groups (Figure 3.2). I considered these patterns as indicators of potentially differing relationships between the measures in the two

groups, such that conducting regressions only on the whole sample might miss them. I therefore performed the regressions on the two groups separately. I planned on reflecting any differences that emerged between the groups in constructing the model(s) for path analysis.

METHOD AND RESULTS

Participants, Procedure and Measures

The participant pool, survey procedure and measures were as described in Chapter 3.

Regression Analysis

To test the direct relationships of perceived coaching effectiveness, I carried out multiple regressions with the four dimensions of perceived coaching effectiveness as independent variables, and players' football self-efficacy, cognitive and somatic anxiety, and the debilitative and facilitative interpretations of cognitive and somatic anxiety as the dependent variables. Next, I tested whether players' cognitive and somatic anxiety and their debilitative and facilitative interpretations for these were related to their self-efficacy. In this set of multiple regressions, self-efficacy was the dependent variable, and the anxiety scores were the independent variables. All regressions were carried out on the overall sample, and also separately on the pro and semi-pro samples (as explained in the introduction). Note again that the designation of independent and dependent variables here is with respect to the multiple regression model (multiple independent and single dependent variable).

Regression Results

Table 4.1 summarises the results of the regression analyses. It can be seen that perceived coaching effectiveness accounted for a substantial proportion of the variance in self-efficacy, anxiety and its debilitative and facilitative interpretation. This was generally the case for the overall sample as well as separately for the pro and semi-pro samples (except for cognitive anxiety in the pro sample, R^2=.06). Inspection of Table 4.1 also supports the hypothesis that the variables relate in importantly different ways in the pro and semi-pro samples. In several cases (shaded in grey), a dimension of coaching effectiveness was a significant predictor in the case of only one of the two groups. For example, the motivation dimension significantly predicted self-efficacy in the semi-pro sample, but not in the pro sample. Conversely, the technique dimension was a significant predictor of self-efficacy in the pro group, but not the semi-pro group. In other instances, the differences between pro and semi-pro samples were more dramatic. The game strategy dimension was a strong predictor of facilitative-debilitative interpretation of cognitive anxiety in the pro and semi-pro samples, but in opposite directions. A more detailed discussion of the regression results appears in the final section of the chapter.

IV: Coaching Effectiveness			Pro		Semi-Pro	
DV: Football Self-efficacy		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation			-0.15	*
Pro	$F(4, 85) = 71.01$, $p<.0001$, adj. R^2 = .77	Game Strategy	0.67	***	0.7	***
Semi-Pro	$F(4, 107) = 95.14$, $p<.0001$, adj. R^2 = .78	Technique	0.19	**		
		Character Building				
IV: Coaching Effectiveness			Pro		Semi-Pro	
DV: Cognitive Anxiety		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation	(-.24)	NS	(-.11)	ns
Pro	$F(4, 85) = 2.56$, $p<.05$, adj. R^2 = .06	Game Strategy	(-.14)	NS	0.74	***
Semi-Pro	$F(4, 107) = 99.76$, $p<.0001$, adj. R^2 = .78	Technique				
		Character Building				
IV: Coaching Effectiveness			Pro		Semi-Pro	
DV: Somatic Anxiety		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation				
Pro	$F(4, 85) = 47.03$, $p<.0001$, adj. $R^2 = .67$	Game Strategy	-0.6	***	-0.67	***
Semi-Pro	$F(4, 107) = 82.44$, $p<.0001$, adj. $R^2 = .75$	Technique				
		Character Building			-0.16	*
IV: Coaching Effectiveness			Pro		Semi-Pro	
DV: Debilitative-Facilitative (Cognitive Anxiety)		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation			0.23	*
Pro	F(4, 85) = 19.72, p<.0001, a dj. $R^2 = .46$	Game Strategy	0.4	**	-0.4	***
Semi-Pro	F(4, 107) = 25.50, p<.0001, a dj. $R^2 = .47$	Technique				
		Character Building	0.28	*		
IV: Coaching Effectiveness			Pro		Semi-Pro	
DV: Debilitative-Facilititative (Somatic Anxiety)		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation	0.3	**		
Pro	$F(4, 85) = 34.43$, $p<.0001$, adj. $R^2 = .62$	Game Strategy	0.39	***	0.54	***
Semi-Pro	$F(4, 107) = 25.21$, $p<.0001$, adj. $R^2 = .47$	Technique				
		Character Building				
IV: Anxiety			Pro		Semi-Pro	
DV: Football Self-efficacy		Anxiety	Adj. beta	sig	Adj. beta	sig
	F test	Cognitive			0.45	***
Pro	F(2, 87) = 85.59, p<.0001, a dj. $R^2 = .66$	Somatic	-0.81	***	-0.54	***
Semi-Pro	$F(2, 109) = 578.90$, $p<.0001$, adj. $R^2 = .91$					
IV: Debilitative-Facilitative			Pro		Semi-Pro	
DV: Football Self-efficacy		Debilitative-Facilitative	Adj. beta	sig	Adj. beta	sig
	F test	Cognitive	0.29	**	-0.4	***
Pro	$F(2, 87) = 61.9$, $p<.0001$, adj. $R^2 = .58$	Somatic	0.55	***	0.51	***
Semi-Pro	$F(2, 109) = 124.33$, $p<.0001$, adj. $R^2 = .69$					

*Table 4.1. Results of multiple regressions outlined in Figure 4.1 for the pro and semi-pro groups. The cases where a coefficient is significant for one group but not the other are highlighted in grey. *, ** and *** indicate p<.5, p<.01, and p<.001.*

Path Analyses

In view of these differences between the pro and semi-pro groups, I decided to construct separate path models for the two groups to test for the mediation effects of interest. In both cases, I used the regression coefficients summarised in Table 4.1 as the basis for hypothesised direct effects. My key goal was to test whether, or the extent to which, self-efficacy mediated the effects of perceived coaching effectiveness on anxiety variables.

Figures 4.2 and 4.3 show the hypothesised models for the pro and semi-pro groups, respectively. The standardised coefficients and their significance (non-significant ones in dotted lines) are also indicated, as are the R^2 values of the endogenous variables. I carried out both path analyses using IBM SPSS AMOS 23 using maximum likelihood estimation with bootstrapping (5000 samples, 95% bias-corrected CI to enable significance-testing of indirect effects).

Path Analysis – Pro group

To take the pro case first, regression analysis (Table 4.1) showed that only the game strategy and technique dimensions of perceived coaching effectiveness were significant predictors of football self-efficacy. The game strategy dimension was also a significant predictor of somatic anxiety and the debilitative and facilitative interpretation of somatic and cognitive anxiety. Additionally, the motivation dimension was a significant predictor of debilitative and facilitative interpretation of somatic anxiety. Regression results also showed that somatic anxiety and debilitative

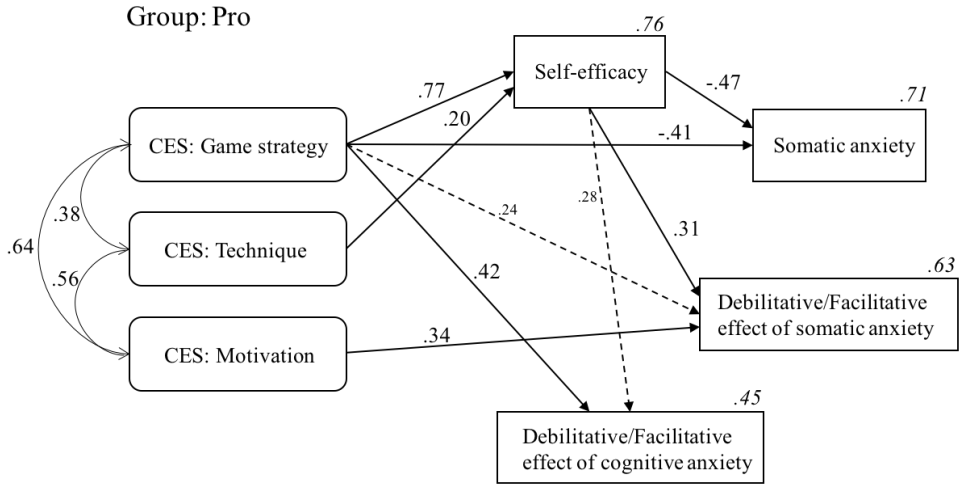
and facilitative interpretation of somatic and cognitive anxiety were significant predictors of self-efficacy. These results formed the basis of the hypothesised direct effects shown in Figure 4.2. Where regression did not produce a significant coefficient (e.g., between CES-character building and any other variable), I did not hypothesise direct effects (which is why CES-character building does not appear in the model in Figure 4.2). I then used path analysis to test whether, or the extent to which, the effects of the game strategy and motivation dimensions of perceived coaching effectiveness on self-efficacy mediated their effects on somatic anxiety and debilitative and facilitative interpretation of somatic and cognitive anxiety.

Model fit

Tests of univariate normality showed no significant skew or kurtosis in any of the variables, and Mardia's estimate of multivariate normality also showed non-significant kurtosis. Testing for outliers indicated that only three observations had Mahalanobis distances with p2 values less than 0.1. None were discarded after individual inspection.

The model achieved minimum in seven iterations. The fit of the over-identified model did not differ from a just-identified model ($\chi^2(9) = 13.14$, p=.16). The tested model had 19 parameters to the saturated model's 28 (independence model had 7). As the CMIN/DF estimate value (1.46) did not exceed 2, I judged the number of hypothesised paths to be adequate. I obtained RMSEA=0.07, which indicated adequate fit. PCLOSE=.293 showed that RMSEA was not significantly different from 0.05. GFI=0.96 indicated a good model accounting for an acceptable proportion of the

variance in the sample variance-covariance matrix. NFI=.972, IFI=.991, and CFI=.991, also indicated acceptable fit.



Significant indirect effects:
CES: Game strategy -> Somatic anxiety (*direct effect also significant, so partially mediated effect)*
CES: Game strategy -> Debilitative/Facilitative effect of somatic anxiety (*direct effect non-significant, so wholly mediated effect)*

CES: Technique -> Somatic anxiety (fully mediated)
CES: Technique -> Debilitative/Facilitative effect of somatic anxiety (fully mediated)

Figure 4.2. Summary of path analysis results for the Pro group. Dotted lines show non-significant direct effects.

Mediation analysis

The model indicates that the effect of the game strategy dimension of perceived coaching effectiveness on players' somatic anxiety is partially mediated by effects on self-efficacy (i.e., both the direct and indirect effects are significant). The effect of game strategy on the debilitative and facilitative interpretation of somatic anxiety is wholly mediated by self-efficacy (i.e., the direct effect is not significant), but its effect on the debilitative and facilitative interpretation of cognitive anxiety is direct only (i.e., the indirect effect is not significant). The technique dimension of perceived coaching effectiveness affects somatic anxiety and its debilitative and facilitative interpretation

indirectly through self-efficacy. However, this dimension does not significantly affect the debilitative and facilitative interpretation of cognitive anxiety (i.e., the indirect effect is non-significant).

Path Analysis – Semi-pro group

In the case of the semi-pro group, regression analysis (Table 4.1) indicated that only the game strategy and motivation dimensions of perceived coaching effectiveness predicted self-efficacy. Game strategy also predicted somatic and cognitive anxiety, and their debilitative and facilitative interpretation. Additionally, the motivation dimension predicted debilitative and facilitative interpretation of cognitive anxiety. All the anxiety variables were significant predictors of self-efficacy. These results formed the basis of the hypothesised model shown in Figure 4.3.

Model fit

Tests of univariate normality again showed no significant skew or kurtosis in any of the variables, and Mardia's estimate of multivariate normality also showed non-significant kurtosis. Testing for outliers indicated that only one observation had Mahalanobis distance with p2 value less than 0.1. It was not discarded after individual inspection.

The model achieved minimum in eight iterations. The fit of the over-identified model did not differ from a just-identified model ($\chi^2(9) = 15.30$, p=.08). The tested model had 19 parameters to the saturated model's 28 (independence model had 7). As the

CMIN/DF estimate value (1.70) did not exceed 2, we judged the number of hypothesised paths to be adequate. We obtained RMSEA=0.08, which indicated adequate fit. PCLOSE=.21 showed that RMSEA was not significantly different from 0.05. GFI=0.96 indicated a good model accounting for an acceptable proportion of the variance in the sample variance-covariance matrix. NFI=.983, IFI=.993, and CFI=.993, also indicated acceptable fit.

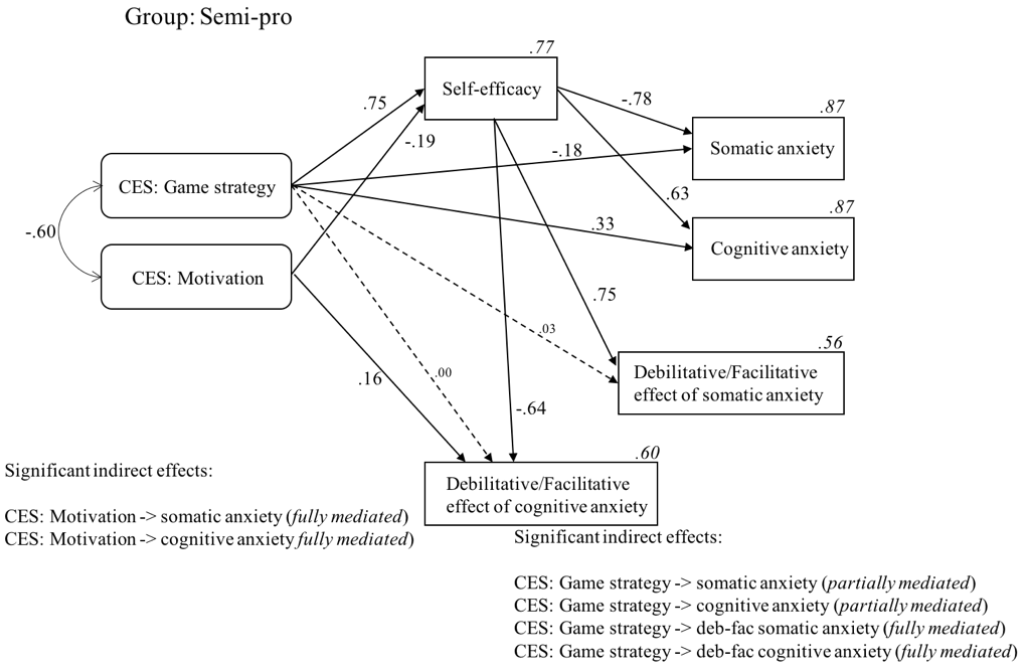


Figure 4.3. Summary of path analysis results for the Semi-pro group. Non-significant direct effects are shown as dotted lines.

Mediation analysis

As shown in Figure 4.3, the direct effects of the game strategy dimension of perceived coaching effectiveness on the debilitative and facilitative interpretation of somatic and cognitive anxiety were not significant. Thus, these two relationships were wholly

mediated by self-efficacy. All other effects of the game strategy and motivation dimensions on the anxiety variables were partially mediated by self-efficacy (i.e., both the direct and indirect effects were significant).

DISCUSSION

The literature on performance anxiety in athletes has noted on many occasions that athletes' beliefs about their own skills and resources affects their anxiety and its interpretation (Besharat &Pourbohlool, 2011; Hanton, Thomas, & Maynard, 2004; Jones, 1995; Kais, & Raudsepp, 2005). As athletes' training progresses, their self-efficacy acquires a positive relationship with their performance (Beattie et al., 2014; Bruton, Mellalieu, Shearer, Roderique-Davies, & Hall, 2013; Sitzmann & Yeo, 2013). Increased self-efficacy is associated with positive affect (Martin, 2008; Treasure, Monson, & Lox, 1996), and reduced anxiety (e.g., Cartoni, Minganti, & Zelli, 2005; George, 1994; Haney & Long, 1995; Hazell, Cotteril, & Hill, 2014; Martin & Gill, 1991; Muris, 2002). This reciprocal relationship between self-efficacy and anxiety has also been noted by (Boardley et al., 2015; Garza, & Feltz, 1998; Martin, & Gill, 1995; Jackson, Robert, & Beauchamp, 2010, Vargas-Tonsing, 2009). Research has also suggested a reciprocal relationship between athletes' mental state and the coach-athlete relationship (Davis et al., 2018; Nicholls et al., 2016). Specifically, players' perception of their coaches' effectiveness has been shown to relate positively to their own self-efficacy (Boardley, Kavussanu, & Ring, 2008). There is evidence also of negative perceptions of coaches being associated with elevated cognitive anxiety and self-confidence (Kenow & Williams, 1992).

The present investigation of self-efficacy as a mediator between perceived coaching effectiveness and performance anxiety is based on this set of evidence in the literature, and it is one of the main goals of the thesis and the key focus of this chapter. The multiple regression with cognitive and somatic anxiety as predictors and self-efficacy as the predicted variable (Table 4.1) showed that for both the pro and semi-pro groups, there was indeed a negative relationship between somatic anxiety and self-efficacy. There was also a clear result that higher self-efficacy related to a more facilitative interpretation of somatic anxiety. These results are consistent with expectations based on the above research, but the picture was unexpectedly reversed in the case of cognitive anxiety. In the pro group, cognitive anxiety showed no relation with self-efficacy, but higher self-efficacy still predicted more facilitative interpretation of cognitive anxiety (as in the case of somatic anxiety). In the semi-pro group, however, self-efficacy related positively with cognitive anxiety, and higher self-efficacy related to more debilitative interpretation of cognitive anxiety.

This result is the opposite of what would be expected from the wider literature on self-efficacy and affect. For example, Treasure, Monson, and Lox (1996) reported that higher self-efficacy not only related to lower competitive anxiety, but also a more positive affective state generally. Here, however, higher self-efficacy in the semi-pro group was associated with more worrying (i.e., cognitive anxiety) and a more debilitating impact. A possible interpretation is that the higher self-efficacy players in the semi-pro group end up finding themselves under greater pressure or responsibility than they can bear, and this produces a negative mindset in these otherwise confident and capable players. The semi-pro players studied here play for Kuwaiti clubs that frequently appoint elite foreign coaches at significant expense, and it is possible that

the pressure to produce results that these coaches face is passed on particularly to the more able and confident players. Even if this is not the correct interpretation, the result that the higher self-efficacy players report higher cognitive anxiety and more debilitative effects of it is not a desirable outcome for this competitive setting. This is something that should be considered and tackled by the Kuwaiti football authorities.

The other set of regression results concerned the direct effects of the four dimensions of perceived coaching effectiveness on anxiety and self-efficacy (Table 4.1). I consider the pro group first. The players' perception of coaches' game-strategy effectiveness related positively to their self-efficacy, negatively to their somatic anxiety, and positively to the facilitative interpretation of cognitive and somatic anxiety. The technique dimension related positively with self-efficacy, and higher character-building score for coaches related to more facilitative interpretation of cognitive anxiety. Higher motivation score for coaches also related to more facilitative interpretation of somatic anxiety in the pro group. These results support suggestions in the literature that successful coaching can positively affect players' self-efficacy and anxiety (Bolter, & Weiss, 2013; Cheng, Hardy & Markland, 2009; Kenow & Williams, 1992; Malete, et al., 2013; Smoll & Smith, 2005; Sullivan & Kent, 2003). Pro players' ratings of their coaches' effectiveness indicate that the players can detect and report these effects of coaches (even if they may not be consciously aware of them). The picture for the semi-pro group is again more complicated. Semi-pro players' rating of coaches' game-strategy input does relate positively to their self-efficacy and negatively to their somatic anxiety (as in the case of the pros). However, game-strategy input relates positively to semi-pro players' cognitive anxiety, higher game-strategy input score goes with more debilitative interpretation of cognitive

anxiety. Just as high self-efficacy goes with greater worrying in the semi-pro group, more highly rated coaching effectiveness also appears to negatively impact cognitive anxiety and its interpretation. This means that well-received coaching input goes with elevated cognitive anxiety, and this suggests that good coaching may be increasing cognitive anxiety in this competitive setting. As already mentioned, the Kuwaiti clubs (particularly the top league) often bring in elite foreign coaches who may feel under significant pressure to improve performance. Also, the training they provide may challenge the capabilities of the players to such an extent that they become more rather than less worried about their performance.

I turn next to the path models and the analyses considering mediation of relationships between perceived coaching effectiveness and anxiety by self-efficacy. As just discussed, the path models for both pro and semi-pro groups confirm a number of direct relationships between dimensions of perceived coaching effectiveness and players' anxiety variables. The models also indicate that some of these important relationships are mediated by players' self-efficacy. Also, the combination of direct and mediated effects is different in the pro and semi-pro groups.

For pros, the inverse relationship between the game strategy dimension and somatic anxiety is partially mediated by self-efficacy. The positive relationship between coaches' game strategy input and players' self-efficacy suggests that the role of coaches' game strategy input in reducing players' somatic anxiety is enhanced where self-efficacy is high. So, the more highly players regard themselves, the more game strategy input is linked to lower somatic anxiety. The relationship between game strategy input and the extent to which somatic anxiety is debilitative or facilitative is

shown to be fully mediated by self-efficacy – high self-efficacy links highly rated game strategy input to a more facilitative interpretation of somatic anxiety. In this group, there is an inverse relationship between the technique dimension of perceived coaching effectiveness and somatic anxiety that is fully mediated self-efficacy (which is positively related to technique and negatively related to somatic anxiety). So, high self-efficacy links highly rated technique input from coaches to lower levels of somatic anxiety.

In the case of semi-pros, the links between game strategy and somatic anxiety and whether somatic anxiety is debilitative or facilitative have the same pattern of mediation by self-efficacy as observed for pros. Additionally, there were links between game strategy and cognitive anxiety and whether this was debilitative or facilitative that were partially mediated by self-efficacy. Highly rated game strategy input is positively related to the level of cognitive anxiety, and this is enhanced where self-efficacy is also high. Of greater concern is the wholly self-efficacy-mediated relationship between highly rated game strategy input and a more debilitative interpretation of cognitive anxiety. Players with higher self-efficacy experience more debilitative effects of cognitive anxiety when receiving highly rated game strategy input.

Also, in the case of semi-pros (but not the pros), self-efficacy fully mediates links between coaches' motivation input and players' cognitive and somatic anxiety. To take the case of somatic anxiety first, self-efficacy relates negatively to both motivation input and somatic anxiety. This suggests that high self-efficacy players experience lower somatic anxiety and also rate coaches' motivation input lower. A

reasonable interpretation is that high self-efficacy players experience lower somatic anxiety because they are better able to withstand competition pressure, and these are also the players that expect or depend less on motivation input from coaches.

It is clear from these results that the pro and semi-pro groups have important differences in how perceived coaching effectiveness, anxiety and self-efficacy relate. In particular, there are important relationships involving cognitive anxiety in the semi-pro group that do not appear in the pro group. The higher level of competition readiness and skill level in the pro group means that cognitive anxiety is better controlled by players and somatic anxiety is the key variable. In the semi-pro group, conscious worry about performance plays a role in addition to somatic anxiety. On the whole, though, self-efficacy comes out as an important mediating influence between perceived coaching effectiveness and anxiety measures. This suggests that efforts focused on developing players' self-efficacy can not only be beneficial on their own, but they can also help coaches' input to lower players' performance anxiety. I return to practical issues related to developing players' self-efficacy in Chapter 8. There, the results of this chapter showing the significant mediating influence of self-efficacy are used to argue that deliberately focusing coaching effort on increasing players' self-efficacy may be an efficient strategy for reducing players' anxiety as well as improving players' receptivity to coaching input.

CHAPTER 5

EFFECTS OF MOSTLY ATTACKING AND DEFENDING PLAYING ROLES ON PERCEIVED COACHING EFFECTIVENESS AND PLAYERS' SELF-EFFICACY AND PERFORMANCE ANXIETY

INTRODUCTION

In Chapters 3 and 4, the psychological variables of perceived coaching effectiveness, performance anxiety and football self-efficacy were examined in samples of professional and semi-professional players. Chapter 3 considered group differences between professional and semi-professional players, and between players engaged in different standards of competition. In these analyses, players were viewed as a homogeneous group, without consideration for variations in their role in their teams. Although football has a flowing style and each player occupies a wide range of field positions during the course of the game, there are distinct tactical roles within the team, and different playing positions place special demands on players who fill them (Eloff, Monyeki, & Grobbelaar, 2011; Kurt, Catikkas, Ömürlü, & Atalag, 2012; Mouloud & Elkader, 2017).

It has been suggested that players occupying different playing positions in sports such as soccer and field hockey may differ in terms of psychological skills (Dureha, Singh, Yaduvanshiand, & Mishra, 2010; Eloff, Monyeki, & Grobbelaar, 2011; Kirkcaldy, 1982; Sewell & Edmondson, 1996), but some studies since then have not found position-based psychological differences among football players (Jooste, Steyn, &

Van Den Berg, 2014; Kurt, Catikkas, Ömürlü, & Atalag, 2012; Mouloud & Elkader, 2017). In other sports, such as American football, significant differences have been found between attacking and defending players in anxiety control, concentration and confidence (Bosselut, Heuzé, Eys, Fontayne, & Sarrazin., 2012; Cox & Yoo, 1995). Psychological differences between hookers and half-backs on one hand, and locks, wings and fullbacks on the other have also been reported (Andrew, Grobbelaar, & Potgieter, 2007). It has been suggested that discrepancies in findings may result from differing competitive level and differences in the age range of studied samples (Jooste, Steyn, & Van Den Berg, 2014). Elite level players may be more homogeneous in their psychological characteristics, and youth players may not yet be attuned to psychological aspects of their performance in the way adult players are (Holland, Woodcock, Cumming, & Duda, 2010; McCarthy, Jones, Harwood, & Olivier, 2010).

In football, playing positions broadly fulfil attacking and defending roles. The allocation of specific positions to these roles is rarely strict or unchanging, but most players play attack or defence-oriented roles more often than the other. As the flow of the game consists largely of gaining or retaining possession of the ball, and constructing and implementing attacking moves, there are multiple opportunities to contribute to goal-scoring efforts. A large majority of offensive moves fail, and are expected to fail, and when one is successful, it brings instant gain and celebration for the team. Thus, success in attacking roles is associated with specific, rare, and highly memorable events. In contrast, a defensive player's role is to prevent opponents' attacks from being successful, and this role is played out across extended time periods and spread across many attacking moves built by opponents (Dureha, Singh, Yaduvanshiand, & Mishra, 2010; Eloff, Monyeki, & Grobbelaar, 2011; Sewell &

Edmondson, 1996). Success in this role is marked by the lack of scoring events, and rarely are successful defensive moves as visible or memorable as goal-scoring or even near-miss offensive ones. On the other hand, defensive weakness builds a tense atmosphere when opponents attack (quite unlike when offensive weakness fails to create scoring opportunities), and errors leading to goals against the team can accrue personal blame more readily than errors in converting scoring chances into goals. Thus, a defensive player's work may relate more readily to the mindset of loss aversion (see, for example, Kahneman & Tversky, 1992). It has been shown also that losses tend to generate stronger autonomic arousal than equivalent gains even in situations where the individual does not exhibit loss aversion as such (Hochman & Yechiam, 2011).

Football coaches train the players not only on strength and fitness exercises, but also provide tactical and technical training, with specific exercises depending on playing position (Akın, Kireker & Koklu, 2009). Thelwell et al., (2006) suggested, for example, that midfield players require different technique skills, such as their ability to complete passes, specially the throw pass which is the last assist to the goal. In contrast, defending positions need to block opponents' moves, make successful tackles and carry out interceptions. Meanwhile, attacking players in forward positions have to move into empty spaces to receive passes, then control the ball, and master the opportunistic skills of completing assisting or scoring shots under pressure from defenders nearby.

Based on these considerations of psychological and technical differences, this chapter and the next investigate football self-efficacy, performance anxiety and perceived

coaching effectiveness among attacking and defending players. This chapter focuses on group differences (as did Chapter 3) and the next chapter studies relationships between the variables.

Based on the differences between attacking and defending roles discussed above, I predicted that players who more often play defensive roles would be more susceptible to somatic and cognitive anxiety (as a result of their concern with loss avoidance). I also predicted that anxiety would be interpreted as more debilitative by players who more often serve defensive functions. Based on the tactical differences in these roles, I expected that players who fulfil defensive roles more often would value coaches' motivation and character-building more highly, whereas players who more often take on offensive functions would be more concerned with coaches' game strategy effectiveness. As technique underpins both types of role, I did not expect group differences in this respect.

As a test of the sensitivity of the psychological measures for players differing in their primary functional roles, I also included two competitive levels within the attacking and defending player groups. I did not expect any interaction between playing position and competitive level as the skills and mental set needed for attacking and defending players should be similar at the two levels of club competition. However, I did expect main effects of competitive level in addition to the above-mentioned main effects of playing position. The standard of coaching should be higher in the upper level, so I expected higher perceived coaching effectiveness scores at the upper level. The upper level also has more capable players who would be expected to indicate higher self-

efficacy. As the upper level players also have more competitive experience, I expected them to report lower anxiety scores and more facilitative interpretation of anxiety.

METHOD

Participants

The sample consisted of (n=112) reserve players selected evenly (n=8) from each of 14 football clubs in Kuwaiti reserve league. These players are retained by their clubs but are not regular participants in the first teams. A separate league is run to enable reserve players to experience competition throughout the season. The choice of reserve players for this study was dictated by the players' and coaches' time availability. For the purposes of this study, players were identified as defenders and attackers according to their coaches' classification (4 of 8 players from each club mostly played defensive roles and same number mostly played offensive roles). Within each club, participants were recruited through opportunity sampling. Participants gave informed consent under the condition that their personal or club identity would not be retained in the data, and all reports would be completely anonymized. Ethical approval for the research reported in this chapter was granted by the College of Business, Law and Social Sciences Research Ethics Committee of Nottingham Trent University.

Procedure

Potential participants were approached through personal contacts, and when they agreed to participate, a suitable time was arranged to visit the athletes within two to

four hours of starting a league match occurring a minimum of two months after the pre-season had started. This timing was selected in order to ensure that participants could fully consider their responses to the coaching effectiveness questions in the context of the current season. Before they were given the questionnaires, potential participants read an information sheet outlining the nature of the study and the conditions of complete anonymity under which they were being invited to participate. They were informed that the whole process would take a maximum of 10 to 15 minutes, and that they were free to withdraw at any point or refuse to answer particular questions. Once they gave their informed consent, participants were given the Football Self-Efficacy Scale (FSES; Bray, Balaguer, & Duda, 2004), Coaching Efficacy Scale (CES; Feltz, Chase, Moritz, & Sullivan, 1999), and the Competitive Sport Anxiety Inventory (CSAI-2R; Cox, Martens, & Russell, 2003; Jones & Swain, 1992) questionnaires to fill out. For participants in Kuwait, Arabic translations of the questionnaires were created by a bilingual researcher. These Arabic translations were back-translated into English by an independent bilingual researcher, and the resulting version was found to not contain anomalies by the authors.

Measures

Perceived coaching efficacy, players' football self-efficacy and their performance anxiety were measures using the Coaching Efficacy Scale (CES), Football Self-Efficacy Scale (FSES), and the Competitive State Anxiety Inventory revised (CSAI-2R), respectively. These measures are introduced and summarised in Chapter 2.

Data Analysis

Data were analysed using multivariate or univariate analysis of variance (MANOVA and ANOVA) using IBM SPSS v23. Post-hoc means comparisons used Fisher's LSD with Bonferroni correction. The significance level was set at $p<0.05$.

RESULTS

Group Differences in Perceived Coaching Effectiveness

A 2 (Playing position: Attacker, Defender) x 2 (Competition level: Upper, Lower) MANOVA was conducted with the dimensions of perceived coaching effectiveness (motivation, game strategy, technique and character-building) as the dependent measures.

The main effect of playing position on the combined dependent variable was significant, F (4, 105) = 265.81, Wilks' Lambda = 0.90, $p < .0001$, $\eta_p^2 = .91$. The main effect of competition level was also significant, F (4, 105) = 58.17, Wilks' Lambda = 0.31, $p < .0001$, $\eta_p^2 = .69$. The interaction between position and level was also significant, F(4, 105) = 10.96, Wilks' Lambda = 0.70, $p < .0001$, $\eta_p^2 = .29$.

Next, I consider the between-subject effects on each dependent measure (see Figure 5.1).

CES-Motivation. The main effect of playing position (F (1, 108) = 68.27, $p < .0001$, $\eta_p^2 = .39$) and the interaction between position and competition level (F (1, 108) = 38.16, $p < .0001$, $\eta_p^2 = .26$) were significant. Attackers in the upper level gave coaches a higher CES-Motivation score than those in the lower level. Conversely, defenders in the lower level gave a higher motivation score than those in the upper level. Motivation score did not differ between attackers and defenders in the upper level, but defenders gave a significantly higher score than attackers in the lower level.

CES-Game Strategy. The main effects of position (F(1, 108) = 619.15, $p < .0001$, $\eta_p^2 = .85$) and division level (F (1, 108) = 192.57, $p < .0001$, $\eta_p^2 = .64$) were significant, but the interaction was not. Attackers and upper level players gave higher scores than defenders and lower level players, respectively.

CES-Technique. The main effect of position (F (1, 108) = 153.63, $p < .0001$, $\eta_p^2 = .59$) (attackers gave higher scores than defenders) and competition level (F (1, 108) = 9.90, $p < .01$, $\eta_p^2 = .08$) (players at the lower level gave higher scores) were significant, but the interaction was not significant.

CES-Character-building. The main effects of position (F (1, 108) = 259.04, $p < .0001$, $\eta_p^2 = .71$) (defenders gave higher scores) and division level (F (1, 108) = 40.54, $p < .0001$, $\eta_p^2 = .27$) (upper level players gave higher scores) were significant, but the interaction was not.

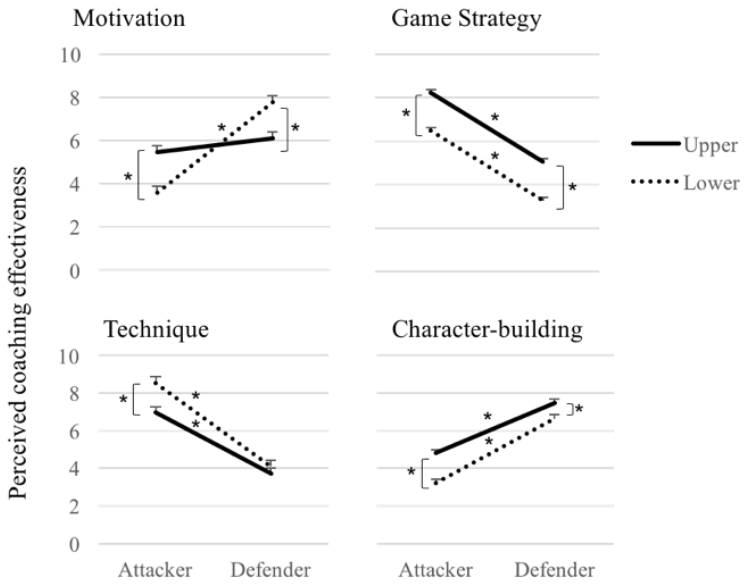


*Figure 5.1. Perceived coaching effectiveness judgements of upper and lower level attacking and defending players. * indicates Bonferroni-corrected significant mean differences. Upper level attackers give higher scores to their coaches on all dimensions except technique. Upper level defenders give higher game strategy and character-building scores but lower motivation scores. Upper and higher level defenders did not differ in the technique scores they gave to their coaches.*

Performance Anxiety

A 2 (Playing Position: Attacker, Defender) x 2 (Competition level: Upper, Lower) MANOVA was conducted with cognitive and somatic anxiety scores as the dependent measures.

The main effect of playing position on the combined dependent variable was significant, $F(2, 107) = 134.29$, Wilks' Lambda = 0.28, $p < .0001$, $\eta_p^2 = .71$. The main effect of competition level was also significant, $F(2, 107) = 36.87$, Wilks' Lambda =

0.59, $p < .0001$, $\eta_p^2 = .41$. The interaction between position and level was not significant.

Next, I consider the between-subjects effects on each dependent measure (Figure 5.2). On cognitive anxiety, the main effect of playing position ($F(1, 108) = 108.75$, $p < .0001$, $\eta_p^2 = .50$) and competition level ($F(1, 108) = 21.91$, $p < .0001$, $\eta_p^2 = .17$) were significant.

On somatic anxiety, the main effects of position ($F(1, 108) = 151.41$, $p < .0001$, $\eta_p^2 = .58$) and level ($F(1, 108) = 55.25$, $p < .0001$, $\eta_p^2 = .34$) were significant.

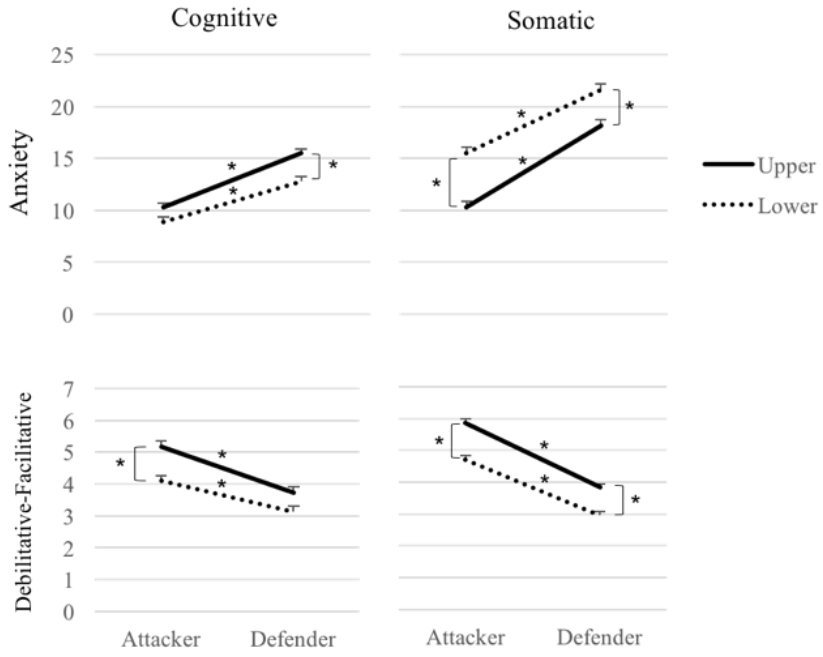


Figure 5.2. Cognitive and somatic anxiety scores (top panels) and the extent to which anxiety was facilitative of debilitative (lower panels) for upper and lower level players in attacking and defending roles. In the bottom panels, higher scores indicate

*facilitative and lower scores debilitative effects of anxiety. * indicates Bonferroni-corrected significant mean differences. See text for detailed analyses of the significant effects.*

Debilitative and facilitative Interpretations of Anxiety

A 2 (Playing position: Attacker, Defender) x 2 (Competition level: Upper, Lower) MANOVA was conducted with debilitative and facilitative scores for cognitive and somatic anxiety as the dependent measures. Higher scores on these scales corresponded to facilitative, and lower scores to debilitative interpretation of anxiety.

The main effect of playing position on the combined dependent variable was significant, $F(2, 107) = 113.53$, Wilks' Lambda = 0.32, $p < .0001$, $\eta_p^2 = .68$. The main effect of competition level was also significant, $F(2, 107) = 34.55$, Wilks' Lambda = 0.61, $p < .0001$, $\eta_p^2 = .39$. The interaction between position and level was not significant.

Next, I consider the between-subject effects on each dependent measure (Figure 5.3). On the debilitative and facilitative interpretation of cognitive anxiety, the main effect of playing position ($F(1, 108) = 48.63$, $p < .0001$, $\eta_p^2 = .31$) and competition level ($F(1, 108) = 23.65$, $p < .0001$, $\eta_p^2 = .18$) were significant, but the interaction between position and level was not.

On the debilitative and facilitative interpretation somatic anxiety, the main effects of position ($F(1, 108) = 223.11$, $p < .0001$, $\eta_p^2 = .67$) and level ($F(1, 108) = 63.40$, $p < .0001$, $\eta_p^2 = .37$) were significant, but the interaction was not.

Football Self-Efficacy

A 2 (Playing position: Attacker, Defender) x 2 (Competition level: Upper, Lower) ANOVA was conducted with football self-efficacy score as the dependent measure (Figure 5.3).

The main effect of playing position was significant, $F(1, 108) = 380.44$, $p < .0001$, $\eta_p^2 = .78$, as was the main effect of competition level, $F(1, 108) = 108.82$, $p < .0001$, $\eta_p^2 = .50$. The interaction between position and level was not significant.

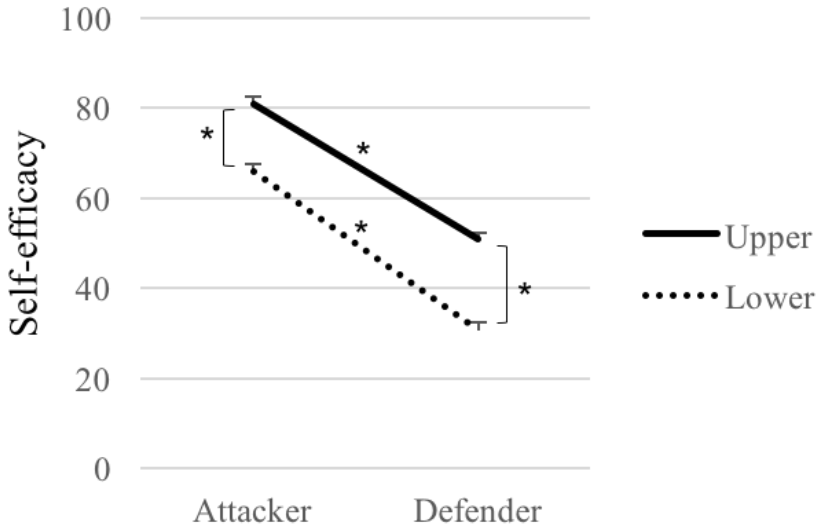


*Figure 5.3. Football self-efficacy scores of upper and lower level players in attacking and defending roles. * indicate Bonferroni-corrected significant mean differences. Upper level defenders and attackers reported higher self-efficacy. Attackers overall also reported higher self-efficacy. See text for detailed analysis.*

As outlined in Chapter 2, the football self-efficacy scale (FSES) consists of 12 items that probe various football skills. In view of the above result showing higher self-efficacy reported by attackers than defenders, it is possible that the scale itself favours the skillset of attacking players. Some items in the FSES can be reasonably identified as more relevant to attackers (e.g., "shoot accurately at goal"), while others might be more relevant to the core skills of defenders (e.g., "challenge an opponent for the ball"). To address this issue, a 2 (Playing position: Attacker, Defender) x 12 (FSES items) mixed ANOVA was conducted with item score as the dependent measure. The objective was to identify whether or how the questionnaire items differed in the ratings provided by the attacking and defending players in this sample. There was a significant main effect of playing position ($F(1, 110) = 190.96$, $p < .0001$, $\eta_p^2 = .64$), confirming higher self-reported self-efficacy of attacking players. The main effect of FSES items and the interaction between position and items were not significant. Means comparisons (Bonferroni-corrected Fisher's LSD) show that attackers gave a significantly higher score on each of the FSES' twelve items. The mean differences were large for all items, ranging from 24.11% (SE: 4.118) for item 1 ("dribble past an opponent"), to 38.21% (SE: 4.48) for item 9 ("recover the ball"). Thus, as attackers returned higher self-efficacy scores across all the items, it appears that the group difference observed in this study is not a result of an unbalanced scale (e.g., more items favouring one group, or some items favouring one group by a large amount).

DISCUSSION

The purpose of this chapter was to compare players of primarily offensive and defensive orientation in terms of their evaluation of coaching effectiveness, self-efficacy, cognitive and somatic anxiety (and their facilitative/debilitative interpretation). As note earlier in the chapter, there is some indication in the literature that there are differences in the psychological characteristics of athletes who specialise in defensive and attacking function (Dureha, Singh, Yaduvanshiand, & Mishra, 2010; Eloff, Monyeki, & Grobbelaar, 2011; Kirkcaldy, 1982; Sewell & Edmondson, 1996), such differences have not always been confirmed in the context of football (Jooste, Steyn, & Van Den Berg, 2014; Kurt, Catikkas, Ömürlü, & Atalag, 2012; Mouloud & Elkader, 2017). Some other sports that have a much clearer separation between offensive and defensive roles (e.g., American football) show differences in anxiety control, concentration and confidence (Bosselut et al., 2012), but it has remained unclear to what extent psychological differences between players occupying offensive and defensive roles are stable in football. This is also because much of the work on this has been done on youth players in whom such differences have not had the chance to develop sufficiently by the time of testing (Jooste, Steyn, & Van Den Berg, 2014). So, this chapter's investigation was a good opportunity to investigate this issue in adult football players operating at least a semi-professional level. The theoretical guidance for expected differences came from the cognitive psychological principle of loss aversion (Hochman & Yechiam, 2011; Kahneman & Tversky, 1992) being more applicable to footballers operating in defensive roles than to those in primarily offensive roles.

With respect to perceived coaching effectiveness, defenders gave higher ratings for motivation and character-building, whereas attackers gave higher ratings for the game strategy and technique dimensions. In the case of defenders, the result was as predicted. Given that defenders' role in preventing attacks is more sustained throughout the game, and persistence over time is the key to success, it is likely that coaches focus more on motivation when working with players with a defensive role. In contrast, attacking players typically get multiple opportunities to score, and missing any one of these usually has less serious consequences than a defender making a mistake that leads to a goal. In general, attacking players need to be more creative and operate with a greater level of autonomy. The coaches' role may be to give general instructions to foster independence and initiative. In the case of defending players, however, temperament such as resilience, toughness and mental capacity to persevere and not relieve opposing attackers of pressure are of crucial importance. On this basis, it would be expected that coaches would focus more character-building effort on players in defensive roles, and this is what is reflected in players' perceptions.

Attacking players rated coaches' game strategy and technique effectiveness higher than did defenders. It would be expected that coaches focus their game strategy contribution more on the attacking players, as attacking strategy can be more varied and benefits more from being tailored to the opposition being faced. Defending strategy is comparatively more stable, and it requires specific coaching input only when facing sides with special players or unusual characteristics.

In the case of technique effectiveness, we did not predict differences between attacking and defending players' judgements because each group should receive coaching input

based on their specific role, and technique would be equally important for coaching defenders and attackers. However, the data showed that attacking players rated coaches higher for technique effectiveness. The pattern is similar to what was found for game strategy and this could be for similar reasons. Attackers rely heavily on their touch, quick movement, dribbling skills, passing and shooting accuracy, all of which come down to technique. In contrast, defenders' duties are different such as marking, tackling, heading, jumping and concentrate on positioning. Strong individual technique makes a very big difference to the effectiveness of attacking players, and also, the coaches' game strategy may depend heavily on attacking players' technical abilities. So, it might be expected that coaches focus more effort on attacking players' technique, and this is reflected in players' perceptions of coaching effectiveness.

The level of competition faced by players had a mixed effect on perceived coaching effectiveness. In the case of game strategy and character-building, the upper level players gave higher ratings to their coaches. This likely reflects the higher quality of coaching available to their teams. In the case of motivation effectiveness, however, there was no difference between attackers and defenders in the upper level, perhaps indicating more balanced coaching input in the upper level. In the lower level, attacking players found coaches less effective and defending players more effective on motivation. It may be that coaches at this level are not as skilled in instilling attacking motivation, or they do not invest as much effort in this. They may focus instead on motivating defenders. This result may also be due to prioritizing loss avoidance at the lower level of competition. Finally, in terms of technique effectiveness, attackers in the lower level rated coaches higher than attackers at the

higher level. This is likely to reflect the greater effort coaches must put into developing technique in the less skilled players in the lower level of competition.

Turning next to anxiety, defenders reported experiencing greater cognitive and somatic anxiety than attackers. This would be expected given that defenders are more likely to receive personal blame for errors than attackers who miss scoring opportunities. Also, it may be harder for defenders to forget mistakes leading to goals scored or games lost. Players of both types at the upper level of competition reported higher cognitive anxiety because there is increased pressure to perform which leads to greater levels of worrying. Defenders reported higher somatic anxiety than attackers, likely for the same reasons as above for cognitive anxiety. Unlike in the case of cognitive anxiety, the upper level players reported lower levels of somatic anxiety. Upper level players would be expected to have lower somatic anxiety as they are more experienced in the competitive setting, and also have higher skill level.

With respect to debilitative and facilitative interpretation of anxiety, for both cognitive and somatic anxiety, defenders reported more debilitative interpretation of anxiety. This is likely to be for the reasons noted above – defenders feel under more personal pressure as they tend to receive more personal blame for mistakes leading to conceded goals. Upper level attackers and defenders felt that their cognitive and somatic anxiety was more facilitative than reported by players at the lower level. This is due to the difference in experience and the perceived ability to deliver what is expected of them.

Attackers reported higher level of self-efficacy, probably because the majority of coaches' focus with respect of winning games tends to be on the attackers. Also, as

noted earlier, attackers usually get multiple chances to deliver (by scoring or assisting) and receive less criticism for individual mistakes than defenders conceding goals. As a result, it is not surprising that attackers report greater belief in themselves and consider themselves better able to cope with competition pressure. Attacking players also tend of have big egos and expect to become heroes by winning games.

In summary, the results of this chapter sided with previous research in other sports (e.g., Andrew, Grobbelaar, & Potgieter, 2007; Bosselut et al., 2012; Cox & Yoo, 1995; Koryagina, & Blinov, 2013), suggesting that attacking and defending players present significantly different psychological characteristics. Jooste, Steyn, and Van Den Berg (2014) suggested that discrepancies in previous studies on roles could have been due to the range of competitive level and age of participants. Here, I studied two levels of advanced, adult football players, and found systematic differences in self-efficacy, anxiety (and its facilitative/debilitative interpretation) as well as perceived coaching effectiveness scores. Players who frequently take on defensive functions reported lower self-efficacy, higher somatic and cognitive anxiety (and more debilitative interpretations of both). These players also rated their coaches higher on motivation and character building, but not on game-strategy or technique. These results clearly suggest that football players who operate mostly in defending and attacking positions may bring different psychological characteristics to training and competition, and that they may place higher value on different aspects of their coaches' input than attacking players. Thus, the development of football players would benefit from psychological management tailored more specifically to offensive and defensive playing roles. I address the practical means of achieving this in Chapter 8.

CHAPTER 6

RELATIONSHIPS BETWEEN PERCEIVED COACHING EFFECTIVENESS, SELF-EFFICACY AND PERFORMANCE ANXIETY IN ATTACKING AND DEFENDING POSITION PLAYERS

INTRODUCTION

Chapter 5 began the investigation of attacking and defending football players' perceived coaching effectiveness, self-efficacy, cognitive and somatic anxiety, and the extent to which anxiety was felt to be facilitative or debilitative in the competitive context. In that chapter, the focus was on the effects of the player's position (attackers vs. defenders) and relative competitive level (upper or lower league) on these measures. In the present chapter, I consider the inter-relationships between perceived coaching effectiveness, self-efficacy, performance anxiety and its debilitative and facilitative interpretation in attacking and defending players.

First, I investigate the extent to which the dimensions of perceived coaching effectiveness predict players' self-efficacy and anxiety scores. It would be expected that more effective coaching is related to higher self-efficacy in players, and to lower levels of felt anxiety. Equally, I would expect that the anxiety that naturally accompanies competitive performance is seen by effectively coached players as more facilitative than debilitative. Next, I investigate whether performance anxiety and its debilitative and facilitative interpretation are associated with players' self-efficacy. Players reporting higher self-efficacy would be expected to experience lower levels of

performance anxiety, and also find the anxiety they do experience to be a facilitative rather than debilitative influence.

In evaluating the contributions of perceived coaching effectiveness on players' performance anxiety and whether it is facilitative or debilitative, the key question is the extent to which any such influence operates directly or is mediated by the way coaches affect players' sense of self-efficacy. The experience of performance anxiety is largely tied to specific competitive events, and it is arguably less stable or persistent in players' psychology than their sense of self-efficacy. It is possible that perceived coaching effectiveness affects players' self-efficacy and/or their performance anxiety, but that the effects on anxiety are not mediated by self-efficacy. If some or all of the effects of the dimensions of perceive coaching effectiveness on anxiety variables are mediated by their effects on self-efficacy, then the coaches' influence on players' confidence and performance potential is more enduring and likely to persist across individual performance situations.

As in Chapter 4, to investigate the possible direct influences, I first carry out multiple regression analyses with the dimensions of perceived coaching effectiveness as the predictors and players' self-efficacy, cognitive and somatic performance anxiety and their debilitative/facilitative interpretation as predicted measures. Note again that the designation of predictor and predicted variables is not meant to represent directional or causal hypotheses but is dictated by the multiple regression model (multiple IVs, single DV) used to ascertain the significant direct effects. Next, I use multiple regressions with somatic and cognitive anxiety and their interpretation as the

predictors, and self-efficacy as the predicted measure. Based on the direct influences indicated by these analyses, I carry out path analyses to test my mediation hypotheses. The analyses reported in Chapter 5 showed several key differences between the attacker and defender groups. With respect to perceived coaching effectiveness, for instance, I noted that the attackers reported higher coaching effectiveness for the game strategy and technique dimensions, but they gave lower scores than defenders for motivation and character-building (Figure 5.1). The two levels reversed order in their responses for cognitive and somatic anxiety (Figure 5.2). I considered these patterns as indicators of potentially differing relationships between the measures in the two groups, such that conducting regressions only on the whole sample might miss them. I therefore performed the regressions on the two groups separately. I planned on reflecting any differences that emerged between the groups in constructing the model(s) for path analysis.

METHOD AND RESULTS

Participants, Procedure and Measures

The participant pool, survey procedure and measures were as described in Chapter 5. The perceived coaching efficacy scale (CES), football self-efficacy scale (FSES), and performance anxiety instrument (CSAI-2R) were as described in Chapter 2.

Regression Analysis

To test the effects of perceived coaching effectiveness, I carried out multiple regressions with the four dimensions of perceived coaching effectiveness as

independent variables, and players' football self-efficacy, cognitive and somatic anxiety, and the debilitative and facilitative interpretations of cognitive and somatic anxiety as the dependent variables. Next, I tested whether players' cognitive and somatic anxiety, and their debilitative and facilitative interpretations for these were related to their self-efficacy. In this set of multiple regressions, self-efficacy was the dependent variable, and the anxiety scores were the independent variables. All regressions were carried out separately on the attackers and defenders position players.

Regression Results

Table 6.1 summarises the results of the regression analyses. It can be seen that perceived coaching effectiveness accounted for a significant proportion of the variance in self-efficacy, anxiety and its debilitative and facilitative interpretation. The relationships between self-efficacy and anxiety variables were also significant. There were several cases where a coefficient was significant for one group but not the other (highlighted in grey). For example, the technique dimension of perceived coaching effectiveness was a significant negative predictor of football self-efficacy in the attacker group, but not significant in the defender group. Conversely, the character-building dimension was a significant positive predictor in the defender group, but it was not significant in the attacker group. I discuss the direct effects in more detail in the final section of the chapter.

IV: Coaching Effectiveness			Attackers		Defenders	
DV: Football Self-efficacy		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation				
Attackers	$F(4, 55) = 28.05$, $p<.0001$, adj. R^2 = .66	Game Strategy	0.64	***	0.62	***
Defenders	$F(4, 55) = 18.88$, $p<.0001$, adj. R^2 = .56	Technique	-0.27	**		
		Character Building			0.25	*

IV: Coaching Effectiveness			Attackers		Defenders	
DV: Cognitive Anxiety		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation	0.4	*		
Attackers	$F(4, 55) = 3.56$, $p<.05$, adj. R^2 = .16	Game Strategy			0.49	**
Defenders	$F(4, 55) = 4.82$, $p<.01$, adj. R^2 = .22	Technique				
		Character Building				

IV: Coaching Effectiveness			Attackers		Defenders	
DV: Somatic Anxiety		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation				
Attackers	$F(4, 55) = 12.99$, $p<.0001$, adj. R^2 = .47	Game Strategy	-0.65	***	-0.31	*
Defenders	$F(4, 55) = 4.81$, $p<.01$, adj. R^2 = .22	Technique				
		Character Building				

IV: Coaching Effectiveness			Attackers		Defenders	
DV: Debilitative-Facilitative (Cognitive Anxiety)		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation				
Attackers	$F(4, 55) = 7.47$, $p<.0001$, adj. R^2 = .32	Game Strategy	0.55	***		
Defenders	$F(4,55) = 2.00$, *ns*	Technique				
		Character Building				

IV: Coaching Effectiveness			Attackers		Defenders	
DV: Debilitative-Facilititative (Somatic Anxiety)		Coaching Effectiveness	Adj. beta	sig	Adj. beta	sig
	F test	Motivation				
Attackers	$F(4, 55) = 18.22$ $p<.0001$, adj. R^2 = .56	Game Strategy	0.788	***	0.46	**
Defenders	$F(4, 55) = 5.54$, $p<.001$, adj. R^2 = .25	Technique				
		Character Building				

IV: Anxiety			Attackers		Defenders	
DV: Football Self-efficacy		Anxiety	Adj. beta	sig	Adj. beta	sig
	F test	Cognitive			0.48	***
Attackers	$F(2, 55) = 48.22$ $p<.0001$, adj. R^2 = .63	Somatic	-0.758	***	-0.46	***
Defenders	$F(2, 55) = 36.50$, $p<.0001$, adj. R^2 = .56					

IV: Debilitative-Facilitative			Attackers		Defenders	
DV: Football Self-efficacy		Debilitative-Facilitative	Adj. beta	sig	Adj. beta	sig
	F test	Cognitive	0.35	**	0.3	*
Attackers	$F(2, 55) = 29.73$, $p<.0001$, adj. R^2 = .52	Somatic	0.47	***	0.39	**
Defenders	$F(2, 55) = 13.10$, $p<.0001$, adj. R^2 = .31					

*Table 6.1. Results of multiple regressions outlined in Figure 4.1 for the Attacker and Defender groups. The cases where a coefficient is significant for one group but not the other are highlighted in grey. *, ** and *** indicate p<.5, p<.01, and p<.001.*

Path Analyses

In view of these differences between the attacker and defender groups, I decided to construct separate path models for the two groups to test for the mediation effects of self-efficacy. In both cases, I used the regression results summarised in Table 6.1 as the basis for hypothesised direct effects. My key goal was to test whether, or the extent to which, self-efficacy mediated the effects of perceived coaching effectiveness on the anxiety variables.

Figures 6.1 and 6.2 show the hypothesised models for the attacker and defender groups, respectively. The standardised coefficients and their significance (non-significant ones in dotted lines) are also indicated, as are the R^2 values of the endogenous variables. I carried out both path analyses using IBM SPSS AMOS 23 using maximum likelihood estimation with bootstrapping (5000 samples, 95% bias-corrected CI) to enable significance-testing of indirect effects.

Path Analysis – Attackers group

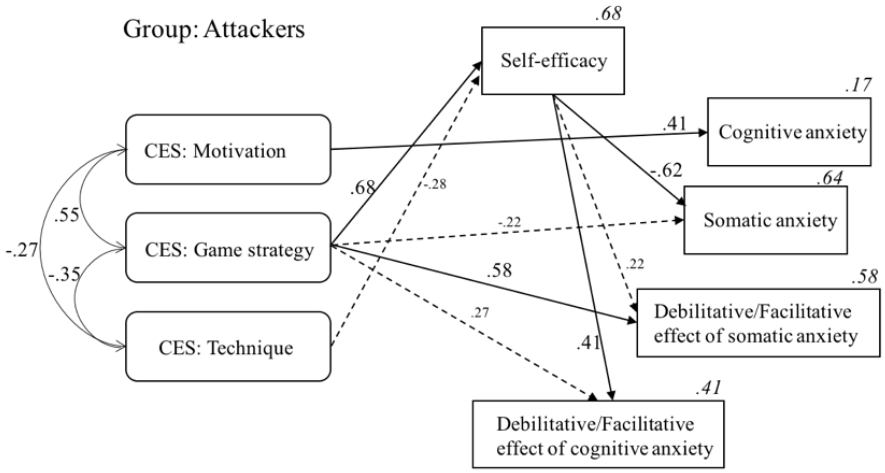
In the case of the attacker group, regression analysis (Table 6.1) indicated that only the game strategy and technique dimensions of perceived coaching effectiveness predicted self-efficacy. Motivation was the only significant predictor of cognitive anxiety, whereas game strategy was the only significant predictor of somatic anxiety, and facilitative-debilitative interpretations of both cognitive and somatic anxiety. Only somatic anxiety predicted self-efficacy, whereas facilitative-debilitative interpretations of both cognitive and somatic anxiety were significant predictors of

self-efficacy. These results formed the basis of the hypothesised direct effects shown in Figure 6.1. Links with non-significant regression coefficients were removed from the path model. I then used path analysis to test whether, or the extent to which, the effects of the game strategy dimension of perceived coaching effectiveness on somatic anxiety and debilitative and facilitative interpretations of cognitive and somatic anxiety were mediated by self-efficacy.

Model fit

The fit of the over-identified model did not differ from a just-identified model (χ^2 (16) = 12.35, p=.72). The tested model had 20 parameters to the saturated model's 36 (independence model had 8). As the CMIN/DF estimate value (.77) did not exceed 2, I judged the number of hypothesised paths to be adequate. I obtained RMSEA<0.001, which indicated good fit. GFI=0.95 indicated a good model accounting for an acceptable proportion of the variance in the sample variance-covariance matrix. NFI=.95, IFI=1.0, and CFI=1.0, also indicated good fit.

The statistical significance of direct, indirect and total effects was obtained using 5000-sample bootstrapping. Two-tailed significance based on the bias-corrected percentile method was used.



Significant indirect effects:
CES: Game strategy -> Somatic anxiety (*direct effect non-significant, therefore wholly mediated by self-efficacy)*
CES: Game strategy -> Debilitative/Facilitative effect of cognitive anxiety (*direct effect non-significant, therefore wholly mediated by self-efficacy)*

Figure 6.1. Summary of path analysis results for the Attacker group. Non-significant direct effects are shown as dotted lines.

Mediation analysis

The model indicates that the direct effect of the game strategy dimension of perceived coaching effectiveness on players' somatic anxiety is not significant, so this relationship is wholly mediated by self-efficacy. Similarly, the direct effect of game strategy on players' debilitative/facilitative effect of cognitive anxiety is not significant, meaning that this relationship is wholly mediated by self-efficacy. The indirect effect of game strategy on the debilitative and facilitative interpretation of somatic anxiety is not significant, so game strategy's effect is direct only.

Path Analysis – Defenders group

In the case of the Defenders group, regression analysis (Table 6.1) indicated that the game strategy and character-building dimensions of perceived coaching effectiveness predicted self-efficacy. Game strategy also predicted somatic and cognitive anxiety, and the debilitative and facilitative interpretation of somatic anxiety. All the anxiety variables were significant predictors of self-efficacy. These results formed the basis of the hypothesised model shown in Figure 6.2.

Model fit

The fit of the over-identified model did not differ from a just-identified model (χ^2 (11) = 8.99, p=.62). The tested model had 17 parameters to the saturated model's 28 (independence model had 7). As the CMIN/DF estimate value (.82) did not exceed 2, I judged the number of hypothesised paths to be adequate. I obtained RMSEA<0.001, which indicated good fit. GFI=0.95 indicated a good model accounting for an acceptable proportion of the variance in the sample variance-covariance matrix. NFI=.94, IFI=1.0, and CFI=1.0, also indicated good fit.

The statistical significance of direct, indirect and total effects was obtained using 5000-sample bootstrapping. Two-tailed significance based on the bias-corrected percentile method was used.

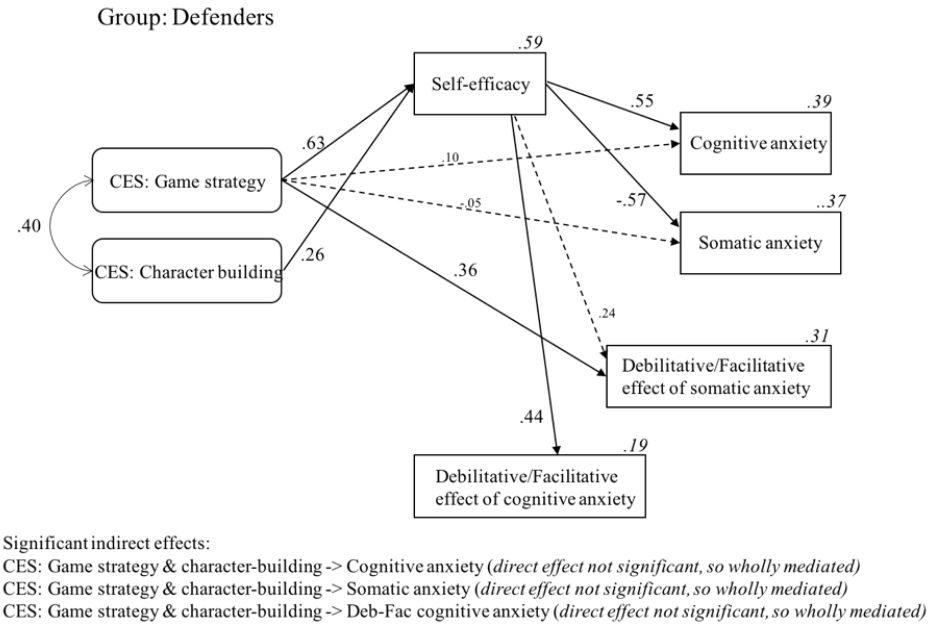


Figure 6.2. Summary of path analysis results for the Defender group. Non-significant direct effects are shown as dotted lines.

Mediation analysis

As shown in Figure 6.2, the model indicates that the effect of the game strategy and character-building dimensions of perceived coaching effectiveness on players' cognitive and somatic anxiety is direct effect not significant, so wholly mediated by effects on self-efficacy.

The model also indicates that the effect of the game strategy and character-building dimensions of perceived coaching effectiveness on debilitative/facilitative effect of cognitive anxiety is direct effect not significant, so wholly mediated by effects on self-efficacy.

DISCUSSION

Following the findings of some psychological differences between players taking on primarily defensive or offensive roles in Chapter 5, this chapter investigated the relationships between perceived coaching effectiveness, self-efficacy and anxiety and its interpretation in players occupying these roles. The expected relationships here were as motivated in Chapter 4, and so was the methodology of using multiple regressions to assess direct effects between the variables following by a path analysis to determine the extent of self-efficacy's mediating influence on the relationship between perceived coaching effectiveness and the level and interpretation of anxiety.

Before considering how self-efficacy mediates the relationship between perceived coaching effectiveness and anxiety variables, I first discuss the pattern of direct effects found in the regression analyses summarised in Table 6.1. As previously discussed, the literature indicates that higher self-efficacy relates to lower anxiety levels (Cartoni, Minganti, & Zelli, 2005; Haney & Long, 1995; Hazell, Cotteril, & Hill, 2014; Martens, et al., 1990; Martin & Mack, 1996; Muris, 2002). The multiple regression with cognitive and somatic anxiety as predictors and self-efficacy as the predicted variable (Table 6.1) showed that for both attackers and defenders, self-efficacy related negatively with somatic anxiety, and higher self-efficacy related to more facilitative interpretation of somatic anxiety. These results are clearly consistent with expectations. In the case of cognitive anxiety, however, attackers showed no relationship between their self-efficacy and cognitive anxiety, but high self-efficacy related to more facilitative interpretation of cognitive anxiety. Defenders, on the other hand, showed a positive relationship between self-efficacy and cognitive anxiety

(although high self-efficacy still related to more facilitative interpretation of cognitive anxiety). This result is similar to what was found in Chapter 4 for the semi-pro group. Higher self-efficacy defenders reported more cognitive anxiety prior to competition. This is a very important psychological difference between attacking and defending players that should be investigated more widely in a range of samples. The present result suggests that high self-efficacy defenders in particular suffer higher cognitive anxiety, there is a strong case for a specific programme designed to help defensive players manage their psychological preparation for competition. The setting for this result (the Kuwaiti clubs) is the same as in Chapter 4, and it is possible that this result particularly reflects the pressures players face in this particular setting. If so, then coaches of the Kuwaiti club system should prioritise addressing this.

Next, I consider the indirect effects analysed in the path model. In both the attacker and defender groups, all the significant indirect effects were instances of full mediation by self-efficacy. Considering the attackers first, high self-efficacy is linked to high scores on game strategy input and low levels of somatic anxiety. More confident attackers are better able to benefit from coaches' game strategy, and these players are also the ones whose greater experience and confidence means they experience less somatic anxiety. Also, among attackers, high self-efficacy is linked to higher scores for game strategy input and also more facilitative interpretation of cognitive anxiety.

In the case of defenders, the patterns discussed above for attackers also occur. Additionally, the same patterns also hold for the character-building dimension of perceived coaching effectiveness. Also, game strategy and character-building input both have a positive relationship with cognitive anxiety that is fully mediated by

positive relationships with self-efficacy. So, higher self-efficacy defenders gave higher ratings for game strategy and character-building, but these players also reported higher cognitive anxiety.

It appears clear that cognitive anxiety effects are an important differentiator between attackers and defenders – cognitive anxiety plays a more important role in defenders. Also, defenders' psychology is impacted by coaches' character-building input in a way that attackers' psychology is not. Overall, the full mediation of relationships between perceived coaching effectiveness and anxiety variables by self-efficacy once again highlights the central role of self-efficacy in influencing players' psychological state. Similar to the results of Chapter 4, high self-efficacy contributes strongly to players' evaluation of coaching effectiveness and to lowering players' competitive anxiety. The importance of focusing on building up players' self-efficacy has already been highlighted and should be repeated here. Chapter 5 showed, however, that defensive players rated their self-efficacy lower than offensive players. Here, I found that defensive players with higher self-efficacy also showed higher cognitive anxiety. These results suggest that psychological management programmes tailored specifically to defensive and offensive players' needs would be the best way to improve the psychological health of competitive football players. In Chapter 8, I turn to practical ways in which self-efficacy could be made the centre-piece of a player development strategy for coaching training.

CHAPTER 7

PERCEIVED COACHING EFFECTIVENESS AND SELF-EFFICACY IN UNIVERSITY PLAYERS

INTRODUCTION

The investigation of how players perceive their coaches' effectiveness, players' self-efficacy and their anxiety that has been presented in the previous chapters was focused on professional and semi-professional players. These individuals have pursued the sport of football as their primary pursuit since their childhood and trained extensively under coaches or coaching institutions (e.g., youth academies) for many years. They are used to working closely with coaches and have personal experience of being coached in ways that have been suited or unsuited to their own preferences. These players' competitive careers are also dependent on how well they function within the coaching environment and how coaches evaluate their effectiveness. As a result of this long and close interaction with coaching staff during the period in which these players developed their own skills and sense of football self-efficacy, it was expected that they would be able to provide consistent judgements of their coaches' effectiveness as well as their own sense of self-efficacy and performance anxiety. Also, because of this long association between these players and their coaches, the interactions between the players' psychology and how they perceive their coaches would have had sufficient opportunity to develop (Duarte, Garganta, & Fonseca, 2014; Gissis, 2013; Santos, et al., 2018).

However, football is a mass-participation sport, and organised teams with squads of players and coaching staff operate at all levels of skill, experience, competitive level and intensity of participation. Only a handful of elite players progress to professional competition, but a large range of players interact with coaches, develop their skills, and perform in matches played in recreational or extra-curricular settings. Locality-based, or school and university teams are settings where player-coach interactions occur along broadly similar lines to professional settings, but the level of skill, experience, commitment, and performance pressure are not of the same order as in professional sport (Gissis, 2013; Mouloud, & Elkader, 2017; Santos, et al., 2018).

In the Kuwaiti setting examined here, university football is not a common pathway to professional sport. The players' primary activity is academic study, and football is their extra-curricular activity. Some of these players are good athletes and aspire to achieve high quality. So, there is a mixture of abilities and dedication to the sport. In the university teams, the players get regular coaching, and therefore have the opportunity to relate closely with coaches, learn from them and evaluate their effectiveness. These players also develop a level of sporting self-efficacy, but as the amount of time spent in training is limited, it is not clear whether the strong psychological connections observed in Chapters 3-6 between players' perceptions of coaches' effectiveness and their own self-efficacy and anxiety have a chance to form. The level of coaching available at universities is not as intense or skilled as in the semi-professional clubs, but some coaches starting out in this setting aspire to move on to coaching league teams, and therefore have the incentive to work hard to succeed and achieve positive results with their teams. The Kuwaiti university system, like elsewhere in the world, is a mixture of public and private institutions. The private

universities have resource advantages and can attract talented students from a wider area (James, 2013), but it has also been shown elsewhere that the public talent pool can challenge some advantages held by private institutions (Johnson, Pierce, Tracy, & Haworth, 2014).

Given the above differences between the advanced players and coaches studied in Chapters 3-6 and the university setting studied here, the main purpose of this chapter was to test the relationship between university footballers' evaluations of their coaches' effectiveness and their own sense of football self-efficacy. If a strong relationship was found between players' self-efficacy and any of the dimensions of perceived coaching effectiveness, further investigations into players' performance anxiety and its interpretation would be worth conducting. In view of the differences between public and private institution that were outlined above, I also tested for group differences in the perceived coaching effectiveness and self-efficacy in the same way as in Chapters 3 and 5.

METHOD

Participants

The sample consisted of 160 football players taken from the universities in Kuwait. Twenty participants each were taken from 4 public and 4 private universities. Within each university, participants were recruited using opportunity sampling. Participants gave informed consent under the condition that their personal or institutional identity would not be retained in the data, and all reports would be completely anonymized.

Ethical approval for the research reported in this chapter was granted by the College of Business, Law and Social Sciences Research Ethics Committee of Nottingham Trent University.

Procedure

Potential participants were approached through personal contacts, and when they agreed to participate, a suitable time was arranged to visit the players within one to two hours of starting a match during the mid-season period. This timing was selected in order to ensure that participants could fully consider their responses to the coaching effectiveness questions in the context of the current season. Before they were given the questionnaires, potential participants read an information sheet outlining the nature of the study and the conditions of complete anonymity under which they were being invited to participate. They were informed that the whole process would take a maximum of 10 to 15 minutes, and that they were free to withdraw at any point or refuse to answer particular questions. Once they gave their informed consent, participants were given the Football Self-Efficacy Scale (FSES; Bray, Balaguer, & Duda, 2004) and the Coaching Efficacy Scale (CES; Feltz, Chase, Moritz, & Sullivan, 1999) questionnaires to fill out. As the participants were Kuwaiti, the Arabic translation of the questionnaires (also used with Kuwaiti semi-professional players in Chapters 3-6) was used.

Measures

The perceived coaching effectiveness and players' football self-efficacy scales (as described in Chapter 2) were administered.

Data Analysis

Group differences data were analysed using multivariate or univariate analysis of variance (MANOVA and ANOVA) using IBM SPSS v23. The relationship between perceived coaching effectiveness and self-efficacy was analysed using a multiple regression with self-efficacy as the predicted measure and the dimensions of perceived coaching effectiveness as the predicting measures. The significance level in all cases was set at $p<0.05$.

RESULTS

Group differences (Public vs. Private universities)

Perceived Coaching Effectiveness

A one-way MANOVA with University type (Government, Private) was conducted with the dimensions of perceived coaching effectiveness (motivation, game strategy, technique and character-building) as the dependent measures (Figure 7.1).

The effect of university type on the combined dependent variable was significant, $F(4, 155) = 64.24$, Wilks' Lambda = 0.37, $p < .0001$, $\eta_p^2 = .62$.

Next, I consider the between-subjects effects on each dependent measure.

CES-Motivation. The effect of university type (F (1, 158) = 104.57, p < .0001, η_p^2= .40) was significant. Government university players gave higher scores (M= 7.17, SD=0.95) than private university players (M=5.07, SD=1.57).

CES-Game Strategy. The effect of university type (F (1, 158) = 198.94, p < .0001, η_p^2= .56) was significant. Government university players gave higher scores (M= 7.54, SD=0.81) than private university players (M=4.63, SD=1.66).

CES-Technique. The effect of university type (F (1, 158) = 49.22, p < .0001, η_p^2= .24) was significant. Government university players gave lower scores (M= 4.99, SD=.53) than private university players (M=6.62, SD=1.40).

CES-character-building. The effect of university type (F (1, 158) = 8.88, p < .01, η_p^2= .05) was significant. Government university players gave lower scores (M= 5.12, SD=.61) than private university players (M=5.85, SD=1.50).

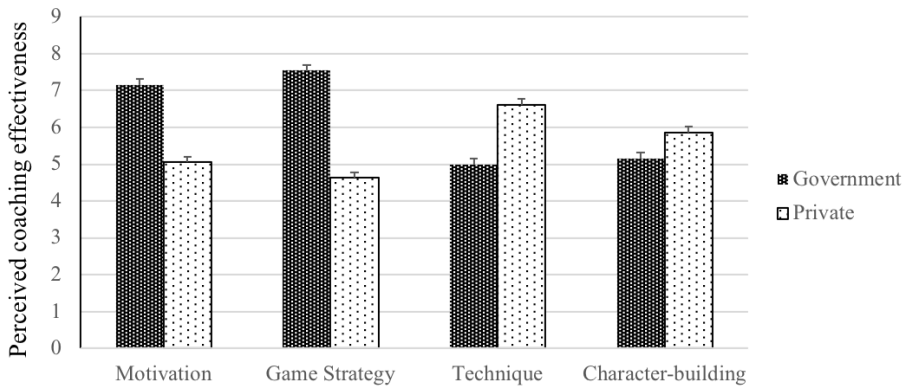


Figure 7.1. Scores in the four dimensions of perceived coaching effectiveness in government and private universities.

Football Self-Efficacy

A one-way ANOVA with University type (Government, Private) was conducted with football self-efficacy score as the dependent measure. The effect of university type was significant, F (1, 158) = 23.43, $p < .0001$, $\eta_p^2 = .30$. Government university players reported higher levels of football self-efficacy (M=67.54, SD=20.73) than private university players (M=52.61, SD=18.20).

Relationship between Perceived Coaching Effectiveness and Football Self-Efficacy

A multiple regression analysis was conducted with the four dimensions of perceived coaching effectiveness (motivation, game strategy, technique and character-building) as the predictors and football self-efficacy scores as the predicted variable. A significant model emerged only in the case of government universities, $F(4, 75) = 3.02$, $p<0.05$, accounting for 9% of the variance (Adjusted $R^2 = .09$). Only the technique dimension of perceived coaching effectiveness negatively predicted football self-efficacy, indicating that players of lower self-efficacy rated their coaches higher on their input on technique. Table 7.1 provides the regression coefficients.

Predictors: CES dimensions				
Predicted: Self-efficacy				
Government			Private	
F(4, 75) = 3.02, p<.05	, R^2 = .09		F(4, 75) = 5.53, p<.001, R^2 = .19	

	Std. Beta	Sig	Std. Beta	Sig
Motivation	0.16		-0.27	Marginal (*p=.058)*
Game strategy	0.01		-0.25	
Technique	-0.35	**	-0.15	
Character-building	-0.03		0	

Table 7.1 Regression results with self-efficacy as the predictor and the dimensions of perceived coaching effectiveness as the predicted variables in government and private university samples.

In the case of the private universities, the regression was again significant, F(4, 75) = 5.53, *<.05, R^2 = .19.* However, none of the dimensions of perceived coaching effectiveness was a significant predictor of players' self-efficacy (only the motivation dimension was marginally significant, $p<0.058$, standardised beta = -.27).

I also carried out the multiple regression analysis on the whole university sample (i.e., pooling participants from government and private universities). The regression was significant F(4, 155) = 5.81, *p<.001*, R^2 = .13. Only the technique dimension of perceived coaching effectiveness significantly predicted players' self-efficacy (standardised beta = -.33). This is the same result as in the case of the government university sample by itself, and it suggests that players of lower self-efficacy rated coaches higher for their technique input.

DISCUSSION

The analysis of group differences in perceived coaching effectiveness showed that the government university players gave higher motivation effectiveness scores to their coaches. Access to coaching is more of a privilege for these players than it is for the generally wealthier private university players. Government university players may also have higher motivation to do well, and so are more receptive to coaches' efforts to motivate them. For game strategy effectiveness, the government university players again gave higher scores than private university players. These players may have more experience and desire, and therefore are better able to absorb game strategy input from coaches. The government university fixtures are also more competitive, and so there is more focus on game strategy and tactics.

Conversely, the technique effectiveness scores were higher from private university players who have access to better coaches and more opportunity for one-to-one training. Coaching in private universities also occurs in the context of better teaching and learning environments overall. So, it is understandable that private university players report greater technique effectiveness in their coaches. For character-building effectiveness as well, private university players gave higher scores because they get more individual attention from coaches and the teaching and learning environment allows coaches to focus more on players' individual characteristics and nurture them and build their confidence and resilience.

The football self-efficacy group difference was also as expected, as government university players reported higher self-efficacy, reflecting the higher skill level and competitiveness in their game compared to the private universities.

Finally, regression analysis of the relationship between perceived coaching effectiveness and football self-efficacy showed that none of the dimensions of perceived coaching effectiveness significantly predicted players' self-efficacy in private universities (the negative coefficient for motivation was marginally significant). In government universities, there was only a significant negative coefficient for technique. So, there was some indication that players with lower self-efficacy tended to rate their coaches higher on some dimensions. On the whole, however, the proportion of variance in self-efficacy explained by the dimensions of coaching effectiveness was low in both government and private universities, and also in the combined sample. This shows that how university players' rate their coaches' effectiveness is not as closely connected with their sense of self-efficacy as observed for professional and semi-professional players.

The results obtained for the university sample suggest that links between players' self-efficacy and their perceptions of coaches that were observed in professional and semi-professional players' takes time and commitment to the sport to develop. In the university setting, players have less experience, skill and involvement for their self-efficacy to link closely with their perceptions of their coaches. At this level, coaches may have had much less contact and influence on the players for these links to develop enough to be reliably reported. The significant group differences that were observed between government and private university matched expectations based on the general

observation of football in these environments. Thus, by themselves, the measures appear to be sensitive indicators of players' feelings about their coaches and their own abilities. The weaker connection between these shows that self-efficacy is perhaps a more useful measure for the more experienced, skilled and committed players who were studied in Chapters 3-6.

CHAPTER 8

RESULTS SUMMARY AND GENERAL DISCUSSION

The purpose of this thesis was to investigate the relationships between football players' performance anxiety (Gissis, 2013; Hann, 2000) and the way they perceive their coaches' effectiveness (Boardley et al., 2008, Boardley, Jackson, & Simmons, 2015; Duarte, Garganta & Fonseca, 2014; Horn, 2002; Kavussanu et al., 2008). I considered players' cognitive and somatic anxiety (Martens, Burton, & Vealey, 1990), as well as the extent to which players viewed these two types of anxiety as debilitative or facilitative to their performance (Hanton & Connaughton, 2002; Hanton, O'Brien, & Mellalieu, 2003). Importantly, I also collected players' self-report of football self-efficacy (Bray, Balaguer, & Duda, 2004), and analysed how self-efficacy related to anxiety and perception of coaches. Chapters 3 and 4 considered the relationships between these variables in professional players in the English leagues and semi-professional players in Kuwaiti leagues. Two contiguous tiers of competition were included in both settings to allow observation of the extent to which the level of skill and competition within each setting affects these relationships. In Chapters 5 and 6, the focus shifted to possible differences in these psychological variables' relationships as a function of the tactical role in which players specialise. Here, perceived coaching effectiveness, anxiety and self-efficacy, and relationships between these, were considered for players specializing in attacking and defending positions. In the following sections, I summarise the pattern of obtained results and my interpretations of them before I move on to discuss the implications of the results and future research possibilities.

Effects of Professionalisation and Level of Competition (Chapters 3 and 4)

Chapter 3 considered group differences in perceived coaching effectiveness, cognitive and somatic anxiety and their interpretation, and self-efficacy. Two levels of professionalisation (pro players in English leagues, and semi-pro players in Kuwaiti leagues) and two levels of competition in both settings (two contiguous leagues) were contrasted.

Considering the dimensions of perceived coaching effectiveness first (Figure 3.1), game strategy and character-building showed the expected pattern of more favourable assessment of coaches by the professional players, and both groups of players at their respective upper level of competition. These results would be expected assuming the availability of more skilled and experienced coaching in the professional and higher competitive levels. In the case of motivation and technique, results differed by level of competition. In the upper level, pro players gave their coaches high ratings but the semi-pro players gave low ratings. At the lower level, there were no differences between pro and semi-pro players and mean scores were in the middle of the scale. Thus, only the upper level players gave non-neutral ratings on these two dimensions, but in opposite ways. The high scores given by the upper level pros likely acknowledges the quality of coaches' input on motivation and technique, but the low scores from the upper level semi-pros may reflect higher levels of pressure felt by these players relative to their ability.

Considering anxiety results next (Figure 3.2), upper level players in both the pro and semi-pro settings reported low somatic anxiety, and these players also considered their

somatic anxiety to be facilitative (more so the pro players). At the lower level, somatic anxiety was higher (more so in semi-pros), and interpretation was more debilitative (more so again in semi-pros). Cognitive anxiety had a different pattern depending on competition level. At the upper level, pros reported lower cognitive anxiety than semi-pros, and pros' interpretation was facilitative whereas semi-pros' interpretation was debilitative. Scores at the lower level of competition did not differ much between pros and semi-pros. The high level of cognitive anxiety (and its debilitative interpretation) in the upper level semi-pros was the surprising pattern in this analysis. One interpretation is that these players find themselves under a high level of performance pressure that likely exceeds their self-perceived abilities. This interpretation appears consistent also with the low scores the upper level semi-pros gave their coaches for motivation and technique input (Figure 3.1).

The results for football self-efficacy were largely as expected. The upper level pro and semi-pro players reported high self-efficacy, whereas lower level players reported lower self-efficacy, more so in the case of semi-pro players (Figure 3.3).

The results of Chapter 3 were mostly what could be expected based on the advantages in the quality of coaching, playing experience and skill, and preparation for competition that exist in the professional and higher levels of competition. However, there were some concerning characteristics in the responses of players from the upper level of the semi-professional group. They scored their coaches lower for motivation and technique than did the lower level semi-professional players. Also, upper level semi-professional players' cognitive anxiety was also higher, as was their level of debilitative evaluation of cognitive anxiety. In the Kuwaiti football league setting, the

players and coaches are of clearly higher standard than in the lower league (many of the coaches are international stars recruited at considerable expense). As noted in Chapter 3, this pattern of results indicates a negative psychological impact of elite coaches, often of foreign origin. Although these players' self-efficacy was high (comparable to that of the upper level English league professional players), their heightened cognitive anxiety and its debilitative effects suggests that they worry about meeting their coaches' demands. These players' low scores for coaches' motivation and technique input may also point to such worry. An alternative explanation may lie in language and communication issues or cultural differences.

Chapter 4 turned to examination of the inter-relationships between perceived coaching effectiveness, performance anxiety and self-efficacy. Direct relationships between dimensions of perceived coaching effectiveness, cognitive and somatic anxiety and their facilitative/debilitative interpretation and self-efficacy, were tested using multiple regression. The significant coefficients were included as direct effects in a path analysis model to investigate whether self-efficacy plays a partially or wholly mediating role in the relationships between dimensions of coaching effectiveness and anxiety and its facilitative/debilitative interpretation. Based on important differences in direct effects between the pro and semi-pro groups, separate path analyses were performed.

Pro players' self-efficacy partially and fully mediated the relationships between the game strategy dimension of perceived coaching effectiveness and somatic anxiety and its facilitative/debilitative interpretation, respectively (Figure 4.1). In these players, self-efficacy fully mediated relationships between the technique dimension of

perceived coaching effectiveness and somatic anxiety and its facilitative/debilitative interpretation. Broadly, players reporting higher self-efficacy tended to give higher scores to their coaches, and to report lower somatic anxiety and a more facilitative interpretation of it.

In the case of semi-pro players, self-efficacy partially mediated the relationship between the game strategy dimension of perceived coaching effectiveness and both somatic and cognitive anxiety, and it fully mediated the relationships between game strategy and the facilitative/debilitative interpretations of somatic and cognitive anxiety. Additionally, self-efficacy fully mediated the relationship between the motivation dimension and both somatic and cognitive anxiety, and facilitative/debilitative interpretation of somatic anxiety. Self-efficacy also partially mediated the relationship between motivation and the facilitative/debilitative interpretation of cognitive anxiety (Figure 4.2).

There were some differences between pro and semi-pro players in terms of which dimensions of perceived coaching effectiveness registered direct relationships. For example, there was a relationship (fully mediated by self-efficacy) between the technique dimension of coaching effectiveness and somatic anxiety in pro players, but the technique dimension did not appear in relationships in the case of semi-pro players. The level and importance of technique can be assumed significantly higher in the pro setting, and so technique may be a higher coaching priority at this level. In this respect, a significant link between how players perceive their coaches' technique input and how much somatic anxiety they experience is perhaps more expected than in the semi-pro setting.

A more striking difference between pro and semi-pro players was the more prominent role of cognitive anxiety and its interpretation in the semi-pro group. For pros, the only relationship involving cognitive anxiety was the direct one between the game strategy dimension of perceived coaching effectiveness and the facilitative/debilitative dimension of cognitive anxiety. Higher game strategy score related to a more facilitative interpretation of cognitive anxiety. The game strategy score given to coaches related negatively with somatic anxiety, and positively with a facilitative interpretation of somatic anxiety. These two relationships were mediated partially and wholly by self-efficacy – players with higher self-efficacy gave higher game strategy ratings to their coaches and also reported lower somatic anxiety and a more facilitative interpretation of somatic and cognitive anxiety.

In the case of semi-pros, the pattern relating to somatic anxiety was broadly similar. Higher game strategy and motivation scores for coaches related to lower somatic anxiety and more facilitative interpretation of it. These were mediated by self-efficacy such that, as in the case of pros, higher self-efficacy related to better evaluation of coaches and lower somatic anxiety and a more facilitative interpretation. Cognitive anxiety showed a different but concerning pattern. Its direct relationship with the game strategy dimension of perceived coaching effectiveness was a positive one. This relationship was partially mediated by self-efficacy. Players who reported higher self-efficacy tended to give higher game strategy score to their coaches, but also tended to experience higher cognitive anxiety. The indirect relationship between game strategy and facilitative/debilitative interpretation of cognitive anxiety was similar. Players with higher self-efficacy tended to give higher game strategy scores to their coaches,

but they also tended to have a more debilitative interpretation of cognitive anxiety. The indirect relationships between the motivation dimension and cognitive anxiety and its interpretation were also concerning, but in a somewhat different pattern. Players reporting higher self-efficacy tended to give lower motivation scores to their coaches and also reported higher cognitive anxiety, and a more debilitative interpretation of cognitive anxiety.

This pattern suggests that the coaches' effects on the anxiety of semi-pro players, particularly of those reporting high self-efficacy is largely not a helpful one. Higher self-efficacy players tend to report higher cognitive anxiety and interpret it as being more debilitative. This might be indicating that these players feel more responsible for their team's performance and worry more. We also have evidence here that how the players perceive their coaches' effectiveness can have a negative effect. Coaches' perceived game strategy effectiveness relates positively to players' cognitive anxiety – the more effective the players feel their coaches are with respect to game strategy, the more cognitive anxiety the players experience. This may be the result of players feeling that they are not able to deliver on the coaches' expectations in terms of game strategy. The motivation dimension of perceived coaching effectiveness gives yet another pattern of evidence regarding the negative impact of coaches. Higher motivation score for coaches is linked with more facilitative interpretation of cognitive anxiety. This suggests that, across all players, more motivating coaches are making players put their worrying in a positive frame. However, motivation scores bear a negative relationship to self-efficacy. Players with higher self-efficacy are tending to find coaches less motivating. Also, players with higher self-efficacy are tending to interpret their cognitive anxiety as debilitative. Thus, it appears that coaches have a

particularly negative impact on high self-efficacy players when it comes to players' cognitive anxiety. It may be that performance pressures lead to proportionally more reliance on the more confident players to deliver excellence, and this leads to elevated levels of worrying in these players.

Differences between players with primarily attacking and defending roles (Chapters 5 and 6)

The thesis next investigated how perceived coaching effectiveness, cognitive and somatic anxiety and their facilitative/debilitative interpretation, and self-efficacy differed in their levels and inter-relationships between attacking and defending players. I hypothesised that attacking and defending roles may involve psychological differences relevant to these variables. In particular, I considered the possibility that defensive players would have more of a loss aversion mindset (Kahneman & Tversky, 1992; Hochman & Yechiam, 2011).

Analyses of group differences showed important contrasts between attacking and defending players. Considering perceived coaching effectiveness first, attacking players gave higher scores to their coaches' game strategy and technique effectiveness, whereas defending players tended to give higher scores for motivation and character-building. These patterns are consistent with assumptions that tenacity, persistence and consistency are key attributes of defending players, and so the dimensions of motivation and character-building are the key coaching aspects that defenders experience. Successful attacking moves are comparatively more strategic and depend

upon exceptional or unusual technical capabilities. As such, game strategy and technique input from coaches are more valued by attacking players.

With respect to anxiety, attacking players reported less cognitive and somatic anxiety, and a more facilitative interpretation of both. Considering this pattern from a loss aversion perspective, I note that failures in the attacking game may be viewed more as barriers to achieving victories rather than contributing to losses. Failures in defence are more likely to be seen as contributing to a loss. Thus, it appears that defenders carry a heavier anxiety burden than attacking players. Relatedly, defenders also reported lower self-efficacy levels than attackers.

The results of Chapter 5 appear to side with previous research in other sports showing psychological differences between players occupying attacking and defending roles (e.g., Andrew, Grobbelaar, & Potgieter, 2007; Bosselut et al., 2012; Cox & Yoo, 1995; Koryagina, & Blinov, 2013). Most previous research on this issue has not addressed the case of mature, advanced players such as those studied here. This chapter's results suggest that further research should be done on the psychological differences that occur in players occupying attacking and defending roles in football. If these players bring significant psychological differences to training and competition, coaches should develop their awareness of how to take that into consideration. Also, football is currently going through an evolution in which rigidly assigned attacking or defending roles or team formations (e.g., 4-4-2, 4-3-3, 5-3-2 or 4-5-1) are replaced by a more fluid allocation of duties in which players take on specific roles depending on where on the pitch they are and the game situation. This blurring of roles raises the question of how or whether individual players change psychologically as their roles

change. Future research should develop methods by which coaches can better understand the changing psychological characteristics that may be expressed by players as they move through functional roles. Perhaps the ability to adapt not just technically but also psychologically is a key aspect of the type of versatility that the evolving game demands.

Following the comparative analysis, I investigated the inter-relationships between perceived coaching effectiveness, cognitive and somatic anxiety and their interpretation, and self-efficacy using path analysis. As in the case of pro and semi-pro players, we established direct effects using regression, and based on differences in these between attackers and defenders, decided to run the path analysis separately for the two groups. In the case of attackers (Figure 6.1), there were two significant indirect relationships between perceived coaching effectiveness and anxiety that were wholly mediated by self-efficacy. Players rating themselves higher in self-efficacy gave higher scores to coaches for their game strategy input, and these players also tended to have lower somatic anxiety and a more facilitative interpretation of cognitive anxiety. A noteworthy direct effect was the positive relationship between coaches' motivation effectiveness score and players' cognitive anxiety – players who gave high motivation effectiveness scores to their coaches also reported experiencing higher levels of cognitive anxiety. This could be the result of coaches giving more motivational input to the players who are more worried. Alternatively, there could be a causal relationship in that higher levels of perceived motivational input from coaches led to higher levels of worrying in players. This relationship requires further investigation. In the case of defenders (Figure 6.2), there was a positive relationship (wholly mediated by self-efficacy) between coaches' game strategy and character-

building ratings and cognitive anxiety experienced by players. Higher self-efficacy players gave higher game strategy effectiveness and character-building scores to their coaches, and also experienced more cognitive anxiety (but they also had more facilitative interpretation of cognitive anxiety).

In contrast to the lower level of somatic anxiety associated with high self-efficacy and higher ratings of coaching effectiveness, once again we saw indications, particularly in defensive players, that higher self-efficacy was associated with higher cognitive anxiety as well as higher rating for coaching. As mentioned previously, it is possible that this pattern reflects higher focus of coaching input and potentially performance pressure on the more confident players, which leads to increased cognitive anxiety.

The results of Chapter 6 point to cognitive anxiety as a potentially important differentiator between players in attacking and defending roles, with the latter roles experiencing a higher level of it. The full mediation of relationships between perceived coaching effectiveness and anxiety by self-efficacy also highlight the key role understanding and developing players' self-efficacy may play in managing this. I return to this issue below.

Relationships in government/private players in the university setting (Chapter 7)

In pro and semi-pro players, self-efficacy mediates strong relationships between how players perceive their coaches' effectiveness and how much anxiety they experience, and how they interpret it. One question is the level of involvement in the sport that is required for these relationships to develop. Pro and semi-pro players have spent

significant amounts of time in competitive and training settings and developed their functioning in terms of both skill and psychological coping. Their relationship with coaches is also highly critical to their performance and opportunities. Football is also played very widely at a recreational or extracurricular level and coaching also has a role in these settings. In Chapter 7, I tested the relationship between players' self-efficacy and perceived coaching effectiveness in university team players but did not find a strong link between players' self-efficacy and any of the dimensions of perceived coaching effectiveness. There was some indication that players who reported lower self-efficacy tended to rate their coaches higher in the technique dimension of perceived coaching effectiveness, but even this result was confined to players from government universities for whom this may have been the first opportunity to receive any coaching input on technique. None of the four dimensions of perceived coaching effectiveness were significant predictors of players' self-efficacy in the private university setting. Importantly, there was no sign in the university sample of the positive relationships between self-efficacy and the dimensions of perceived coaching effectiveness that were observed in the case of professional and semi-professional players in Chapters 3-6. It is possible, therefore, that such connections between how players rate their own abilities and the quality they perceive in their coaches only develop and stabilise at a higher level of involvement in the sport.

IMPLICATIONS

The relationships between players' self-efficacy, anxiety and evaluation of coaches' effectiveness studies in this thesis have a number of implications for the way in which the sport is managed. Here, I consider these in three parts. First, I consider how the present data may inform the training of football coaches, and second, I discuss how the present results may contribute to the criteria by which coaches are selected. Finally, I consider ways in which building up players' self-efficacy as a key long-term developmental goal can be implemented in training.

Training Coaches

The qualities expected in an effective coach and how to develop these have been the subjects of considerable recent research. There are clear indications in the literature that coaching education can contribute positively to coaching efficacy (e.g., Jones, 2006; Sullivan, Paquette, Holt, & Bloom, 2012; Trudel, & Gilbert, 2006), but our understanding of the key qualities and aspects of coaching competency and effectiveness is still in development (Gilbert & Trudel, 2004; Horn, 2008; Lyle, 2002). Côté and Gilbert (2009) developed an integrative definition of coaching effectiveness and expertise in which coaches' knowledge, athletes' outcome and coaching contexts were the three key aspects. Coaches' knowledge was considered to have both sport-specific content as well as broader pedagogical understanding including the coach's ability to form, maintain and develop effective and rewarding relationships with players. The second aspect, athletes' outcomes, emphasised that effective coaching should lead to increased success for players or to a positive psychological impact on

them (Davis, et al., 2018; Horn, 2008; Lyle, 2002). Thus, effective coaches' behaviour should not only enhance athletes' sporting competence and competitiveness, but also contribute to the development of athletes' confidence, connection and character (Côté & Gilbert, 2009; Nicholls, Levy, Jones, Meir, Radcliffe, & Perry 2016). The third aspect, coaching context, recognised the need for coaching behaviours to be tailored to such settings as recreational, developmental or elite sport (Nicholls et al., 2016; Trudel & Gilbert, 2006). Lyle (2002) identified two forms of coaching: participation coaching, where the goals are enjoyment and health-related outcomes, and performance coaching, where the objectives include preparation for competition and planned attempts to influence performance variables. Lyle stressed the need to match individual coaches to contextual requirements. A coach taking a performance approach in a participation setting may not have a positive effect on athletes' behavior and development (Amorose, 2007; Bowes & Jones, 2006; Schunk, 1995).

It is clear from such approaches that current thinking on coaching has started to place considerable importance on coaches' relationship with athletes, and their influence on athletes' growth beyond the honing of their sport-specific skills. The coach-athlete relationship has been particularly prominent in recent research. For example, Davis et al. (2018) have shown that a positive coach-athlete relationship predicts better cognitive performance among athletes, and a negative relationship predicts worse cortisol response and exhaustion following intense exercise. Nicholls, Levy, Jones, Meir, Radcliffe, and Perry (2016) investigated how aspects of the coach-athlete relationship affect athletes' challenge and threat appraisal. Closeness in the relationship was found to positively relate to challenge appraisal and negatively relate to threat appraisal. However, commitment in the coach-athlete relationship related

positively to threat appraisal, a negative outcome for athletes. Commitment was also found to be related to disengagement-oriented coping. This coping style is known to adversely affect athletes' performance.

Such results highlight the fact that, even where strong connections between coaches and athletes have been formed, the effects on athletes can be positive or negative (Myers, et al., 2006; Smoll, Smith, & Cumming, 2007; Vargas-Tonsing, 2009). Research has shown that the nature of coaches' motivation and drive for their sport can lead to patterns of behaviour that affect how the athletes perceive their relationship with their coach. Lafraniere et al. (2011) contrasted harmonious against obsessive passion for coaching and showed that coaches with a harmonious approach tend to exhibit autonomy-supportive behaviours whereas an obsessive approach tends to produce controlling behaviours. Importantly, athletes were happier and formed a more positive perception of their relationship when coaches engaged in autonomy-supportive behaviours (Bolter, & Weiss, 2013; Jones, Housner, & Kornspan., 1997; Kenow, & Williams, 1999).

Although the literature has been emphasising the importance of the psychological bond between coaches and athletes, it would be fair to suggest that practical implementation of the psychological aspects of coaching have not yet become important aspects of coach training programmes (Lyle, 2002; Mottaghi, Atarodi, & Rohani, 2012; Thelwell, et al., 2006). To take an example from my personal experience in the Kuwaiti setting studied in this thesis, the curriculum used for coach training by the Kuwait Football Federation (accredited by the Asian Football Confederation) focuses almost entirely on the tactical aspects of the game, and

theoretical and practical game training. In terms of player health, there is a basic mention of the importance of proper nutrition, but nothing on players' psychology. The complex nature of the links between how players perceive coaches' input, how anxious they feel while performing, and how these are mediated by their sense of competency is not featured. Thus, the training programme is missing out on key means of improving how the sport is coached.

In view of the importance placed in the research literature on the coach-athlete relationship and the athletes' perception of the relationship, the present project's investigation using the construct of sporting self-efficacy can provide a simple and unifying theme. The present results clearly show that players' impressions of coaches are linked to their performance anxiety and its interpretation, and that this is mediated by players' sense of self-efficacy. Emphasising the need for coaches to nurture and develop players' self-efficacy could capture a number of themes arising in the literature in a simple but powerful framework. High self-efficacy promotes confidence and preparedness to be autonomous. If coaches focused on developing players' self-efficacy, they would be steered in the direction of the autonomy-supportive behaviours shown by Lafraniere et al. (2011) in coaches with harmonious passion for their sport. Also, high self-efficacy is associated with lower somatic anxiety and with a more facilitative interpretation of anxiety. Thus, focusing on enhancing athletes' self-efficacy has the benefit of also lowering anxiety and improving coping. The results associated with self-efficacy obtained in this thesis can also capture and simplify the complexities of coach-athlete relationship discovered by Nicholls et al. (2016). In that study, closeness and commitment in the coach-athlete relationship were shown to sometimes have the opposite effect on athletes' perceptions of challenge and threat.

Thus, it can be difficult to characterise the coach-athlete relationship in a way that it predicts the effects on athletes in a consistent way. Focusing the relationship and its quantification on athletes' self-efficacy can be a more reliable approach because of its focus on the impact rather than the specific nature of the relationship.

It is clear from both the existing literature and the new insights achieved in the present results that there would be considerable benefit in training coaches to be aware of their effects on players' psychology, in particular their self-efficacy. The original motivation for the work carried out in this thesis came not from the literature but from my own experiences in an eight-year career as a club and national team player in Kuwait. In that time, I witnessed little local coaching emphasis on the psychological aspects of the game. The coaches focused on preparing players physically and tactically for matches. Even so, periods of time playing under renowned international coaches showed me how seriously those coaches approached the psychological factors in game performance. For example, Berti Vogts (World Cup winner as player, 1974, and Euro winner as Germany coach, 1996), who managed my Kuwaiti national team in 2002 emphasised putting psychological pressure on the opponents by demonstrating offensive intent early in the game (e.g., by driving the ball forward at kick-off). Also, Dušan Uhrin is a Czech and Slovak football coach and former player. He coached the Czech Republic national football team at the 1996 UEFA European Championship, where the Czech Republic were runners up. He also coached Kuwait between 1999 and 2001. He emphasised that having the motivation and desire to win can be more important than some football skills, and that psychological strength and resilience can be the key to success. As another example, Paulo César Carpegiani (played for Brazil and coached Paraguay 1996-1998 in world cup), who coached the author's Kuwait

team in 2003, repeatedly emphasised ‘personality’. When I asked him about the link between football and personality, he said that sometimes games can be won not through tactics or game strategy but by strong personalities imposing themselves on the game. This conversation was a key inspiration behind my eventually pursuing the present line of research.

What these anecdotes acknowledge is that top-flight coaches are well aware of the psychological aspects of game performance, and how to wage psychological war on opponents to gain competitive advantage. These stories also highlight that these coaches express their psychological insights in highly individual ways. The present research focused not on the psychological aspects of competing with opponents (which are ultimately part of game strategy), but on the psychological links between players and their own coaches. In particular, it uncovered the potential benefits of teaching coaches that players’ perceptions of coaching are linked to their performance anxiety and the extent to which anxiety is facilitative or debilitative. Even more subtly, the present research clarified the key role played by players’ sense of self-efficacy. Establishing the effort to nurture players’ self-efficacy as a key goal of the coach-player relationship can also be a simpler and more effective means of enhancing the quality of the relationship without being caught up in the complexity of how to define the most productive type of relationship.

The first point coming out of the present research that could be emphasised in coaching training is that, depending on level, players’ positive regard for some dimensions of coaching effectiveness is linked to the level of performance anxiety. It could be argued that it is a matter of common sense that players who are not finding their coach’s input

helpful are likely to be more anxious in performance. However, the relationship found here is more subtle. At the highest professional levels of the game, high regard for coaching input relates to reduced somatic anxiety and a more facilitative interpretation of the anxiety. At lower, semi-professional or amateur levels, however, favourable evaluation of coaching input was found to relate to elevated cognitive anxiety and debilitative interpretation of it. Thus, coaching training could raise the awareness that the relationship between players' perception of coaching effectiveness and their anxiety can be quite different depending on the level at which the coach is operating. This links with the discussion of coaching context in Côté and Gilbert's (2009) definition of coaching effectiveness. Just the knowledge that elevated anxiety can accompany coaching input that is well-received by players can help coaches tailor their input and player management depending on the level of competition at which they are coaching. This links to the difference between harmonious and obsessive passion in coaches highlighted by Lafraniere et al. (2011), as a coach can bias their own behaviour towards autonomy-supportive behaviours that would enhance self-efficacy but not pressurise players into a negative anxiety state and interpretation.

The link between how players perceive coaching and how anxious they feel in performance was found to be partially or in some cases fully mediated by players' self-efficacy. Training coaches to understand what self-efficacy is, how to estimate it, and how to develop it across a longer time period may be the single most important recommendation that the present work can make. Working on players' self-efficacy must be a sustained activity that could be difficult to prioritise among pressing demands of a series of competitive fixtures. The results of individual games, training sessions, and selection decisions, all accumulate under a player's sense of self-efficacy

within their team settings. How to fight against the negative effects of setbacks in these things on valued players' self-efficacy might be the most difficult challenge faced by a coach. At the very highest levels, there are well-publicised instances of coaches taking steps to shore up players' confidence through a period of lack-lustre performances (e.g., Pep Guardiola's communication with Raheem Sterling during the players' difficulties in Euro 2016 – Taylor and Fifield, 2016). Awareness of the effects of players' self-efficacy should be widely taught in coaching training, and instruments should be developed to enable coaches to estimate it.

Appointing coaches and setting their aims and objectives

Bringing a coach to a competitive club is an important decision for management, and it is clear that a coach's tactical success, record of building up players' skills, and training players how to win ought to be among the key criteria. The present study highlights the importance that should also be placed on how a coach affects the players psychologically. These results show that players' impression of coaches' input is inversely linked to their performance anxiety and that this relationship is mediated by players' sense of self-efficacy. Assuming that lower anxiety in players is a desirable goal, the present results suggest that this goal can be better achieved by valuing the development of players' sense of self-efficacy.

A player's sense of self-efficacy develops over a longer period of time and is longer lasting than the immediate psychological effects of specific game outcomes. So, it needs to be nurtured over time, even during periods when the player is not as effective as expected, is injured, or is facing other challenges. Nurturing self-efficacy is not the

same as setting the strategy for specific games and applying the necessary pressures on players to implement strategy and display their capabilities.

In the professional setting, the direct relationship found between players' self-efficacy and their perceptions of coaches' effectiveness suggests that players' acceptance of a coach and their perceptions of benefitting from coaching are improved when players have high self-efficacy. Thus, the extent to which a coach would develop players' self-efficacy should be prioritised in the context of making coaching appointments of medium to longer term duration. The results showed that at the professional level the inverse relationship between the game strategy dimension and somatic anxiety is partially mediated by self-efficacy. The positive relationship between coaches' game strategy input and players' self-efficacy suggests that the role of coaches' game strategy input in reducing players' somatic anxiety is enhanced where self-efficacy is high. So, the more highly the coach helps players regard themselves, the more the game strategy input is linked to lower somatic anxiety in players. Thus, nurturing players' self-efficacy benefits both their regard for coaches and relaxes them in performance. Also, in the case of professionals, the relationship between their views of coaches' game strategy input and the extent to which somatic anxiety is debilitative or facilitative was found to be fully mediated by players' self-efficacy – high self-efficacy linked highly rated game strategy input to a more facilitative interpretation of somatic anxiety. Thus, nurturing high self-efficacy enables coaches to develop players who can better harness the nervous energy associated with competitive performance.

In the case of semi-professionals, the links between players' perception of coaches' game strategy input and somatic anxiety and its facilitative/debilitative interpretation

were similar to those seen in professionals. The group differed in the links found with players' cognitive anxiety–high rating of coaches' game strategy input relative positively with the level of cognitive anxiety experienced during performance. Highly rated game strategy input was also positively related to a more debilitative interpretation of cognitive anxiety. Both these relationships were mediated by players' self-efficacy such that higher self-efficacy players were more prone to higher cognitive anxiety and its debilitating effects. Also, semi-professional players' self-efficacy related negatively to both their perception of coaches' motivation input and their somatic anxiety. These data show the psychological aspect of coaches' challenges can differ between professional and semi-professional settings. As previously discussed, these results may be indicating that higher self-efficacy players in the semi-professional setting may place greater value in coaches' game strategy input just like their professional counterparts, but this is accompanied by an increase in cognitive anxiety. Thus, coaches working in semi-professional settings should be assessed on the extent to which their input does not over-burden their most confident players. This suggestion links with the importance placed on coaching context by Côté and Gilbert (2009). The semi-professional setting studied in this thesis has a record of employing elite coaches from European or South American settings in the hope of enhancing performance in the top league. Such coaches can bring advanced game-strategy and teaching technique to a semi-professional setting, but their style has developed through playing in and coaching elite football at the highest level. The present results show that their effect on semi-professional players' mental state may not be entirely positive. It could be a case of insufficient adjustment to a significant change in coaching context.

Developing self-efficacy – a role for reflective practice

The results of the present studies consistently show that developing players' sense of self-efficacy would have major benefits in how well players receive coaching input as well as in reducing the level of anxiety they experience in competitive settings. By definition, self-efficacy is more than just the level of faith in oneself. It includes knowledge of having the specific competencies needed for the task (Beattie et al., 2014; Manzo, et al., 2005; Morris, & Summers, 1995), and the belief that this knowledge will be possible to apply under pressure. The distinction between self-confidence and self-efficacy is important in terms of the impact that social influences or life experiences can have. A heavy dose of praise from peers and coaches may boost confidence, and so can positive competitive results. These influences do not address the players' competencies on an item-by-item basis. It is also possible to receive a lot of positive feedback after match incidences and outcomes that were favourable, but not necessarily as a result of the individual's competencies being put into action.

The point is that general praise or encouragement, which all coaches are inclined to give a player who works hard, may not be a specific enough tool to effectively develop the player's self-efficacy. A process for systematically linking events and outcomes to the players' contribution and to their use of particular competencies is needed. The more consistently such a process is carried out, and the more the coaches can contribute to this, the more effectively training and competition experience can affect a player's self-efficacy. The processes by which athletes interpret their sporting experience can be of crucial importance in this context.

A number of studies have investigated the stages of processing that athletes go through following sporting experience (Hanton, Cropley, & Lee, 2009; Hanton, Cropley, Neil, Mellalieu, & Miles, 2007; Thomas & Hanton, 2007; Wadey & Hanton, 2008). Thomas and Stanton (2007) interviewed athletes regarding the anxiety symptoms they had experienced over a period of competition and queried them on the psychological strategies they had used to deal with them. Wadey and Stanton (2008) noted players' use of strategies such as goal-setting and imagery to move their interpretations of anxiety symptoms in a more facilitative direction. Hanton, Cropley, and Lee (2009) used composite sequence analysis to study the process of interpretation players went through following competitive experience. Hanton, Cropley, and Lee (2009) and Hanton et al., (2007) proposed the use of reflective practice as a framework through which players can grow awareness of their own psychological responses and build up techniques for more effective coping. Although these studies focused on processing athletes' anxiety-related symptoms and experiences, a suitably designed programme of reflective practice that also extended its scope to positive competitive experiences may be an effective methodology for systematically developing self-efficacy. I discuss possibilities for research on such methods in the future research section below.

LIMITATIONS AND FUTURE RESEARCH

The present study was able to obtain and analyse data from reasonably sized samples that would ordinarily be very difficult for researchers to access. Nonetheless, there were some limitations that are important to acknowledge and discuss. First, the professional and semi-professional players who participated in the study were drawn from two different cultural settings. Professional footballers in English leagues are of

nationally and culturally diverse origin, but they operate in a highly standardized training and competitive environment that is similar to other major professional settings around the world. The semi-professional players in the study were from Kuwait, which is culturally different from England in more ways than the level of football professionalism. Factors such as differences in attitude towards authority, cultural views of psychological states such as anxiety, and expectations in terms of how anxiety should be managed, may have played a role in the results obtained. For the semi-professional group, the intention was to study a setting in which the highest level of football was semi-professional. It might have been possible to collect such a sample in a handful of small European nations, but my contacts only made it possible to take a middle-eastern sample.

For future research, wider and more diverse sampling would be helpful for testing the robustness of the obtained results. Professional football has its own unique history and culture in the major football nations (both European and South American), so studying the links between how players perceive their coaches and their self-efficacy and experience of performance anxiety will show whether the mediation effects observed here are situation-specific or relatively uniform across settings. Also, as mentioned, semi-professional football combined with international level competition occurs in a number of European settings (e.g., Iceland or Malta), so it would be useful to compare results obtained in these settings to the results found here from the Middle East.

Second, due to the challenging nature of gaining access to professional and semi-professional footballers for the purpose of psychological testing, sampling for both groups in this study had to be opportunistic in following the author's contacts, and

contacts of contacts. This method is not as desirable as random sampling, but the latter was simply not feasible in this case. Future studies could aim for larger samples, with more random selection of participants.

Third, the investigation of offensive and defensive roles in this thesis was confined to outfield players and group assignment was done on the basis of coaches' classification. This work found some important psychological strains that affect defensive players that may not be as intense for offensive players. I suggested that defensive players' psychology may be affected by a mindset of loss aversion (Hochman & Yechiam, 2011; Kahneman & Tversky, 1992). However, this thesis did not consider the playing position that may be most strongly affected by loss aversion psychology – the goalkeeper. Goalkeepers are the most exposed players in terms of mistakes leading to significant and memorable adverse events in competition. Even a single high-profile event of this kind can have a detrimental effect on a goalkeeper's entire career trajectory. Future studies should consider goalkeepers' psychology specifically. The extent to which loss aversion plays a role and whether goalkeepers are aware of such mentality in themselves should be investigated. Future work should also develop methods by which goalkeepers' sense of self-efficacy can be developed and their ability to cope with adverse events can be increased.

Fourth, the present study focused entirely on psychological measures, and did not relate perceived coaching effectiveness or performance anxiety to the match results obtained during the season of research. In interpreting the results, the assumption is made that lower performance anxiety is desirable, as is higher perceived coaching effectiveness. It would be important in future studies to consider the extent to which

these assumptions are justified in terms of actual results on the pitch. Such work would need to be done over longer periods of time so that relationships between psychological indicators such as perceived coaching effectiveness, self-efficacy and performance anxiety and competition results could be tracked over the course of one or more seasons.

The present project focused completely on football players' ratings of coaches and their own self-efficacy and anxiety. Intuition suggests that players and coaches form mutually influential groups but this thesis did not study the coaches' side of the relationship. Players' sense of their coaches' effectiveness has been useful to study in this project, but coaches' sense of their players' effectiveness in learning and implementing training could also be very informative. It may well be that individual players' view of coaches is sensitive to coaches' views of them, and how this relates to players' self-efficacy and anxiety could be extremely helpful to discover. Similarly, coaches' sense of self-efficacy and coaches' anxiety state during competitions could be useful to study in terms of how they relate to the players' psychology that was studied here.

Finally, future research should focus on practical methods and training systems that can be used to develop players' sense of self-efficacy. I have suggested that structured reflective practice (Hanton, Cropley, & Lee, 2009) is adapted to include not just evaluation of the psychological experiences of competition, but also specific work on how the player relates events and outcomes during competition to their own competencies. The most effective way of doing this might require a structured approach to reflection in which the key competency areas are linked with events during

competition. Also, a system should be produced and researched that would help players develop a sense of how their competencies are changing and growing over time. This could be assisted by the use of video analysis not just for the investigation of errors, but also for observing and recording how the players capabilities are developing through successful competitive or practice events.

CONCLUSION

The goal of this thesis was to explore the link between how football players perceive their coaches' effectiveness and how they experience and interpret competitive anxiety. The key aspect of the project was to measure and link players' sense of football self-efficacy to these perceptions. Players' self-efficacy was given central importance in this work because it was expected that self-efficacy could be a construct that mediated between perceptions of coaching and experiences of competitive anxiety. The results showed that this expectation of mediation was well-founded. Self-efficacy partially, and in some cases fully, mediated the relationship between how players viewed their coached input and how they experienced and interpreted anxiety. The results suggest that it could be highly beneficial to focus coaching and management attention to tracking and developing players' sense of self-efficacy. Developing methods with the goal of building self-efficacy would improve how players receive their coaches' input and reduce the level of competitive anxiety they experience. Importantly, focusing trainers' and managers' efforts toward the measure of self-efficacy can have both psychological and technical developmental benefits. Self-efficacy is essentially an awareness of one's specific athletic competencies, and therefore it can only be developed in conjunction with the abilities in question. Thus,

technical training and reflective practice aimed at building awareness of competency development can be training activities that build on each other to produce long-term sporting and personal benefits. Future research should develop protocols for regularly measuring self-efficacy and engaging in reflective practice in which players examine both how their competencies related to competitive events as well as how their psychological state (e.g., anxiety) affected performance.

In conclusion, the new and significant contributions of this thesis were:

1. To study, in the context of football in Kuwait, the psychological variables of perceived coaching effectiveness, self-efficacy, cognitive and somatic anxiety and their facilitative/debilitative interpretation in professional and semi-professional players
2. To show that, in this sample of advanced adult players (rather than youth or amateur athletes), self-efficacy has a strong relation with players' anxiety and how they perceive their coaches' effectiveness. Specifically, to demonstrate that self-efficacy partially or fully mediates the relationship between perceived coaching effectiveness and anxiety variables.
3. To suggest to the football coaching organisation in Kuwait specific practical means by which developing players' self-efficacy could be a focused and effective coaching strategy to lower players' performance anxiety (particularly their cognitive anxiety) and improve their acceptance and opinion of the coaching input they receive.

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