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**ATHLETE BASIC PSYCHOLOGICAL NEEDS AND
COACHES' CONTRIBUTIONS TO THEIR
SATISFACTION: A CASE STUDY OF A HIGH-
PERFORMANCE SPORTS TEAM**

A thesis presented in partial fulfilment of the requirements for the degree of

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ABSTRACT

A significant and robust body of research has led to a general consensus that sports coaches play a significant role in influencing a range of athlete experiences and outcomes. In this regard, self-determination theory and basic psychological needs theory (Deci & Ryan, 1985) are two major frameworks within which to consider and understand human motivation, psychological needs, performance and well-being. The primary aim of this study was to investigate athlete perceptions of and experiences regarding their basic psychological needs and to examine their coaches' contributions towards meeting such needs within the context of a high-performance sports team. The team concerned involved female athletes competing within a New Zealand national competition. A wider purpose was the projected intention of identifying practical insights for coaches into high performance athletes' basic psychological needs, based on (1) athletes' interpretations of how coaches impact on their need satisfaction through need-supportive and need-neglecting behaviours, and (2) how athletes experience each of the needs within the bounds of a team setting.

Given such objectives, the investigation utilised a qualitative case study approach that involved participant interviews and extended researcher observations of team activities encompassing meetings, practices and games throughout a seven-month (playing season) period. The observations undertaken sought to provide a fuller understanding of the context of the case being studied, as well as providing the researcher with a rich exposure to relevant coaching attitudes and behaviours and athlete responses to these, with such elements underpinning the perceptions adopted and their expression by the athletes.

Utilising interpretative phenomenological analysis as the analytic method (Smith, 1996), the data revealed the athletes' perceived importance of experiencing satisfaction of their basic psychological needs within their team environment. Furthermore, the data identified coaching attitudes and behaviours that the athletes perceived as supporting and those that they perceived as neglecting of such needs. The behaviours observed were consolidated into themes that coaches might utilise or avoid when working with athletes in a high-performance context.

The findings obtained extend the extant literature in a number of ways. Firstly, they deepen an understanding of the significance of basic psychological needs to athletes within a high-performance sport environment. Additionally, they pull together a number of distinctive coaching behaviours that were identified by participants as being need-supporting or need-neglecting in their effects. Furthermore, various attitudinal elements, such as trust in the coach, were identified as influencing the ways through which the athletes interpreted their coaches' contributions to supporting or neglecting their personal psychological needs.

The study design capturing unique elements of a specific case restricts any extended generalisation of the findings. However, it is important to note that the focal point of athletes' perceptions of coaches' attitudes and behaviours in relation to basic psychological needs universally held and experienced (Deci & Ryan, 2000) enables the potential for degrees of relevance across settings. Given the specifics of the participants and the setting, this relevance is particularly likely in regard to female high-performance athletes operating within a team context. The conclusions can enhance an understanding of the importance of basic psychological needs for athletes in high-performance settings and even more widely, and the various ways through which coaches attitudinally and behaviourally can support or neglect the satisfaction of such needs.

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To my parents, Russell and Lois Wood, I hope that Michelle and I can provide our kids with the opportunities that you gave me. Words cannot express how thankful I am for your love, support and encouragement over the years.

Michelle, where to start... you not only took up the slack at home when I was writing, reading or working on this project, but you constantly encouraged me to pursue things that excite me. You are at the centre of everything and inspire me to work hard and enjoy life.

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CHAPTER ONE

INTRODUCTION

This chapter introduces the study by firstly recognising the importance of sport in New Zealand and the significance it holds at various levels. It also considers the purpose and rationale of the study, including the researcher's motivation for conducting a study of this type. Finally, the research questions are outlined along with the research principles underpinning the study, with these being elaborated in greater depth within the Methodology Chapter (Chapter 4).

1.1 SPORT IN NEW ZEALAND

Sport fulfils an integral role in the lives of many New Zealanders (Bradbury, 2000; Sport New Zealand, 2018) and holds widespread value at both an individual and national level. At the national level, Sport New Zealand, the government organisation charged with overseeing sport in this country, refers to sport as being “at the heart of our national identity” (2018, para 1). Conducted by that body, the 2017 ‘Active New Zealand’ survey revealed many interesting statistics concerning sport participation rates. The following were highlighted as being particularly insightful in illuminating the prominence of sport in New Zealand (p. 7):

- Ninety-five per cent of young people (5-17 years old) and seventy-three per cent of adults take part in sport in any given week.
- Sixty-four per cent of young people and seventy-four per cent of adults would like to try new sports or do more of an existing one they are involved in.
- Participation rates peak between twelve and fourteen years of age followed by a significant drop between fifteen and seventeen years of age.

An earlier study conducted in 2011 by Sport New Zealand, which included over 17,000 participants (5-18 years old), examined participation rates in youth sport, as well as seeking out what individuals would like to do more of. The study elicited interesting findings that, in a similar way to the more recent study just mentioned, illustrated the central role that sport plays in the lives of young people in particular. Some key findings were (2011, p. 4):

- Seven out of 10 boys (72.6%) and six out of 10 girls (60.3%) reported that they “like playing sport a lot”.
- Very few children said that they “don’t like playing sport” (3.5% of boys, and 5% of girls).
- Around ninety-nine per cent of boys and girls of all ages participated in one or more sport or recreational activity at least once in that year.

In addition to youth, social and lower-level competitive forms of sport (i.e., club/school), professional and elite-levels also receive significant attention and resources in New Zealand. It has been suggested (e.g., Sam, 2015) that success by high profile sportsmen and sportswomen contributed to New Zealand developing a robust identity as a sporting nation. It also appears that, despite the country’s relatively small population, witnessing our athletes achieve success in international competition is important in regard to consolidating the nation’s sporting identity (Grant & Stothart, 2000). In 2015, Dr Jonathan Coleman, in his role as Sport and Recreation Minister, reported that:

Success on the world sporting stage is important to New Zealanders. Sport is part of our national identity, and when we see Kiwis winning we are inspired to get active... It is particularly important at the moment that we encourage our young people to be active and to get involved in sport, with our lives becoming more sedentary and rising

rates of obesity. Our high-performance athletes are great role models, and hopefully their efforts inspire others. (para. 6)

The above stance has been reflected in the regular investment made by the New Zealand government into various levels of sport; with the most substantial investment being at the high-performance level. According to the then Chief Executive of High Performance Sport New Zealand (HPSNZ), Alex Baumann (2014), in the four-year cycle that ended at the Rio Olympic Games, HPSNZ committed close to \$130 million to the national sports organisations that it supports in order to help them achieve success on the world stage. In addition to the above amount, Baumann reported that HPSNZ would have allocated a further \$72 million directly to athletes through various grants and scholarships. More recently, HPSNZ (2016) reported that almost \$250 million would be invested in high-performance sport throughout the four-year cycle between the Rio and Tokyo Olympic Games.

As a result in part of the rapid growth in prominence of sport in recent decades, there are a growing number of scholars and researchers who are dedicating their time to exploring and enhancing our understanding of various areas within sport and exercise settings. Such growth has been manifested in a robust body of international literature exploring a vast array of issues and concepts pertinent to sport. The works that are relevant to the current study are explored and considered in Chapters Two and Three.

1.2 RATIONALE FOR THE STUDY

With sport having such significance in national identity, coaching is considered to be a role of societal importance (North, 2017). The role of the coach in sport has evolved over time, with, for example, clear indications of a paradigm shift from its traditional ‘coach-centred’ approach, to one that is more ‘athlete-centred’ in emphasis, seeking to empower

athletes and focusing to a greater degree on their needs (Denison, Mills, & Konoval, 2017). However, with that said, as the commodification of sport grows increasingly (Hassanin, Light, & Macfarlane, 2018), and particularly at the high-performance level, rising levels of pressure involving stress and anxiety accompany this for both athletes and coaches, inevitably impacting on how they behave and interact (Gillet, Vallerand, Amoura, & Baldes, 2010; Matosic, Ntoumanis, & Quested, 2016). This highlights a continuing need to place coach-athlete dynamics, within high-performance environments in particular, under the microscope.

Illustrating this point about pressure effects, around the same time that this present study was being undertaken a number of high profile high-performance coaches working with New Zealand national teams were accused of creating negative cultures, and even bullying athletes, which resulted in Sport New Zealand launching a formal investigation¹ into high-performance environments within various sports. Such an issue underscores the need for high-performance coaches to have a sound understanding of what their roles are in supporting their athletes, both from a performance and a well-being perspective.

In recent years, whilst coaching research has been approached from the perspective of particular disciplines, such as pedagogy (e.g., Light & Harvey, 2019; Slade, 2015) and physical education (e.g., Wilson, Liu, Keith, Wilson, Kermer, Zumbo, & Beauchamp, 2012), growing attention (see Copley, Thelwell, Mallett, & Dieffenbach, 2020; Griffo, Jensen, Anthony, Baghurst, & Kulinna, 2019) has also emerged within the discipline of psychology focusing on the psychological elements relevant to coach-athlete dynamics,

¹ Interested readers are referred to the Cottrell Report (Stephen Cottrell, Elite Athletes' Rights and Welfare, 5th November, 2018), available for download from the Sport New Zealand website (<https://sportnz.org.nz/assets/Uploads/Elite-Athlete-Right-and-Welfare.pdf>)

with this being an area of particular interest for the researcher (both in relation to his experience as a coach as well as his work within the discipline of sport psychology).

As is highlighted within the literature review (Chapter Three), such attention has been approached through various psychological lenses, with a robust body of research existing that has drawn on self-determination theory and basic psychological needs theory (Deci & Ryan, 1985). Considered overall, findings in this regard have confirmed that individuals' needs for a sense of competence, relatedness and autonomy (see Deci & Ryan, 2000) play a fundamental role in influencing a range of outcomes.

Sport coaching research has, up until recently, mostly been approached from a positivist perspective (Vella, Oades, & Crowe, 2010), which has advanced knowledge considerably, but, in some ways, has also limited the potential of findings through developing broadly generalisable yet somewhat over-simplified models (Cushion, Armour, & Jones, 2006). Accordingly, there remains limited understanding of the ways through which coaches influence their athletes' experiences from a psychological perspective and, as such, makes this an area that needs fuller investigation both as a focus and in regard to methodologies (Haerens, Vansteenkiste, De Meester, Delrue, Tallir, Vande, Broek, Goris, & Aeltermann, 2018; Keegan, Harwood, Spray, & Lavalley, 2014; van de Pol, Kavussanu, & Kompier, 2015).

Given this need, the researcher was motivated to undertake a study in the domain of coaching focused on self-determination and basic psychological needs theories. This evolved into focusing on a high-performance team setting where attention could be contained within a bounded group involving both coaches and athletes. Additionally, it was considered worthwhile to utilise a qualitative methodology to provide the potential for rich data in relation to the matters under attention. Taken together, the aim became to

conduct a real-world case study exploration of high-performance athletes' awareness of their basic psychological needs for competence, relatedness and autonomy, and the importance to them as athletes of such needs being met. Further, the aim extended to exploring the perceptions of the athletes as to their coaches' contributions in regard to the satisfaction of such needs or to their neglect.

To pursue such aims, a qualitative case study was proposed centred on a high-performance team located within New Zealand. Engagement of the kind desired was explored with the leadership of various sporting organisations and after various meetings, a female high-performance team became opportunistically available and was then chosen for the study. The single gender composition of the team, whether female or male, introduced the need to consider this dimension within the study, which was given due consideration.

The study utilised participant interviews and observations (spanning a seven-month period over a playing season) to seek a greater understanding of;

- (1) The meanings that athletes attached to their basic psychological needs (i.e., a sense of competence, relatedness, and autonomy) being satisfied; and
- (2) how athletes perceived their coaches' contributions to their basic psychological need satisfaction.

Such information was seen as likely to provide rich and informed insights into how athletes within a bounded high-performance team environment interpreted their coaches'² attitudes and behaviours towards meeting their basic psychological needs. Additionally, the study explored athletes' interpretations of their own basic psychological needs to

² A dilemma throughout the thesis is whether to refer to coaches and athletes as singular or plural. Whilst in some situations the choice is obvious as to whether one or multiple individuals are being referred to, there are, inevitably, instances where either usage would apply.

understand how their needs influenced their sport experience in terms of performance and well-being.

1.3 RESEARCH QUESTIONS

The broadly stated intentions just indicated led to the development of the following specific research questions:

1. What perceptions do high-performance athletes have of basic psychological needs (for competence, relatedness, and autonomy) and of the importance of these needs being satisfied within the context of high-performance sport?
2. What coaching behaviours do high-performance athletes perceive as contributing to satisfying their needs to experience feelings of competence, relatedness, and autonomy?
3. What coaching behaviours do high-performance athletes perceive as being neglecting of their needs to experience a sense of competence, relatedness, and autonomy?

1.4 RESEARCH PRINCIPLES

This section provides initial insights into the various dimensions of the research project undertaken; including the philosophical foundations, information about the researcher, theoretical framework, discussion of the employed methodology, selection of the case and data-collection and analysis methods. Whilst briefly introduced within the following sections, each of these dimensions are explored in greater depth within the Methodology Chapter (Chapter 4).

Philosophical Foundations

Overall, this study was approached through an interpretive paradigm, which views knowledge as being socially constructed (Hodge, Henry, & Smith, 2014), and recognises

the active roles of both the researcher and research participants in creating new knowledge (Carless & Douglas, 2012; Howell, 2013). Aligned with the research objectives that involved exploring individual experiences and meanings, the study adopted a relativist ontology that accepts the existence of multiple and fluid realities (McGannon, Smith, Kendellen, & Consalves, 2019). Furthermore, the study was grounded in a subjectivist epistemology that considers knowledge as being subjective and constructed via interaction with others (Potrac, Jones, & Nelson, 2014). The project was designed and executed in accordance with such understandings with these being explored in more detail within Chapter Four (Methodology).

About the Researcher

As indicated above, this study was conducted within the interpretive paradigm involving a subjectivist epistemology, and, accordingly, the researcher's worldview and experiences were central dimensions of the research. Essentially, the research involved the participants making sense of their own experiences as the researcher attempted to make sense of the interpretations they conveyed, which is referred to as a double hermeneutic (Smith, 2011). As such, a fundamental aspect of presenting this type of research involves conveying pertinent information regarding the researcher to inform the reader of the researcher's background, worldview, motivation and underlying assumptions relevant to the particular study concerned.

Over a number of years working as firstly a (NCAA-level) coach in North America and then a mental skills trainer in various high-performance environments in New Zealand, the researcher has been fortunate to spend significant time working with and around highly experienced coaches and athletes. Some of these coaches appeared to be effective in their roles, facilitating and making positive contributions to the satisfaction and performance delivery of their athletes, whilst others showed limitations that, at times,

undermined their athletes' performances and well-being. The researcher witnessed firsthand the substantial impact that the coaches had on athletes' experiences, ultimately influencing positive or negative changes in self-determination. Over time, it became clear that the coaches had a significant impact either way on their athletes, the direction of which was determined by how they engaged and interacted with the athletes and the athletes' personal interpretations of such engagements.

Witnessing coaches influence their athletes in various ways led to the researcher developing a subjectivist worldview and approach to research, where one attempts to explore and gain insights into subjective meanings from the unique perspectives of the participants (Erickson, Backhouse, & Carless, 2016). It was, at least partly, a result of these experiences within coaching that an interest in the field of sport psychology was established and, in particular, a curiosity regarding how athletes interpret and respond to various coaching behaviours. Unbeknownst at the time, this area of study would become a strong professional interest as well as forming the essence of the researcher's doctoral thesis presented herewith.

For the last six years the researcher has worked as a lecturer in sport and exercise psychology at Massey University. Such work, in addition to the researcher's undergraduate and postgraduate degrees in sport coaching, has helped him to develop an extensive understanding of various theoretical models of motivation and the nuanced dimensions of the coaching role, which helped to inform and shape the current study. Whilst experience and *a priori* knowledge are a fundamental aspect of conducting high quality interpretive research (Smith, 1996; Winter & Collins, 2015), ensuring that one does not allow personal biases to negatively impact the data or research process is critical for establishing and presenting trustworthy findings. A number of strategies were

implemented to enhance the rigor of the study and these are outlined within Section 4.7 of the Methodology chapter.

Theoretical Framework

The theoretical framework for this study synthesised elements from self-determination theory (SDT; Deci & Ryan, 1985) and basic psychological needs theory (BPNT; Deci & Ryan, 2000). Self-determination theory (SDT; Ryan & Deci, 2002) is a humanistic perspective of motivation that suggests that humans have innate tendencies to seek growth and development, and, as a motivational framework, this has been widely researched within a number of domains. BPNT is one of six sub-theories of self-determination theory and identifies three basic psychological needs - namely, competence, relatedness, and autonomy - that, when satisfied, are believed to nurture self-determination (Deci & Ryan, 2008b). Over recent decades, elements of both SDT and BPNT theories have been researched in various fields. They have largely become accepted and prominent theories from which we can explore basic psychological needs and how they impact on motivation as well as on various other psychological and behavioural outcomes.

This study looked to shed light on how these basic needs played out within a high-performance sport environment with emphasis on the athletes' individual experiences and interpretations of the coaching contributions they were exposed to. These theories were viewed as being appropriate to draw from to conduct this study due to their broad and holistic nature, as well as their frequent use within the relevant extant literature. Both SDT and BPNT are further explored within the Theoretical Framework Chapter (Chapter Two), including an exploration of their conceptual elements and their place within the overall literature landscape.

Methodology

Given the study's aims and elements, case study methodology was determined to be appropriate and was adopted for the research undertaking. Case study methodology is seen to be appropriate when a researcher is looking to (1) engender multiple perspectives within a particular context (Andrew, Pedersen & McEvoy, 2011), (2) gain rich insights into a particular phenomenon (Yin, 2009), and (3) when understandings would not be revealed or achieved with brief contact (Cassell & Symon, 2004) potentially involving a larger population sample. Accordingly, case study was chosen as an appropriate methodology from which to inform, design and conduct a study that would involve prolonged engagement and offer rich insights into a high-performance team environment in New Zealand.

Case and Participants

The case selected for this study was a high-performance female sports team based in Auckland, New Zealand, which competed in a top-level national competition. High-performance sport involves national-level athletes or athletes that have performed at the highest levels of their chosen sport (Lyons, Rynne, & Mallett, 2012). Treasure, Lemyre, Kuczka, and Standage (2008) described high-performance environments as having, amongst other things, high-level training and competition loads involving high injury risk, as well as high levels of psychological pressure.

It is important to note that not every player within the team had represented the relevant national team, but roughly 60% of them had played for either the national team or a national development team at the time that the study was conducted. The team consisted of fifteen athletes and three coaches (as well as additional support staff not involved in this project), and all agreed to take part in the study.

To protect participants' anonymity as much as possible within a detailed case study context involving personal views and opinions, efforts have been made throughout the study to neutralise indicators that might make the sport itself identifiable or the participants as individuals. Whilst there is a risk that such neutralising of the sport reduces to a degree the vividness of the context, efforts were made to minimise this effect at the same time as striving to ensure some measure of privacy for the participants.

Data-collection

The research made use of two types of data-collection; namely, semi-structured interviews and non-participant observations. The athletes within the team were formally interviewed on two occasions throughout the season to capture their individual experiences, focusing mostly on their basic psychological needs and how they interpreted their coaches' contributions to experiencing feelings of competence, relatedness and autonomy. Moreover, observations of all formal team activities (i.e., team meetings; training sessions; games) were conducted and recorded via field notes. The observations focused primarily on coaching behaviours and coach-athlete interactions, but also attempted to capture nuances of the team environment to contribute a richness to the context and the findings overall, a feature that Yin (2009) highlighted as being a key strength of case study research.

Data-analysis

Given the focus on individual experience, interpretation, and meaning within the study, the researcher decided to utilise interpretive phenomenological analysis (IPA; Smith, 1996) as the framework through which the data were approached and interpreted. As a framework, IPA involves eliciting participants' interpretations of their unique experiences and the researcher making sense of those interpretations (Smith, 2004). Moreover, IPA looks to establish and present both convergence and divergence amongst

participants (Smith, 2011), which allows a researcher to focus on not only shared and common themes, but also highlight and explore divergent and unique experiences, allowing the researcher to tease out and present a range of insights into how the participants interpreted their experiences. Observational data were also drawn on to add further richness to interpretations. Following observations, the researcher's field notes were used for analysis, looking to interpret the environment, through a basic psychological needs theory lens, with particular emphasis on coach behaviours and coach-athlete interactions.

1.5 STRUCTURE OF THE THESIS

This dissertation is arranged into the following nine chapters:

Chapter One: Introduction

This chapter introduces the study overall. It includes a consideration of the rationale for the study, as well as presenting the aims and the targeted research questions. Furthermore, it introduces the philosophical and theoretical frameworks of the study, as well as indicating the methodology and the particular methods employed.

Chapter Two: Theoretical Framework

This chapter unpacks self-determination and basic psychological needs theories to articulate the central theoretical and conceptual elements that informed the study.

Chapter Three: Literature Review

The literature most relevant to the study is reviewed in this chapter. It provides an overview of major resources as well as examining the material most central to the various elements of the study, such as current understandings, cutting edge issues and appropriate methodologies.

Chapter Four: Methodology

The employed methodology and methods utilised are outlined within this chapter to provide an understanding of how the study was designed and executed. It includes an exploration of the philosophical framework underpinning the methodology (involving qualitative considerations, case study and interpretative phenomenological analysis), details of the determined research approach and design, as well as the methods of data-collection and analysis utilised. Additionally, it addresses matters of trustworthiness and credibility.

Chapter Five: Results: Athletes' Perceptions of the Importance of Need Satisfaction

This chapter, the first of three chapters of its kind, initially comments on the overall presentation of the results in relation to the three research questions. Then, findings are presented specific to the first research question in regard to the participants' understandings of the three basic psychological needs (competence, relatedness, autonomy) and the importance to them of these needs being satisfied within their sporting high-performance context.

Chapter Six: Results: Athletes' Perceptions of Coaches' Need-supportive Behaviours

This second results chapter presents the findings relevant to coaching behaviours that were perceived by the participants as being supportive of their basic psychological needs.

Chapter Seven: Results: Athletes' Perceptions of Coaches' Need-neglecting Behaviours

This, the final results chapter, presents the findings relevant to coaching behaviours that were perceived by the participants as being neglecting of their basic psychological needs.

Chapter Eight: Discussion

The discussion chapter brings together the results of the study and situates them within the existing knowledge-base evident within the literature, including where they are supportive of or contrary to previous works, as well as emphasising novel findings for consideration.

Chapter Nine: Summary and Conclusions

The final chapter reflects on the study overall, which includes a summary of its findings and contributions, as well as conclusions able to be drawn from the work overall. Various challenges experienced by the researcher in undertaking the study are specified, along with acknowledging limitations of the study. In conclusion, recommendations are made for future research likely to build on the research undertaken and presented.

1.6 SUMMARY

Sport holds widespread value in New Zealand. As a country, although having scope for improvement, we have consistently high participation rates in youth and social sport, and invest significant financial resources into sport at the high-performance level with the objective of achieving success on the world stage. Continuing to enhance our understanding of the athlete experience and the coaching role in contributing to such experiences is of importance for ensuring that both athlete performance and well-being are nurtured. Coaching involvements span a range of disciplines, such as with pedagogy and physical education, and with psychology emerging as having an increasing degree of importance.

Ultimately, this research study pursued athletes' perceptions of the importance to them of experiencing desired feelings of competence, relatedness, and autonomy within their particular high-performance sport environment. Furthermore, the researcher sought

to capture the athletes' interpretations of their coaches' contributions to supporting or neglecting such needs. Data were collected via semi-structured interviews, as well as through observations being carried out at each formal/official team activity throughout a seven-month period.

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1 INTRODUCTION

This chapter examines the two key theories that informed the study's design and execution. Attention is directed firstly to self-determination theory and then basic psychological needs theory, including unpacking their respective conceptual elements and places within the literature, with these interconnected theories forming the theoretical framework for the study.

2.2 SELF-DETERMINATION THEORY (SDT)

Self-determination theory contributed to the theoretical framework within which this study was designed and executed. As an organismic dialectical perspective of motivation, self-determination theory is grounded in the humanistic assumption that individuals have natural tendencies to grow and develop (Ryan & Deci, 2002). SDT maintains that humans seek growth and are naturally driven towards “engaging in interesting activities, to exercise capacities, to pursue connectedness in social groups, and to integrate intrapsychic and interpersonal experiences in a relative unity” (Deci & Ryan, 2000, p. 229). Put simply, self-determination is considered to be a quality that involves experiencing choice, with a perceived internal locus of control (Deci & Ryan, 1985). Furthermore, in addition to experiencing a sufficient degree of choice, Ryan and Deci (2002) highlighted that this dialectical perspective posits that individuals need to experience a healthy integration with others, and that various social-contextual factors will support while others will undermine, this proposed innate self-determination need.

SDT encompasses six sub-theories with their emphasis largely evident through their descriptive titles; namely, (1) cognitive evaluation theory (CET), (2) organismic

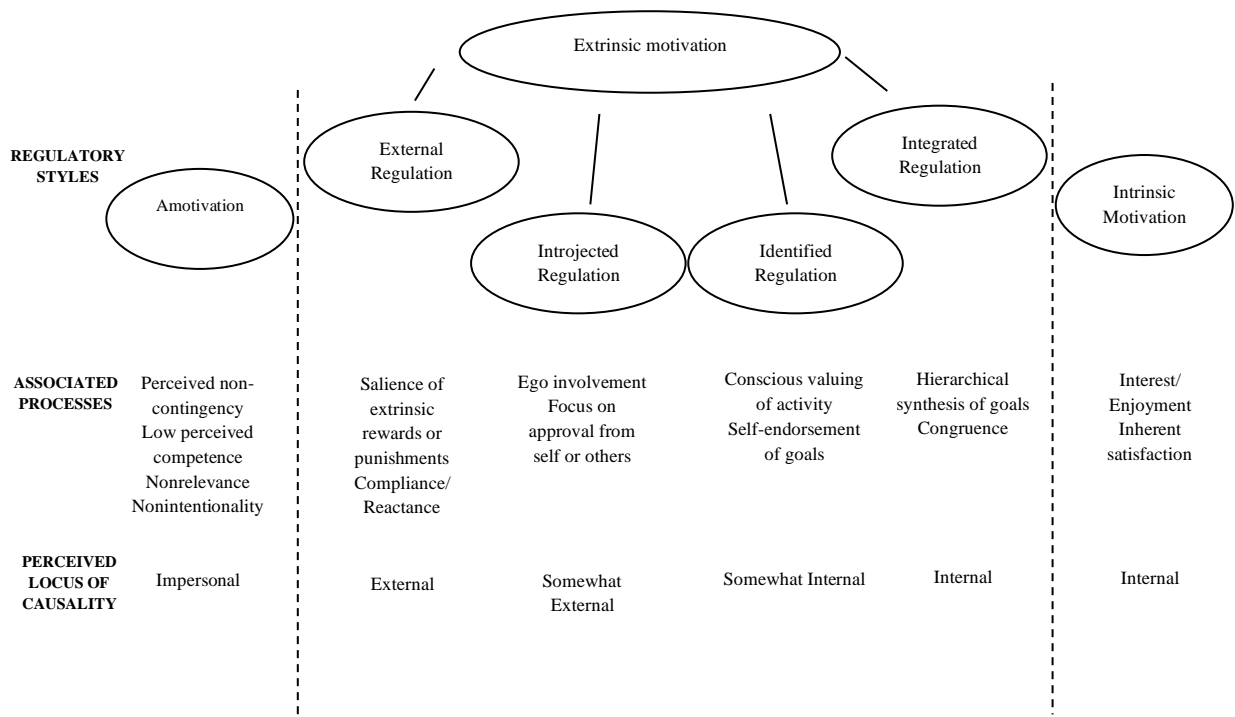
integration theory (OIT), (3) causality orientations theory (COT), (4) basic psychological needs theory (BPNT), (5) goal contents theory (GCT), and (6) relationships motivation theory (RMT). As part of their organismic integration theory, Ryan and Deci (2002) presented a motivational continuum (see Figure 1) and suggested that the various regulatory styles within it (i.e., amotivation, extrinsic motivation, and intrinsic motivation) reflected varying degrees of self-determination. Deci and Ryan (1985) outlined that the various forms of motivation are differentiated by the associated processes and the perceived locus of causality at each level (i.e., the degree to which they are self-determined).

Amotivation is characterised by the least amount of self-determination and, consequently, a lack of drive to continue involvement in a given activity. Such regulation typically results in individuals ceasing a particular behaviour or just passively continuing (Ryan & Deci, 2002). Concerning the various forms of extrinsic motivation, the least self-determined form is external regulation, and this refers to behaviours that are influenced by salient external influences, including rewards and punishments, which are drivers often utilised in sport environments (Vallerand, 2007). Introjected regulation refers to a desire to achieve approval from others and/or to avoid guilt or shame (Ryan & Deci, 2002). Identified regulation occurs when there is a conscious valuing of an activity (e.g., the belief that weight-training will help develop ability as a football player); however, the activity does not hold any inherent appeal (Ntoumanis, 2001b). Integrated regulation involves assimilation between an activity and an individual's sense of self (Ryan & Deci, 2000a). In other words, alignment is established between the activity and one's values (e.g., motivation to exercise due to a perception of being a 'runner') and is, therefore, the most self-determined form of extrinsically regulated motivation.

Finally, intrinsic motivation is characterised by the highest levels of self-determination. Individuals who are intrinsically motivated are seen to engage in activities or behaviours mainly for the inherent satisfaction and enjoyment that the activities provide (Deci & Ryan, 1985). For example, going surfing for the pleasure it brings, or athletes who attend practice because they find it stimulating and enjoy the process of improving, independent of external contingencies, would be considered examples of being intrinsically motivated (Pelletier, Fortier, Vallerand, Tuson, Brière, & Blais, 1995).

Figure 1

Self-determination Continuum (Ryan & Deci, 2000a, p. 61; reprinted with permission)



Deci and Ryan (2008a) advocated that the type, or quality, of a person’s motivation is a greater predictor of important outcomes (e.g., well-being, effective performance, problem-solving, and conceptual learning) than the amount of motivation that they have for a given activity. This notion extends and distinguishes SDT from other theories that view motivation in a more unitary sense, and which are, to a greater degree, concerned with quantifying levels of motivation (Deci & Ryan, 2008b).

Deci and Ryan (2008a) outlined their guiding principles for developing the theory of SDT as being that a useful theory should “(1) [be] broad in scope, (2) encompass a wide range of phenomena, (3) use concepts that have phenomenological or personal meaning, (4) be derived using empirical methods, and (5) have principles that can be applied across life’s domains” (p. 14). Based on this set of principles, it is understandable as to why SDT has received such wide-spread attention within the literature and research activities. The concepts within SDT have been widely tested (e.g., Blanchard, Mask, Vallerand, Sablonnière, & Provencher, 2007; Guay & Vallerand, 1997; Holmberg & Sheridan, 2013; Matosic, Cox, & Amorose, 2013; Schneider & Kwan, 2013) and are supported empirically.

In 1971, the first studies investigating SDT (e.g., Deci, 1971; Kruglanski, Friedman, & Zeevi, 1971) and, in particular, the impact of extrinsic rewards on intrinsic motivation were conducted. The results from such studies found that tangible rewards (e.g., money; trophies) decreased intrinsic motivation, and that positive feedback (e.g., praise; affirmations) enhanced intrinsic motivation. These findings provided some valuable insights in regard to the effect that extrinsic factors have on intrinsic motivation and have subsequently contributed to the on-going questions and directions that psychological research has taken exploring motivation and its related elements (Ryan & Deci, 2002).

Throughout the subsequent decades, the number of motivational studies exploring SDT has grown and the theory has been examined within various contexts; mostly outside of the sporting environment (Goose & Winter, 2012). Various contexts that have been investigated through the SDT lens have included, among others, organisational leadership (e.g., Deci, Connell, & Ryan, 1989; Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001), youth motivation (e.g., Fenton, Duda, & Barrett, 2016; Lepper et al., 1973), social

functioning (e.g., La Guardia, Ryan, Couchman, & Deci, 2000), and education (e.g., Perlman & Karp, 2010; Ryan, Connell, & Deci, 1985).

Since the turn of the century, a profusion of Canadian research (e.g., Guay, Ratelle, & Chanal, 2008; Vallerand, Blanchard, Mageau, Koestner, Ratelle, Léonard, Gagné, & Marsolais, 2003; Vallerand & Ratelle, 2002; Wilson et al., 2012; Wilson, Mack, & Grattan, 2008) has somewhat saturated the field. Considered overall, these studies have posited that the most productive outcomes, within a number of contexts, are achieved when one experiences high levels of self-determined forms of motivation; including intrinsic (e.g., joy/satisfaction), integrated (i.e., involving congruence between identity and behaviour), and identified (i.e., involving conscious valuing of an activity) regulations. As well, such studies have reported that less productive outcomes tend to be associated with extrinsic motivation (i.e., salience of extrinsic factors) and introjected regulation (i.e., ego-involvement), with such findings being largely consistent with the early work of Deci and Ryan (1985).

2.2.1 Self-determination Theory in a Sporting Context

The number of studies within sport settings employing an SDT perspective has steadily increased, and since the early 2000's, SDT research in this context had continued to be conducted and published at a rapid pace (Deci & Ryan, 2008b). Investigations examining the relevance of SDT within a range of sport settings have included the domains of physical education (e.g., Rutten, Boen, & Seghers, 2012; Van den Berghe, Vansteenkiste, Cardon, Kirk, & Haerens, 2014), sport motivation (e.g., Hollembeak & Amorose, 2005), exercise adherence (e.g., Edmunds, Ntoumanis, & Duda, 2007; Kinnafick, Thøgersen-Ntoumani, & Duda, 2014), coaching (e.g., Raabe & Zakrajsek, 2017; Stebbings, Taylor, & Spray, 2011), athlete burnout (e.g., Hodge, Lonsdale, & Ng, 2008; Lonsdale, Hodge, & Rose, 2009), and individual well-being (e.g., Gagné, Ryan, & Bargmann, 2003).

Whilst some motivational theories, such as self-efficacy theory (Bandura, 1977) and achievement goal theory (Nicholls, 1984), have focused mainly on the element of competence and how it relates to motivation, SDT provides a more comprehensive and phenomenological framework within which to examine motivation in a sporting context, as it considers the additional psychological elements of relatedness and autonomy (Frederick-Recascino, 2002). These particular elements, interpreted within the framework of SDT as basic psychological needs, appear to be both ubiquitous and highly relevant within sporting contexts, with Vallerand (1997) suggesting that SDT provides a functional conceptual framework and lens through which researchers can study and further understand key aspects of sport participation.

Much of the research grounded in SDT has been directed at examining environmental factors that might support or undermine individual motivation, functioning and well-being (Ryan & Deci, 2000a). Although some important aspects of motivation are determined by internal factors (e.g., beliefs, cognitions, values), the external environment also plays a central role in influencing motivation (Keegan, Spray, Harwood, & Lavelle, 2010). In a sporting context, a range of external factors can affect the nature of athletes' motivations; including, but not limited to, the behaviour of opponents, teammates, and coaches.

SDT research that has examined external factors and the effects that these have on motivation has typically involved cognitive evaluation theory (CET; Deci & Ryan, 1985), an additional sub-theory of SDT. CET considers various social elements (e.g., coaches/teammates/parents/significant others) and their influence on intrinsic motivation (Ryan & Deci, 2000b). More specifically, it is suggested that the influence of the social environment on intrinsic motivation is mediated by the extent to which it affects athletes' needs for competence and/or autonomy (Goose & Winter, 2012; Matosic et al., 2013).

Whilst it is important to consider various social determinants of motivation, it appears that, given the complex and involved role the coach typically plays in the lives of his or her athletes (particularly within high-performance settings), there is perhaps no more significant social determinant than that of the coach in contributing to, or undermining, self-determined forms of motivation and consequent performance and well-being (Mageau & Vallerand, 2003).

Although there is a growing volume of research applying SDT to the sporting domain, Gillet et al. (2010) reported a paucity of research directly investigating the relationship between motivational variables and performance at the elite (high-performance) level of sport. Due to the reality that performance is a major goal for such athletes, the lack of studies in this regard is somewhat surprising. Whilst, as indicated earlier, SDT encompasses a collection of interrelated sub-theories, including cognitive evaluation theory and organismic integration theory, a particular sub-theory involving basic psychological needs as a major determinant of motivation was considered to contain a focus of particular relevance to coaching, and, as such, it became a key theoretical dimension in this study.

2.3 BASIC PSYCHOLOGICAL NEEDS THEORY (BPNT)

It is proposed in this theory that for individuals to experience self-determination to a satisfactory degree, three basic psychological needs must be satisfied to an adequate level (Deci & Ryan, 2008b). BPNT views specific basic psychological needs as being universal, innate and organismic necessities, with such a proposition differing somewhat from those used in previous theories or disciplines incorporating the notion of needs (Deci & Ryan, 2000). In earlier studies, needs have been viewed more as physiological drivers, such as for food and water (Hull, 1943), or as psychologically acquired motives, such as greed (Murray & Wheeler, 1938), as opposed to innate psychological necessities that are

“essential for ongoing psychological growth, integrity, and well-being” (Deci & Ryan, 2000, p. 229).

Recently, Reeve (2018) differentiated three different types of needs; specifically, physiological (e.g., thirst; hunger), psychological (e.g., autonomy; competence), and implicit motives (e.g., achievement; affiliation). Some theories of needs extend across categories; for instance, Maslow’s (1943) well-known and influential hierarchy of needs identified and included physiological and safety needs as well as more complex psychological needs. Others have particular areas of application and emphasis; for instance, Stevens and Fiske’s (1995) core social motives theory presented five psychological needs that were specifically relevant to social functioning. Various criteria have been established for specifying what exactly constitutes a basic need (see Baumeister & Leary 1995; Kruglanski & Higgins, 2007); including, that the needs should, have wide contextual and universal relevance, direct affective and cognitive processes, lead to ill-being when neglected, direct goal-oriented behaviours, not be a derivative of other needs, affect behaviour broadly, and have far reaching implications.

Dweck (2017), in highlighting tension within the literature about exactly what the basic psychological needs of individuals are (i.e., discerning which needs are basic and which are derivatives of others), proposed new criteria for considering what might be regarded as a psychological need, including the view that “there [should be] a chronic, high, and universal value attached to the goals that serve it, and successfully attaining goals related to that need [should be] important for optimal well-being” (p. 690). Accordingly, Dweck (2017) proposed seven key needs, including three basic needs (acceptance; predictability; competence) as well as four compound needs (trust; control; self-esteem/status; self-coherence). Overall, Dweck’s unifying theory that integrates motivation, personality and development is novel and comprehensive; however, given its

focus on learning and development with infants in particular, as well as its newness at the time of this study, it was not directly employed within the current study.

BPNT was considered to be best suited as a framework for a study with high-performance athletes as it has been highly utilised and accepted within the relevant literature, and the potential impact of this study could be enhanced by exploring a well-known and well-researched theory. Also, as indicated, various theories of needs have been developed; however, the researcher had a particular interest in basic *psychological* needs and outcomes. Furthermore, within BPNT, there is not a specified structure or hierarchy among the needs, with all three considered to be universal and important for optimal functioning (Deci & Ryan, 2008b).

As a humanistic perspective and sub-theory within SDT, BPNT suggests that individuals are naturally geared to strive to satisfy the basic human needs for a sense of competence, relatedness, and autonomy (Deci & Ryan, 2000). Competence can be regarded as the desire to perceive personal actions as being effective and the belief that one has adequate ability to meet challenges faced (Amorose & Anderson-Butcher, 2007). Relatedness is linked to feelings of having a secure connection with and mutual respect for significant others (Adie, Duda, & Ntoumanis, 2008). Finally, autonomy is regarded as experiencing a degree of volition and perceiving oneself to be the initiator of one's actions (Haerens et al., 2018).

Within both SDT and BPNT, these needs are viewed as being essential nutriments that enable individuals to develop and to experience intrinsic motivation and internalisation (i.e., internalising external or socially endorsed elements into personal values), both of which are believed to be essential aspects of well-being (Deci & Ryan, 2000). In highlighting the value of multiple needs being satisfied, Deci and Ryan (1985)

proposed as part of their theory that competence would only nurture intrinsic motivation if it was underpinned by feelings of autonomy. It has also been shown within the literature that these basic needs are interrelated (Deci & Ryan, 1991) and that there is a degree of symbiosis and convergence among them.

Findings have shown that experiencing feelings of relatedness within a team environment may be an important antecedent to feelings of competence (Frøyen & Pensgaard, 2014) and autonomy (Sheldon & Bettencourt, 2002). Additionally, Standage, Duda, and Ntoumanis (2003) suggested that direct links exist between autonomy and relatedness, competence and relatedness, and autonomy and competence. Reis et al. (2000) also found a strong correlation between feelings of autonomy and those of competence; however, the link between relatedness and autonomy was not significant in their study. Such interrelatedness of these important needs highlights the significance of significant others like coaches striving to nurture the needs in combination – for example, striving to develop ‘self-determined competence’ within athletes.

According to SDT (Deci & Ryan, 2000), a four-stage sequence explains the process through which experienced autonomy-support (a concept that will be detailed in Section 3.2.4) can lead to a sense of well-being. SDT posits that a perception of autonomy-support arising from a particular environment will have a direct influence on one’s need satisfaction. When an environment is perceived in a way that is supportive of the need to feel adequate competence, relatedness and autonomy, an individual is more likely to experience need satisfaction in this regard.

It has been suggested (e.g., Keegan, Harwood, Spray, & Lavalley, 2014; Vallerand & Ratelle, 2002) that a relationship exists between such need satisfaction and the nature of one’s motivation. For instance, when a person is provided with an adequate degree of

autonomy (say through decision-making opportunities) in a given activity (e.g., pre-season practices), he/she is more likely to experience self-determined motivation (Deci & Ryan, 2000). In contrast, Lepper, Greene, and Nisbett (1973) suggested that when extrinsic rewards are emphasised, individuals may feel controlled by them, and, thereby, experience a decrease in perceived autonomy and self-determination. Finally, BPNT suggests that need satisfaction, along with the resulting self-determined forms of motivation, will enhance one's sense of well-being.

This hypothesised sequence has been tested in various contexts, including health (e.g., Deci & Ryan, 2008a; Ng, Ntoumanis, Thøgersen-Ntoumani, Deci, Ryan, Duda, & Williams, 2012) and sport settings (e.g., Gagné et al., 2003; Isoard-Gautheur, Guillet-Descas, & Lemyre, 2012) and presents a sequential pattern of how supporting a person's autonomy can, ultimately, cultivate within them a sense of well-being. Due to such work, the outlined sequence has been largely accepted as having relevance for motivation, actions and positive outcomes. However, most studies of this nature have been cross-sectional in design, with few examining the sequence in action over a prolonged period (Stenling, Lindwall, & Hassmén, 2014), which could confirm earlier findings and/or bring about some new insights.

2.3.1 Basic Psychological Needs Theory Research

Studies have investigated BPNT in a variety of settings, including within psychotherapy (e.g., Ryan & Deci, 2008; Vansteenkiste & Ryan, 2013), education (e.g., Molinari & Mameli, 2018; Wininger & Birkholz, 2013), organisational leadership (e.g., Kovjanic, Schuh, & Jonas, 2013; Kovjanic, Schuh, Jonas, Quaquebeke, & Van Dick, 2012), and sport (e.g., Adie et al., 2008; Almagro, Sáenz-López, Moreno-Murcia, & Spray, 2015; Balaguer, González, Fabra, Castillo, Mercé, & Duda, 2012). The basic needs involved in BPNT are viewed as being universal and research has shown empirical links between

their satisfaction and optimal well-being (e.g., Mageau & Vallerand, 2003; Reinboth, Duda, & Ntoumanis, 2004), encompassing subjective vitality, satisfaction, and intrinsic motivation for active sport participation.

Furthermore, in regard to the universal relevance of basic psychological needs, it has been suggested (e.g., Adie, Duda, & Ntoumanis, 2012; Ryan & Deci, 2002) that the needs have applications to psychological health and functioning across various demographics, such as age, gender and culture. However, whilst considered universal in terms of their presence, the relative importance of each specific need and the means through which they are satisfied can vary from person to person and as a function of various key demographics (Ryan & Deci, 200b). Moreover, it appears that the psychological and behavioural outcomes from such need satisfaction may also differ somewhat between various groups.

Some findings have suggested that, in general, females, in contrast to males, have stronger pathways between feelings of relatedness and more intrinsic forms of motivation (e.g., Ntoumanis, 2001a; Stults-Kolehmainen, Gilson, & Abolt, 2013) as well as involving relatedness in terms of vitality (e.g., Adie et al., 2008). Males, on the other hand, report a greater desire for a psychological sense of competency and, in fact, often express higher perceived competence than females (e.g., Noordstar, van der Net, Jak, Helders, & Jongmans, 2016; Ridgers, Fazey, & Fairclough, 2007; Trew, Scully, Kremer, & Ogle, 1999). Furthermore, findings (e.g., Hollebeak & Amorose, 2005; Ong, 2019) have also suggested that female athletes tend to be more intrinsically motivated than males. With that said, however, and regardless of some apparent differences, the proposed links between need satisfaction, once perceived as satisfied (or neglected), and motivation appear overall to be similar and robust between gender groups (Hollebeak & Amorose, 2005).

In regard to research that has examined coaching behaviours in relation to BPNT, the focus has predominantly been on examining two contrasting dimensions; namely, coaching behaviours that are ‘autonomy-supportive’ and those that are ‘controlling’ (Balaguer et al., 2012), which will be explored more fully later. Overall, a growing body of research (e.g., Gagné et al., 2003; Occhino, Mallett, Rynne, & Carlisle, 2014) appears to support the notion that an autonomy-supportive coaching approach is likely to promote a heightened sense of autonomy, as well as leading to a greater sense of relatedness and competence for athletes.

Furthermore, others have investigated the effects of an autonomy-supportive coaching style and concluded that it has a positive relationship to enhanced motivation; specifically, involving increased intrinsic and identified regulations (Gillet et al., 2010). Such an impact may be due to the approach nurturing self-determined forms of motivation and, as such, enhanced self-determination (Halvari, Ulstad, Bagøien, & Skjesol, 2009), as well as greater athlete engagement (Hodge, Lonsdale, & Jackson, 2009). It is believed that these effects are likely mediated by a perceived sense of satisfaction of basic psychological needs.

In contrast, a coach who engages in more controlling behaviours is likely to undermine the satisfaction of the basic needs outlined in BPNT (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011; Matosic et al., 2013). It has been suggested (e.g., Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2011; Deci & Ryan, 2000) that the neglecting of such needs can stifle well-being and motivation, subsequently promoting cognitive and affective patterns that are detrimental to performance, potentially extending also into such dysfunctional experiences as, for example, burnout, eating disorders, and depression.

Considerable research has been conducted exploring aspects of BPNT. Studies have primarily adopted a positivist research lens and have, accordingly, mostly involved quantitative methodologies, and, within relevant fields, utilising instruments such as the Health Care Climate Questionnaire (e.g., Adie et al., 2008), the Sport Climate Questionnaire (e.g., Sheldon & Watson, 2011), the Sport Motivation Scale (e.g., Blanchard, Amiot, Perreault, & Vallerand, 2009), the Leadership Scale for Sport (e.g., Chelladurai, 1984) and the Group Environment Questionnaire (e.g., Carron, Bray, & Eys, 2002). These types of scales provide participants with the opportunity to convey their perceptions and beliefs within a quantitative framework, but, as such, they typically limit the depth of data obtainable. Despite the seeming importance of the theoretical propositions involving basic psychological need satisfaction to individuals operating within sport environments (Reinboth & Duda, 2006), only a limited number of studies (e.g., Cresswell & Eklund, 2007; Frøyen & Pensgaard, 2014; Goose & Winter, 2012; Podlog & Eklund, 2006) have examined this area using qualitative methods. This lack of qualitative studies and consideration of the potential value of such methods to enhance knowledge and understanding will be further addressed in Section 3.4, with a view to supporting the methodological position adopted in this present study.

Both self-determination theory and basic psychological needs theory have become influential perspectives that have permeated throughout various fields of involvement, including both sport coaching and sport psychology, with these being particularly relevant to the current study. Given (1) their frequent use in research involving varied contexts, (2) the relevance of their conceptual elements to sporting populations, and (3) their focus on individual experience along with social and environmental impacts, these theories were considered to be highly appropriate to underpin a study that sought to pursue rich

and meaningful data involving athletes' interpretations of their coaches' contributions towards meeting their basic psychological needs.

CHAPTER THREE

LITERATURE REVIEW

3.1 INTRODUCTION

This chapter reviews the literature relevant to the central elements within this study. It aims to provide an understanding of the current literature landscape, including gaps and recommended areas for growth. The sport coaching literature is examined and critiqued, firstly from a broad perspective, that involves acknowledging various fields that have contributed to coaching knowledge. This is followed by an exploration of some of the more prominent theoretical coaching frameworks that have been influential in the direction of coaching research as well as informing applied developments. Then, given the focus of the study, emphasis is placed on the work and models most relevant to the interplay between coaching elements, motivation, and the satisfaction/lack of satisfaction of athletes' basic psychological needs. Furthermore, consideration is given to the studies that have explored such elements with an emphasis on gender dynamics and high-performance sport environments. The chapter concludes by considering and critiquing some of the common methodological approaches employed in studies of the kind undertaken here within the relevant literature.

3.2 THE COACH

3.2.1 Overview

The premise that coaching is not merely something that is delivered, but rather is a complex and dynamic social activity that involves the active engagement of both coach(es) and athlete(s) has been well-supported both within the literature and in practice (Cushion 2007; Jones, Armour, & Potrac, 2003). Traditionally, the role of the coach was perceived as one in which the coach "simply" observed an athlete's performance, identified areas for improvement, provided feedback and, finally, structured training

sessions to facilitate the necessary improvement (Knowles, Borrie, & Telfer, 2005). A more contemporary perception of a coach, however, is one in which the coach (in addition to being knowledgeable about the skills, tactics and strategies of the particular sport involved) is expected to engage in a multifaceted relationship with each athlete, whilst also creating a social environment where learning and development can take place (Light & Harvey, 2019). Our understanding of the coach and the coaching role is continually evolving and, as with other fields, this has been stimulated by the interrelated aspects of research, education, and learnings from practice, as well as, more recently, through the work of particular scholars (e.g., North, 2017) looking to develop and communicate interdisciplinary frameworks.

Sport coaching research has been approached from a range of disciplinary perspectives; including, coaching and pedagogy (e.g., Kim & Cruz, 2016; Light & Harvey, 2019; Norman, 2015; Pill, 2018), psychology (e.g., Amorose & Anderson-Butcher, 2015; Kao & Tsai, 2016; Preston & Fraser-Thomas, 2017), sport management (e.g., Bradbury & Forsyth, 2012; Johnson, Martin, Palmer, Watson, & Ramsey, 2012;) and sociology (e.g., de Hann & Knoppers, 2019; Hovden & Tjønnedal, 2019; Miller & Hoffman, 2009). In recent times, researchers and authors operating within such disciplines have considered and developed a number of coaching models; including, amongst others, athlete-centred coaching (e.g., Cassidy & Kidman, 2010; Light, Harvey, & Mouchet, 2014; Lindgren & Barker-Ruchti, 2017), relational coaching (e.g., Davis, Jowett, & Lafrenière, 2013; Jowett & Shanmugam, 2016), and positive pedagogy (e.g., Light, 2019; Light & Harvey, 2017), with each model, in its own right, being acknowledged and incorporated within various coaching and educational programmes.

What appears consistent amongst the aforementioned emergent frameworks, whilst also contrasting strongly with more traditional coach-led philosophies, is the proposition

that the athlete should be located at the centre of the process, with value placed on athlete empowerment and the coach-athlete relationship. It is indeed evident when navigating the literature that the various fields of attention have contributed to the advancement of knowledge regarding the coaching role and coach-athlete dynamics by sharing a common purpose, each approaching it, however, through their own unique lens and philosophical position (North, 2017). Given (1) the focus of this present research (i.e., the importance of basic psychological needs to athletes, and coaches' contributions to the satisfaction of such needs, (2) the scope of the above-mentioned fields, and (3) the researcher's desire to consider and acknowledge relevant work, whilst keeping the review as succinct as possible, a selection of prominent theoretical coaching models will be considered that have been influential in shaping current understandings, before shifting attention largely to the coaching literature that has been explored mostly from a psychological perspective.

Although efforts to identify the key elements that contribute most to effective coaching (Gearity & Murray, 2011) have received increasing attention within the literature, there appears to be a notable gap in the extant body of work. Many highly cited studies over time (e.g., Bloom, Durand-Bush, & Salmela, 1997; Gould, Hodge, Peterson, & Giannini, 1989; Nash & Sproule, 2009) have focused on identifying, selecting and elevating 'expert coaches' based on successful results and/or extended experience; but neither of these indicators are necessarily symptomatic of being an effective coach. Furthermore, coach effectiveness appears to be somewhat contextually dependent (Cropley et al., 2020), meaning that what might make a coach effective in one setting, might not transfer to another, even comparable, environment.

Developing an awareness and an understanding of what coaching attitudes and behaviours athletes perceive as being supportive of well-being and performance is an important step towards developing effective coaching practice, as opposed to relying on

win/loss records or longevity in the role as the principal gauges, which have often been used within the literature to portray coaching effectiveness (Berliner, 2001, Mallett & Côté, 2006). According to Gearity and Murray (2011), few studies have established links between specific coaching attitudes and behaviours and how athletes interpret and are influenced by these, usually, instead, focusing exclusively on coach inputs alone (e.g., Becker & Wrisberg, 2008; Potrac, Jones, & Armour, 2002; Smith & Cushion, 2006).

In 2019, a comprehensive analysis of the relevant coaching literature was published (Griffo et al., 2019) that highlighted current research trends; including the growth of qualitative methodologies and an emerging link between the fields of coaching and sport psychology. Such reviews can help synthesise developments over time and thereby advance the field of coaching through creating greater clarity as to what is at the cutting edge of research, as well as highlighting an understanding of what is of greatest relevance to practitioners and educators.

3.2.2 Theoretical Frameworks of the Coaching Role

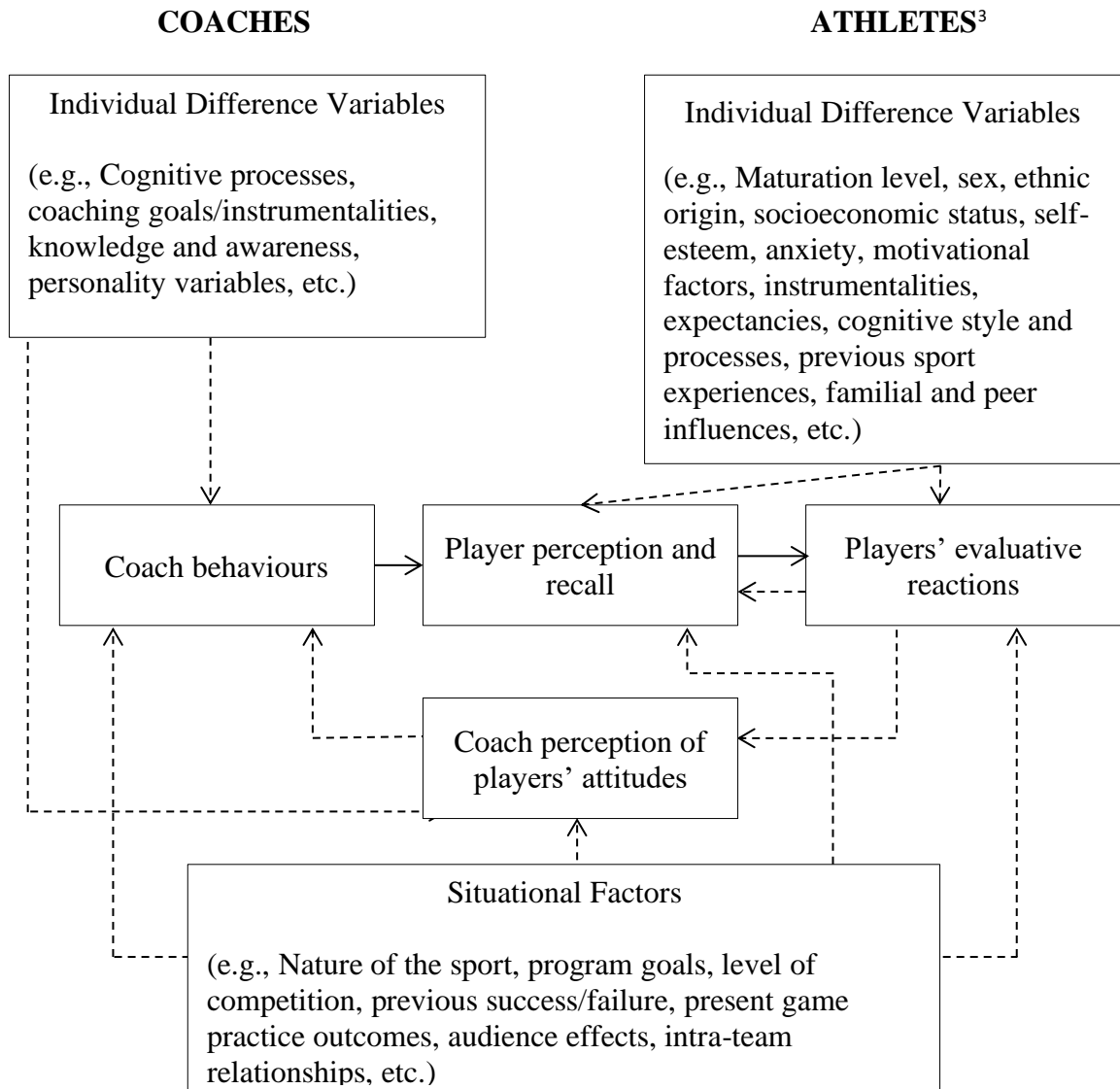
Researchers began to focus intently on coaching behaviour as early as the 1970s, and this was largely approached through a leadership perspective (Jowett & Cockerill, 2002). A number of conceptual models were developed in an attempt to better understand the multifaceted dynamics inherent in the coach-athlete dyad (and similarly as it applies to units and teams). A mediational model proposed by Smoll, Smith, Curtis, and Hunt (1978) was one of the early frameworks utilised to explicate leadership behaviour. This model examined the interrelationship of coaching behaviours, athlete perceptions of such behaviours, and athlete attitudes. The mediational model views coaching leadership through a situational lens, and Smoll and Smith (1989) argued that “a truly comprehensive model of coaching should consider both situational factors and overt behaviours, but also the cognitive processes and individual difference variables that mediate relationships

between antecedents, leader behaviours, and outcomes” (p. 1532). They saw the meaning that athletes assigned to certain coaching behaviours as being produced by cognitive and affective processes that act as filters between the actual coaching behaviours and subsequent athlete attitudes (Smoll & Smith, 1989).

The mediational model (see Figure 2) proposes a complex process through which the effects of coaching behaviours are mediated not only by situational factors, but also by the meaning that athletes attribute to such behaviours (Horn, 2008). This model posits that coaching behaviour is influenced by a coach’s individual difference variables (e.g., personality variables, goals), their perception of their athletes’ attitudes, and by situational factors (e.g., particular sport, level of competition). Furthermore, it is suggested that the enacted behaviours are interpreted by athletes in individualised ways that are influenced by their own personal difference variables (e.g., maturation level, self-esteem, anxiety), and by the situational factors involved.

Figure 2

Smoll et al.'s mediational model of coach-player relationships (1978, p. 530; reprinted with permission)



Mediating evaluative reactions to coaching behaviours are player (athlete) perceptions (i.e., how they perceive a particular coaching behaviour) and recall (i.e., athlete's prior reactions will influence subsequent reactions). In addition, such perceptions and reactions are influenced by athletes' individual difference variables (e.g.,

³ Note that the headings 'Coaches' and 'Athletes' shown here within Figure 2 were not part of the original Figure as presented by Smoll et al. (1978). They had no headings as what was being referred to was evident within the surrounding text. The included headings are to overcome any potential confusion. Also their reference to players within the model equates with athletes.

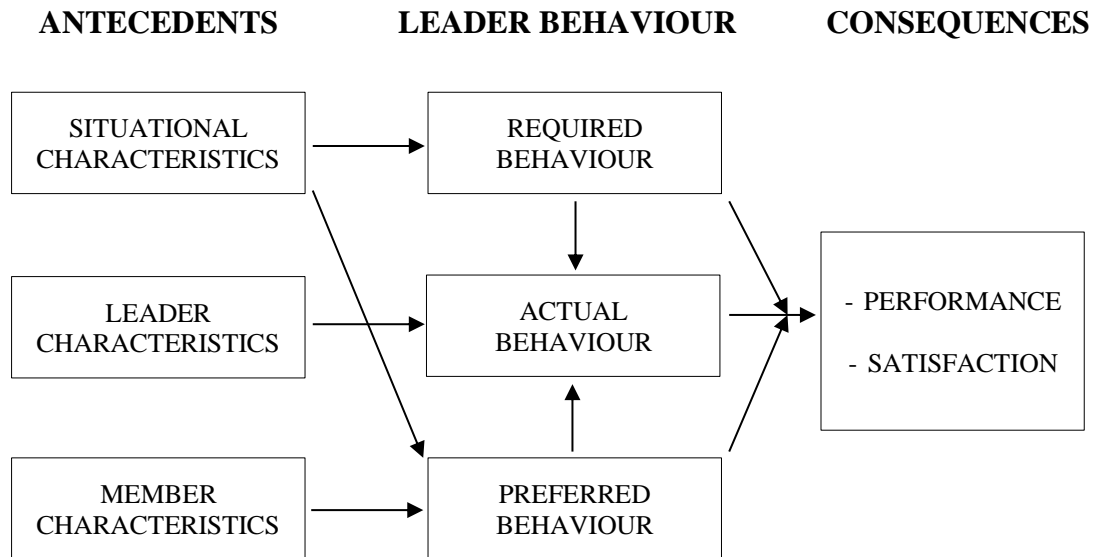
motivational styles, previous experiences) and situational factors. Consequently, in this model, it is suggested that it would be mainly the athletes' perceptions and interpretations of such behaviours that would ultimately determine the impact of coaching behaviours (Smoll et al., 1978), and, this, as such, highlights the potential value in examining athletes' perceptions of coaching behaviour to get a fuller understanding of what is involved.

During the 80's, the seminal work of Chelladurai (1984) was also influential in (1) advancing the research and knowledge of coaching behaviour, as well as (2) shaping future studies. Chelladurai's multidimensional model of coaching provided a model to examine leadership behaviour in a sporting context. This particular model (see Figure 3) highlights three categories of antecedents that will determine leader behaviour; namely, situational characteristics (context and situation), leader (coach) characteristics, and member (athlete) characteristics. The model highlights three areas that should be considered within the literature and practice regarding coaching; namely, (1) actual leader behaviour, (2) required leader behaviour, and (3) athletes' preferred leader behaviour, with the latter extending considerations beyond just examining the behaviours themselves.

It was proposed that the degree of congruence between the three behavioural constructs outlined in this multidimensional model would, essentially, determine the salient outcomes of athlete satisfaction and performance (Chelladurai, 1984; Vella et al., 2010). For instance, if various antecedents conspire together to stimulate behaviour so that the required, actual, and preferred leadership behaviours are adequately aligned, then athlete satisfaction and performance are much more likely to be achieved (Chelladurai & Saleh, 1980).

Figure 3

Chelladurai's multidimensional model of leadership (1984, p. 29; reprinted with permission)



Both the mediational (Smoll et al., 1978) and multidimensional (Chelladurai, 1984) models have been frequently utilised and referred to in studies that have examined the dynamics of coach-athlete interactions (Jowett & Cockerill, 2003), particularly early in the 2000's where research attention became more focused towards the interactional nature of the coach-athlete relationship (Antonini Philippe & Seiler, 2006). It seems that the early coaching research focused predominantly on leader behaviour, adopting a behavioural psychology perspective, with attention mainly directed at what coaches do (Abraham & Collins, 2011; Gilbert & Trudel, 2004; Trudel, Culver, & Gilbert, 2014). However, over time, the evolution of understanding of coaching has led to an acceptance that a 'one-size-fits-all' coaching model does not exist, and it would seem valuable for attention to be directed at variables beyond just leader behaviour.

Although the valuable contributions of the above models to the field are widely acknowledged, they have also been criticised for being limited in scope (Jowett & Cockerill, 2003). Bloom et al. (1997) suggested that these limitations were due to the

models not being able to sufficiently capture the complex nature of the coaching role, and the growing premise that coaching is not something that coaches simply ‘do’. It is argued that the coaching process incorporates more than just enacting various behaviours (e.g., thought processes behind behaviours, emotional responses, cultivating relationships). As a result, in addition to exploring in greater depth the various elements relevant to coach-athlete interactions, over the past decade or so the focus of studies has increasingly shifted from what coaches *do* towards how coaches *think* and *the effects of such thinking* (Knowles et al., 2005; Trudel et al., 2014), and, more recently, on what an athlete learns and their perceptions of their coaches as people and as individuals functioning within a role (Boardley, 2018).

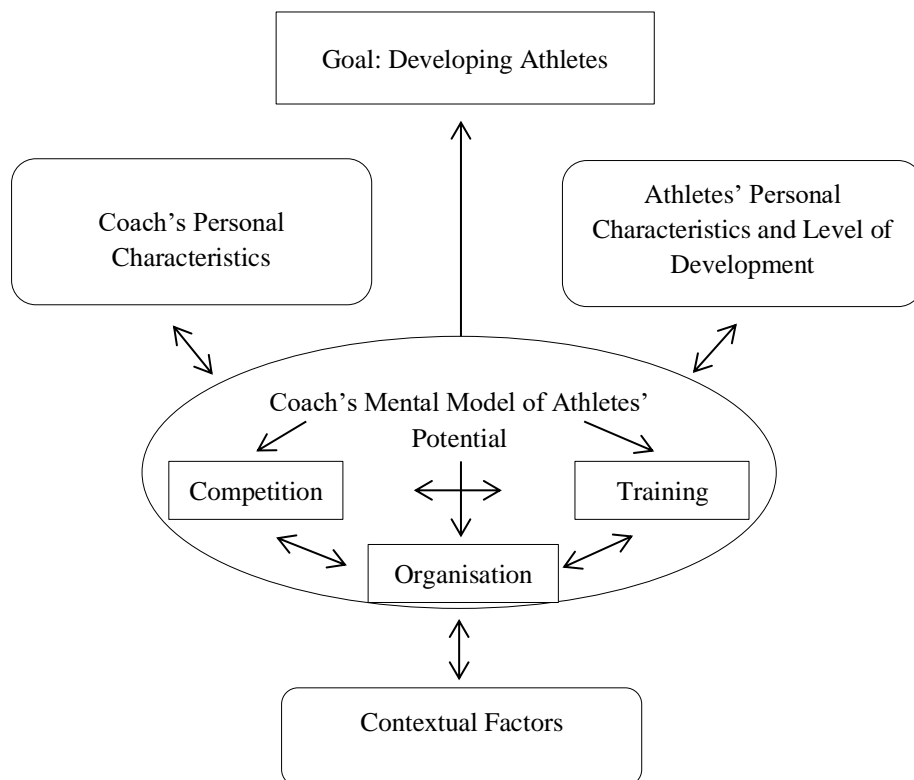
In 1995, Côté, Salmela, Trudel, Baria, and Russell developed their coaching model (CM) that sought to describe a coach’s work, from the coach’s perspective. The CM stipulates that the coaching process is best understood by examining three types of coach behaviours; specifically, (1) training, (2) competition, and (3) organisational behaviours (see Figure 4). This heuristic model is grounded in qualitative inquiry and was developed by interviewing 17 Canadian ‘expert’ high-performance gymnastics coaches (i.e., those with greater than 10 years’ experience and who had produced at least one international- and two national-level athletes) regarding concepts and strategies that they employed in their coaching.

While the peripheral components (characteristics of individuals and contextual factors) in the CM are fairly similar to other models, the mediational model for instance, the inclusion of the central components of (1) organisation (establishing an environment optimal for effective training and competition), (2) training (applying knowledge to facilitate athlete skill development in training), and (3) competition (applying knowledge to help athletes perform in competition settings) distinguishes this particular model (Côté

et al., 1995). Identifying these components makes clear that the coaching role encompasses various modes that may, in fact, require unique and contrasting behaviours (i.e., does a coach engage in the same behaviours within both training and competition environments?).

Figure 4

Côté et al. 's coaching model (1995, p. 10; reprinted with permission)



The coach's mental model of athletes' potential represents the coach's interpretation of what exactly needs to be done regarding organisation, training, and competition for an individual or team to reach its goals (Côté et al., 1995). The model is influenced by a constant assessment by the coach of the peripheral factors, which accordingly, shapes their behaviour. In addition to providing a cognitive framework for applied coaching, the CM also has potential to shape future research by examining the individual components and, additionally, the interplay between them. Since its origins in 1995, the CM has been

utilised as a framework in a number of studies (e.g., Bloom et al., 1997; Din & Paskevich, 2013; Durand-Bush & Salmela, 2002; Gilbert & Trudel, 2000; Jones et al., 2003) exploring the coaching role.

When considering the relevant literature, the models referred to seem to have made valuable contributions to the published coaching works by outlining various dimensions of the complex coaching role. The models have each provided the framework for a number of notable studies; however, as mentioned, the focus they have in common has been largely on coaching behaviour, leaving a need to explore more fully coach-athlete interactions. Accordingly, attention now shifts to a collection of models that have since been developed from subsequent investigations that have shed greater light on how coaches impact on athletes' motivational processes.

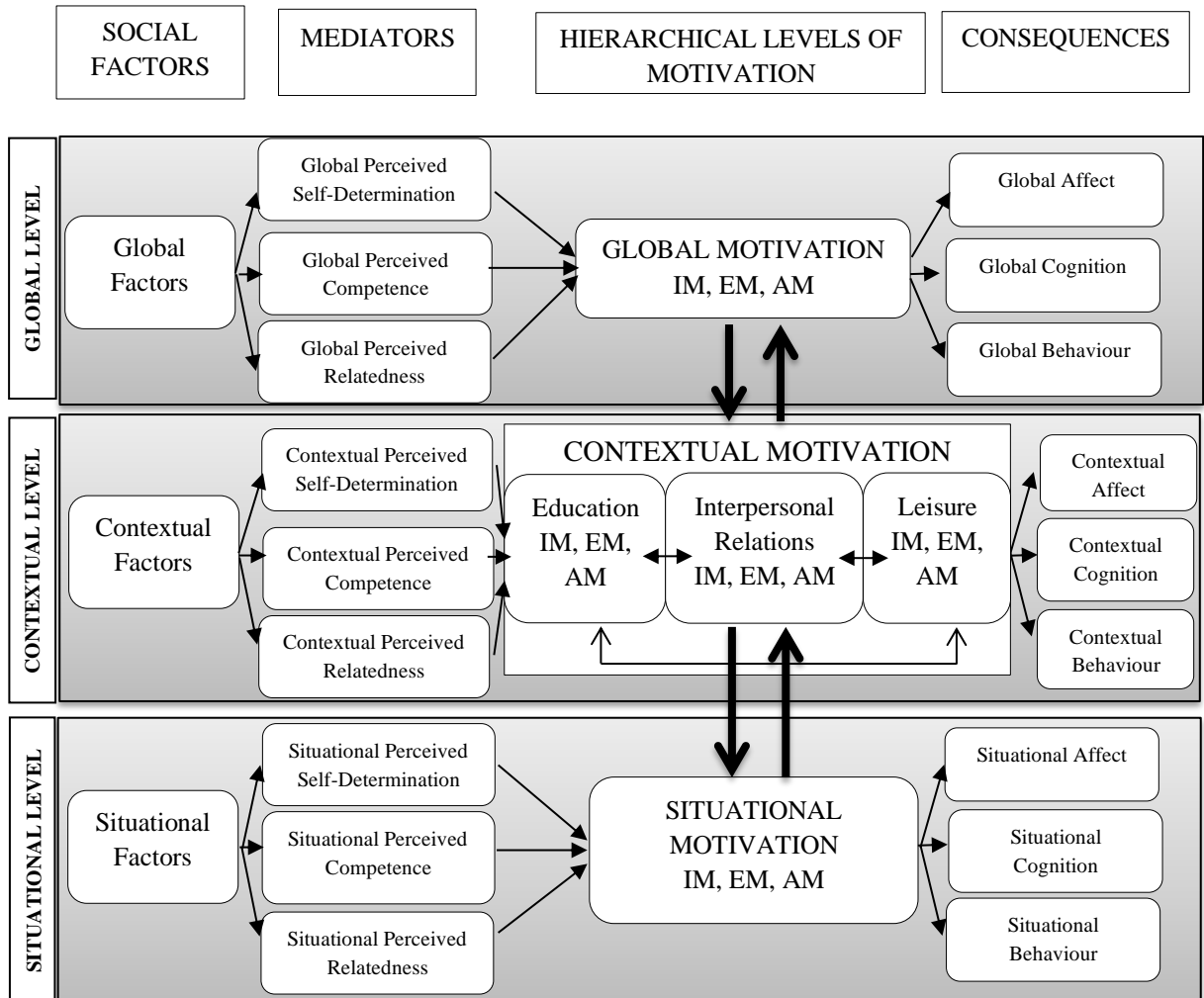
3.2.3 The Coaching Role and Motivation

To this point, the theoretical frameworks discussed have examined the coaching role, largely in terms of enacted behaviours. Given the nature of this present study, a collection of seminal frameworks will be examined that consider the impact and processes within which psychosocial factors and, in particular, the person of the coach, influence the motivation of athletes. Self-Determination Theory (SDT) has been the underpinning framework for many studies investigating how social factors influence individual well-being (e.g., Fenton, Duda, Quested, & Barrett, 2014; Gabriel, Moran, & Brodie Gregory, 2014; Williams, Grow, Freedman, Ryan, & Deci, 1996). In addition it has contributed to the development of various conceptual models in the fields of motivation and coaching research and practice. Two of the more prominent models in this regard have been (1) the hierarchical model of intrinsic and extrinsic motivation (HMIEM; Vallerand, 1997), and, (2) the motivational model of the coach-athlete relationship (Mageau and Vallerand, 2003).

Whilst consistent with self-determination theory, in that it considers motivation from a multidimensional perspective, the HMIEM (see Figure 5) extends the notion by proposing that motivation exists at three interrelated levels of generality (Vallerand, 1997). These are, namely, global (i.e., enduring differences in motivation at the personality level), contextual (i.e., motivation in regard to particular categories including sport, education, work), and situational (i.e., motivation for a specific activity in a given situation – pre-season training, for instance). Vallerand (2000) proposed a causal sequence at each level in which social factors determine psychological mediator variables (i.e., perceptions of self-determination [autonomy], competence, and relatedness), which, in turn, influence the type of motivation one experiences. Finally, the motivational type will determine various consequences in relation to cognition, affect and behaviour. These interrelationships suggest that motivation plays the most direct role in influencing psychological outcomes of affect, cognition, and behaviour (Vallerand, 2000). For instance, experiencing an adequate level of self-determination is likely to lead to engagement in activities for intrinsic reasons, spurred by intrinsic motivation, subsequently promoting positive affect.

Figure 5

Vallerand & Ratelle's hierarchical model of intrinsic and extrinsic motivation (2002, p. 41; reprinted with permission)



The HMIEM has been extensively tested and has been the theoretical framework used in many relevant studies (e.g., Gillet, Berjot, Vallerand, & Amoura, 2012; Gillet et al., 2010; Kowal & Fortier, 2000). A number of researchers (e.g., Guay, Mageau, & Vallerand, 2003; Lavigne & Vallerand, 2010) have tested the degree of influence each level has on promoting change in other levels, and it appears that both top-down (e.g., global motivation influencing contextual motivation) and bottom-up (e.g., situational motivation influencing contextual motivation) effects occur. This is an important notion as it proposes that one's motivation can be influenced directly in a particular context as

well as indirectly via the other levels. For instance, if one were to experience intrinsic motivation at the contextual level (e.g., within their sport environment) as a result of positive and autonomy-supportive coaching behaviours, then they may also experience a greater degree of intrinsic motivation at the global level, and, thus, enhance their overall well-being.

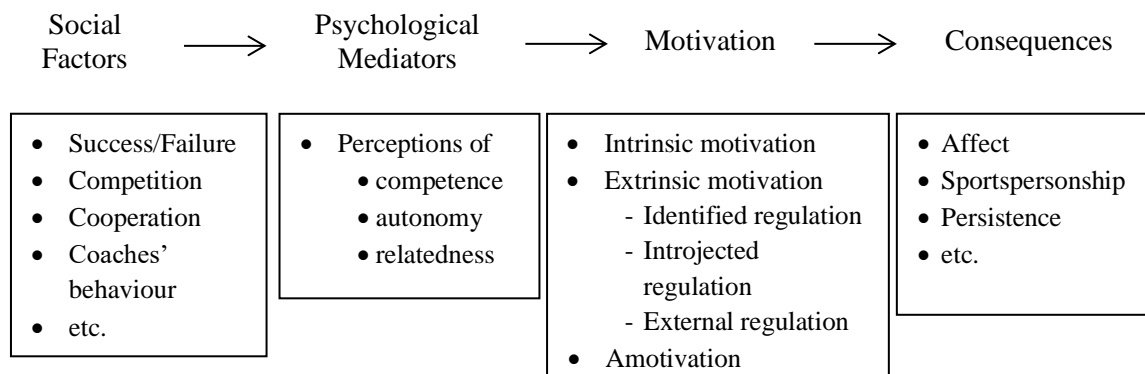
While there is considerable congruence between SDT and the HMIEM, there are certainly variances worth considering. Firstly, SDT (Deci & Ryan, 2000) postulates that experiencing a loss of self-determination in one area can trigger compensatory motives that promote non-self-determination through externally regulated behaviours (e.g., one perceives a lack of relatedness with teammates and, consequently, adopts an unhealthy diet to lose weight, thinking this will make a difference). This view is contrary to the HMIEM, which suggests that a perceived loss of self-determination in a particular domain can foster a drive for increased self-determination in another area (e.g., loss of self-determined motivation at work can, in a compensatory way, lead to greater intrinsic motivation to surf on the weekends) as this allows one to maintain an adequate level of global self-determination (Vallerand, 2000).

Secondly, incorporating key elements of Deci and Ryan's SDT model, Vallerand (2000) suggested that the HMIEM extends SDT by outlining the causal sequence (depicted in Figure 6) of how social factors influence behaviour. This sequence predicts that social factors (e.g., a coach's behaviour) will influence an athlete's perception of competence, relatedness, and autonomy, which, in turn, determines the nature of their motivation (intrinsic or extrinsic). Finally, the proposed causal sequence predicts that one's motivation will influence, at least partly, various psychological consequences (e.g., persistence). This sequence suggests that the nature of one's motivation plays the most

direct role in psychological consequences, compared to the psychological mediators, which have a more indirect link.

Figure 6

Proposed motivational sequence (Vallerand & Losier, 1999, p. 145; reprinted with permission)



This conceptual organisation has received support from various studies (e.g., Blanchard et al., 2009; Hollembek & Amorose, 2005; Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002) that simultaneously explored the elements of the sequence. More recently, Pope and Wilson (2012) stated that further empirical research utilising the elements of SDT was needed to gain a better understanding of the effects of and processes by which social factors impact on sport motivation. For instance, exploring more fully the links between specific coaching behaviours (e.g., decision-making opportunities) and psychological mediators (e.g., perception of autonomy) will help the field understand more deeply how coaches influence athlete motivations and the likely consequences.

Finally, as part of the SDT framework, Deci and Ryan (2002) proposed that relatedness, while an important element in maintaining self-determined motivation, may play a more distal role than that of autonomy and competence. The premise that relatedness plays a less active role in self-determined motivation is supported by various studies (e.g., Reinboth et al., 2004; Sarrazin et al., 2002) that have simultaneously examined the mediating role of each basic need. The study by Reinboth et al. (2004), for

instance, showed a strong relationship between coach autonomy-support and relatedness, but that relatedness did not predict well-being or ill-being, with these outcome variables being measured using the Subjective Vitality Scale (SVS; Ryan & Frederick, 1997), Satisfaction/Interest in Sport Scale (Duda & Nicholls, 1992), and a physical symptom checklist (Emmons, 1991).

Additionally, Sarrazin et al. (2002) indicated that the path from feelings of autonomy to self-determined motivation was significantly stronger than the link between feelings of competence and self-determined motivation, and, further, the path between a sense of relatedness and self-determined motivation was significantly weaker than the satisfaction of the other two needs. Whilst Sarrazin et al. (2002) attributed these findings to such issues as regression path coefficients, it could also be that relatedness is not sufficient in-and-of-itself to predict well-being within an environment where autonomy and competence are key drivers, such as within sport settings.

However, in contrast, Vallerand (2000) suggested that perceptions of relatedness could in fact play a central motivation function, particularly in tasks that are interdependent and social in nature. Moreover, this notion that relatedness can fulfil a role of similar centrality in determining intrinsic motivation has been replicated since (e.g., Dysvik, Kuvaas, & Gagné, 2013; Hollebeak & Amorose, 2005; Murcia, Roman, Galindo, Alonso, & Gonzalez-Cutre, 2008). Whilst the study by Dysvik et al. did not involve a sport environment, the other two did, and, in fact, findings from the latter two studies inferred that a stronger relationship existed between relatedness and intrinsic motivation than between competence and intrinsic motivation.

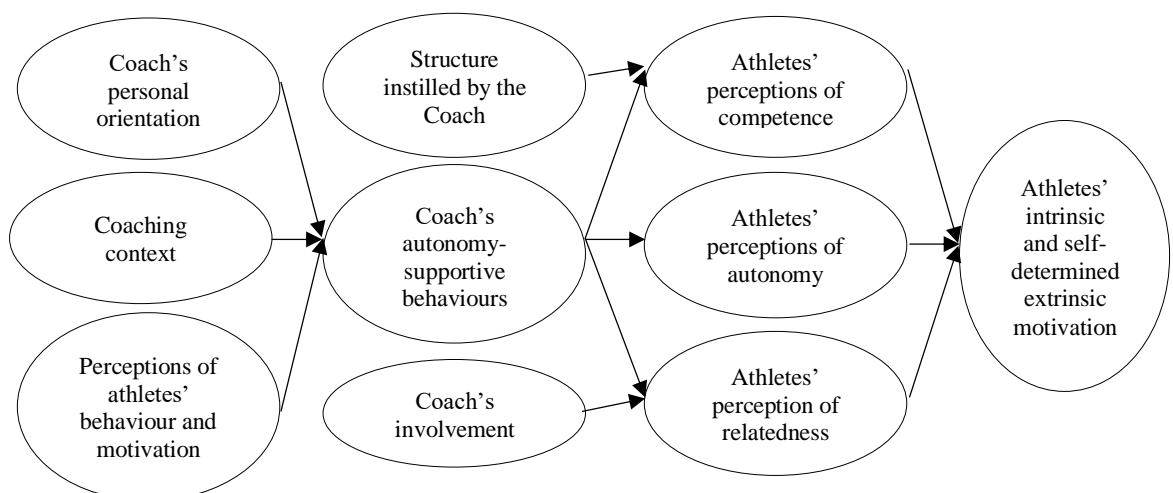
Despite such inconsistencies in the literature regarding the relative importance of each need, it is clear that all three needs fulfil key functions in determining self-determination

and well-being (Ryan & Deci, 2002; Sheldon & Battencourt, 2002; Vallerand, 2000). Given the discrepancies, it would seem that the relative importance of each need may be ultimately determined by individual preferences as well as by the nature and significance of the activity concerned (Reinboth et al., 2004; Vallerand, 2000). A fuller understanding of such dynamics might best be pursued through longitudinal-type studies.

An additional theoretical model that has received much attention in the literature is that of Mageau and Vallerand's (2003) motivational model of the coach-athlete relationship (presented in Figure 7). Drawing from the hierarchical perspective of Vallerand (1997) as well as elements of Deci and Ryan's (1985) cognitive evaluation theory, this model suggests that autonomy-supportive behaviours from a coach, along with providing structure and influencing degrees of involvement, have a positive connection to athletes' perceptions of competence, relatedness, and autonomy. It is proposed within the model that the degree of perceived need satisfaction by the athletes subsequently determines the degree of their intrinsic motivation, as well as any self-determined forms of extrinsic motivation (Mageau & Vallerand, 2003).

Figure 7

Mageau & Vallerand's motivational model of the coach-athlete relationship (2003, p. 884; reprinted with permission)



This sequential interaction between coach's autonomy-support, athletes' perception of basic need satisfaction and, subsequently, intrinsic and self-determined extrinsic motivation has been tested and, consequently, supported through various studies (e.g., Amorose & Anderson-Butcher, 2007; Hollembeak & Amorose, 2005; Vallerand & Losier, 1999). The motivational model highlights three factors; specifically, (1) the coach's personal orientation (autonomy-supportive vs. controlling), (2) the coaching context, and, (3) the coach's perceptions of athletes' behaviour and motivation, which determine the nature and effectiveness of autonomy-supportive behaviours of the coach. This relationship has been the focus of a growing number of studies investigating the antecedents of coaching behaviour and has been influential in the evolving understanding of the complex dynamics of coaching, as well as in shaping and directing future research (Occhino et al., 2014).

While acknowledging the contribution of earlier leadership models of the kind examined above, Jowett and colleagues (Jowett & Cockerill, 2002; Jowett & Meek, 2000) proposed a 3 C's conceptual model of the coach-athlete relationship, derived from what has been labelled as a relationship perspective. This model asserts that behaviours of the coach and the athlete/s need to be considered alongside their emotions and cognitions. The model identifies closeness (i.e., emotional attachment), commitment (i.e., intention to work together effectively), and complementarity (i.e., cooperative interactions) as interpersonal constructs that would assist in understanding and contextualising the experiences of athletes and coaches (Jowett, 2006). The interrelated constructs identified within the framework, which are thought to be pervasive in the coach-athlete relationship, have been the focus of numerous studies (e.g., Antonini Philippe & Seiler, 2006; Jowett & Meek, 2000; Jowett & Cockerill, 2003; Jowett & Ntoumanis, 2004; Trzaskoma-Bicsérdy, Bognár, Révész, & Gécz, 2007). Results have shown that these components

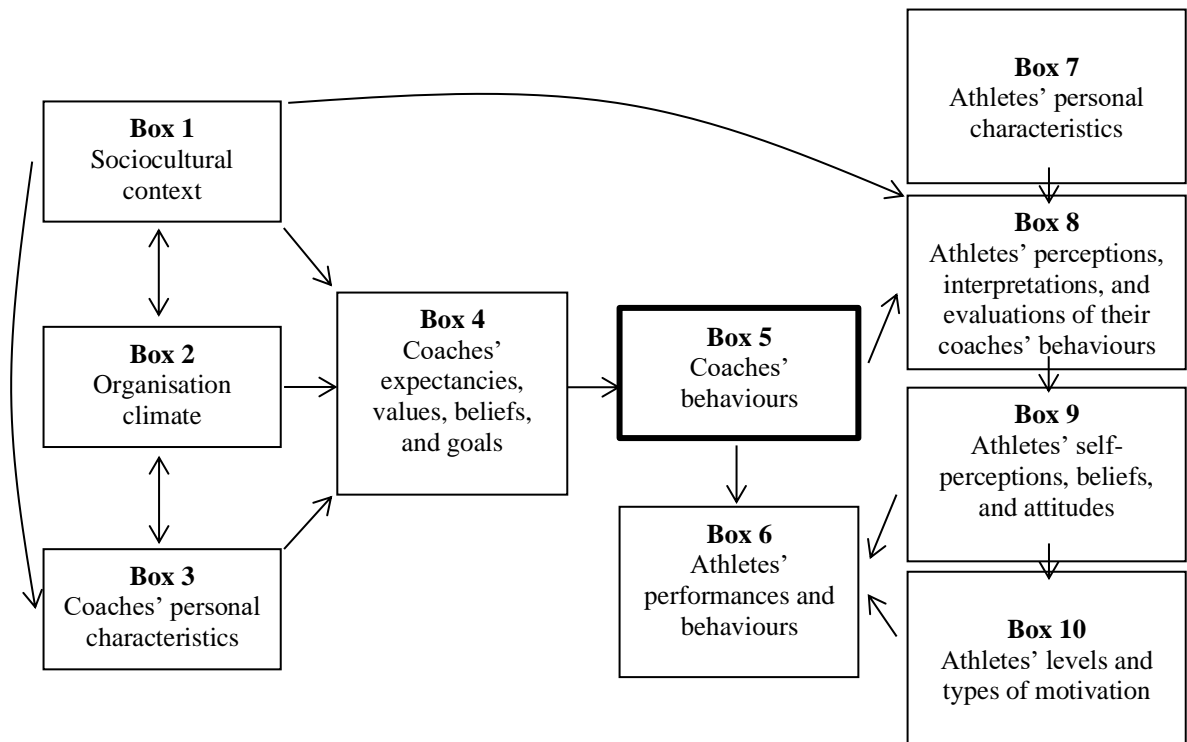
are in fact salient in typical coach-athlete dyads (Jowett & Cockerill, 2002), and, therefore, provide a lens through which we can develop a greater understanding of the relevant interpersonal elements.

In 2006, Jowett proposed that a fourth interpersonal construct should be included in the (3 Cs) conceptual model; with the revised (4 Cs) model additionally including co-orientation (Jowett, 2006). As a result of the qualitative work of Jowett and Cockerill (2003) exploring the construct, co-orientation was interpreted as having “established a common frame of reference, namely shared goals, beliefs, values and expectations” (p. 315). The importance attributed to the coach-athlete relationship has led to studies examining its complexity, and it has been suggested (e.g., Jowett, 2006; Poczwadowski, Barott, & Henschen, 2002) that the bi-directional and reciprocal nature of the coach-athlete dyad needs to be adequately emphasised within the literature as the relationship inevitably impacts on both athlete and coach.

In 2008, Horn developed her working model of coaching effectiveness (see Fig. 8) that made three key assumptions regarding the coach-athlete relationship. The first assumption was that coaching behaviours do not operate independent of external variables. In this regard, various antecedent factors (Boxes 1–4 in the Figure) are seen to influence the type of behaviour exhibited by the coach, and, given the model’s focus on such coach behaviours, this element (Box 5) is presented in bold within the Figure. The second assumption was that a coach’s behaviour influences athlete/s performance, both directly (see the link between Boxes 5 and 6 in the Figure) but also indirectly (as a result of cognitive mediation), a view that was similarly suggested by Smoll and Smith (1989). The third assumption was that the effectiveness of the coach will be mediated by situational factors (Box 1) and the individual differences of each athlete (Box 7) (Sullivan, Paquette, Holt, & Bloom, 2012).

Figure 8

Horn's working model of coaching effectiveness (2008, p. 243; reprinted with permission)



Since its creation, Horn's working model has also been utilised in various studies (e.g., Hwang, Feltz, & Lee, 2013; Myers, Vargas-Tonsing, & Feltz, 2005; Sullivan et al., 2012) investigating elements of coaching behaviour. In relation to her working model, Horn (2008) suggested that the field would benefit from future research examining; (a) the measurement of coaching behaviours (Box 5), (b) the consequences of coaching behaviours (Boxes 6-10) and, (c) the antecedents of coaching behaviours (Boxes 1-4).

Vella et al. (2010, p. 428) have summarised the key elements of influential models of coaching leadership; including, the multi-dimensional model (Chelladurai, 1984), the cognitive-mediational model (Smith & Smoll, 1989), the motivational model (Mageau & Vallerand, 2003), the conceptual model of the coach-athlete relationship (Jowett, 2006) and the working model of coaching effectiveness (Horn, 2008). They highlighted that the models converge around the following endemic variables;

1. Coaching context (athlete age, gender, goals, sport and level).
2. Coach's characteristics (professionalism, intrapersonal and interpersonal knowledge, values, beliefs, and goals).
3. Athlete outcomes (competence, confidence, connection, and character).
4. Athlete characteristics (perceptions, beliefs and attitudes).
5. Coaching behaviours (the fundamental drivers of athlete outcomes).

Vella et al. (2010) put forward that a significant omission from the frameworks considered was the integration of the coach-athlete relationship. Such an exclusion has also been previously highlighted as being surprising by others (see Jowett & Cockerill, 2002; Poczwadowski et al., 2006), particularly due to the widespread recognition of the impact that interpersonal processes have on experience and performance.

All things considered, the highlighted models have made significant contributions to our understanding of the complex coaching role and potential processes through which coaches impact on athletes. One concept that has permeated many models is the idea that athletes' personal perceptions play a fundamental role in determining the effectiveness and outcomes of coaching behaviours, and this is a dimension worthy of continuing research to better understand its dynamics and impact.

3.2.4 Autonomy-Supportive Coaching

It has been highlighted (e.g., Sarrazin et al., 2002; Vallerand & Losier, 1999) that coach behaviour has often been explored, categorised, and interpreted through two contrasting interpersonal styles: autonomy-supportive and controlling. Sheldon and Watson (2011) defined autonomy-supportive coaches as those who are "involved and trying (successfully) to deliver the highest-quality, most organised, and most engaging sports experience possible to their athletes" (p. 120). Further, Black and Deci (2000) suggested

that being autonomy-supportive means that “an individual in a position of authority (e.g., an instructor) takes the other’s (e.g., a student’s) perspective, acknowledges the other’s feelings, and provides the other with pertinent information and opportunities for choice, while minimising the use of pressures and demands” (p. 742). Autonomy-supportive environments can be defined as those in which leaders offer choice, are transparent about rationale, attempt to minimise pressure, and acknowledge athletes’ perspectives (Williams et al., 1996).

A central tenet of SDT is that social factors that are perceived to be supportive of need satisfaction, will positively impact intrinsic motivation (Deci & Ryan, 2000). For example, a coach employing autonomy-supportive behaviours is likely to heighten athletes’ self-determined motivation (Almagro et al., 2015; Fenton et al., 2014) due to the perception by the athletes that their basic psychological needs are being responded to. Mageau and Vallerand’s (2003) influential paper synthesised and highlighted seven pedagogical behaviours that had been shown in previous studies to have a strong, positive relationship with enhanced intrinsic and self-determined extrinsic (i.e., integrated regulation, identified regulation) forms of motivation through establishing an autonomy-supportive environment. They suggested that autonomy-supportive leaders (1) provide choice (within rules and limits), (2) provide a rationale for decisions, (3) inquire about and acknowledge others’ feelings and perspectives, (4) provide opportunities for initiative and independent work, (5) provide non-controlling feedback, (6) avoid controlling behaviours (such as guilt-inducing criticism and using tangible rewards as a motivating strategy), and (7) limit ego-involvement in athletes (i.e., by not emphasising social comparisons). Their summation of autonomy-support has been extensively cited and has contributed significantly to the research exploring this type of coaching by providing something of a blueprint outlining what such an approach involves.

Amorose and Anderson-Butcher (2007) suggested that the degree to which athletes perceive their basic psychological needs as being satisfied serves a mediating function between coaching behaviour and self-determined forms of motivation. Such findings suggest that an indirect relationship exists, and that it is not the autonomy-supportive style from the coach that directly influences self-determined forms of motivation, but, rather, the degree to which athletes perceive their basic psychological needs as being satisfied, with coaching behaviour being an important influence on this. These findings are reflected by Vallerand, Koestner, and Pelletier (2008) who suggested that the degree to which the environment allows basic psychological needs to be satisfied is more influential on self-determined motivation than the environment itself. Such findings are consistent with elements posited within the motivational model of Mageau and Vallerand (2003) and support the notion that an autonomy-supportive coaching approach is beneficial, so long as the behaviours are perceived by the athletes as appropriate and aligned to meeting their basic psychological needs.

Furthermore, it has been highlighted (e.g., Adie et al., 2008; Adie et al., 2012; Amorose & Anderson-Butcher, 2007; Amorose & Anderson-Butcher, 2015; Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2009) that a leader engaging in autonomy-supportive behaviours, such as providing scope for decision-making and considering athletes' opinions, would contribute not only to athlete feelings of autonomy but, in addition, would be likely to be nurturing feelings of relatedness and competence. When considering the effects that the autonomy-supportive behaviours, such as those outlined by Mageau and Vallerand (2003), would have on athletes, it appears reasonable that, for instance, providing opportunities for initiative and independent work would promote feelings of relatedness and competence in addition to nurturing a sense of autonomy. Moreover, Occhino et al. (2014) suggested that whilst the most common term

used to refer to this style of coaching was, at that time, ‘autonomy-supportive’, the term ‘need-supportive’ might actually be a more accurate representation, given its likely nurturing effect on all three of the core basic psychological needs. Accordingly, in recent years, this latter term has become increasingly utilised (e.g., Matosic et al., 2016; Van den Berghe et al., 2014).

Hollebeak and Amorose (2005) suggested that social support from a coach had no effect on athletes’ feelings of relatedness, which is inconsistent with several other studies (e.g., Amorose & Horn, 2000; Frøyen & Pensgaard, 2014); however, such inconsistent findings in the literature are not uncommon. Their finding was perhaps due to the more mature athletes in their study not relying on social support from a coach to the same degree that younger athletes might (i.e., perhaps mature athletes rely to a greater extent on teammates and peers to satisfy their need for relatedness). Raabe and Zakrajsek (2017) also found that the impact that coaches had on their athletes’ feelings of relatedness was not as significant as the impact of their teammates. It is important to consider, however, that the participants in each of these studies were NCAA Division I athletes from a variety of sports (size; type), and, therefore, the investigated coach-athlete relationships may have, in reality, varied greatly, highlighting a need to explore more fully particular demographics and contexts.

Gillet, Berjot, and Gobancé (2009) examined national-level youth athletes and, interestingly, their findings identified a positive relationship between self-determined motivation and outcome success in competition. Such findings are in line with those of other studies in both academic (e.g., Deci & Ryan, 2008a; Guay & Vallerand, 1997) and sport domains (e.g., Hodge et al., 2014; Vallerand, 1997), which have concluded that self-determined motivation predicts a range of positive outcomes. Furthermore, because of their findings, Gillet et al. (2009) gave support to the proposed (e.g., Blanchard et al.,

2007) mediating role that basic psychological need satisfaction plays in the relationship between performance and self-determined motivation. Such findings strengthen the premise that the satisfaction of basic psychological needs is a direct antecedent of self-determined motivation (Vallerand & Ratelle, 2002), and, therefore, underpins the connection between such motivation and performance.

Gillet et al. (2010) conducted a study that tested the hypothesised sequence that (1) autonomy-support from a coach predicts athletes' self-determined contextual motivation, (2) that self-determined contextual motivation supports high levels of self-determined situational motivation prior to competition and, (3) that situational motivation that is self-determined prior to competition leads to enhanced sport performance. Findings from their study supported all projected correlations, reinforcing the likes of Vallerand's (1997) hierarchical model of intrinsic and extrinsic motivation that suggests a top-down effect between motivation at contextual and situational levels, as well as reinforcing the growing premise (e.g., Deci & Ryan, 2008a; Gillet et al., 2009; Sheldon & Watson, 2011) that self-determined motivation can have an enhancing effect on performance.

Sheldon and Watson (2011) found a positive correlation between coach autonomy-support and objective team performance (in addition to subjective appraisals), further reinforcing the premise that autonomy-supportive coaches can have an enhancing effect on performance efforts. Consistent with previous aforementioned work, it was also found that the autonomy-supportive behaviours enacted by coaches predicted intrinsic motivation and identified forms of motivation at all levels (club and intercollegiate); however, this correlation was significantly strongest at the varsity (higher) level. Sheldon and Watson attributed this to the considerable role that coaches can play in athletes' lives at this level, perhaps revealing that coaches at higher levels have greater scope to impact athlete motivation.

Overall, researchers (e.g., Lindgren & Barker-Ruchti, 2017; Light et al., 2014; Matosic & Cox, 2014) have encouraged a movement away from largely coach-driven and autocratic philosophies, and a shifting focus towards developing a more athlete-centred and autonomy-supportive approach to coaching, underpinned by various values, including trust, honesty, and allowing for a degree of athlete volition. It is important to note, however, that the literature is not suggesting that athletes should make all the decisions and that the coach needs to facilitate a democratic process to every activity.

Whilst an overarching autonomy-supportive approach seems preferable, autonomy-supportive and controlling behaviours need not be entirely antagonistic (Bartholomew et al., 2009). It appears that effective coaches seem able to provide structure and leadership, without undermining athletes' sense of self and autonomy and, in fact, provide a type of structure that has a positive correlation with perceived athlete autonomy (Sheldon & Watson, 2011). Such a correlation is noteworthy as it challenges a common conception that to be autonomy-supportive requires a coach to be, largely, permissive and to relinquish authority.

3.2.5 Controlling Coaching and Need Thwarting

Ideally, all coaches across all levels would make positive contributions to their athletes' development, performance, and well-being. However, Fraser-Thomas and Côté (2009) suggested that negative experiences generated by coaches are not uncommon. Mageau and Vallerand (2003) suggested that even when the best of intentions are present, coaches can still be perceived as being controlling, because of various behaviours that they deliberately, or inadvertently, employ. Bartholomew et al. (2009) highlighted that comparatively little research investigating controlling and maladaptive coaching behaviours has occurred.

A taxonomy presented by Bartholomew et al. (2009) identified pedagogical behaviours considered to be controlling and, subsequently, likely to establish an environment that would be likely to undermine need satisfaction. These are, (1) the use of tangible rewards, (2) controlling/overly critical feedback, (3) excessive personal [coach] control, (4) intimidating athletes, (5) promoting ego-driven behaviours, and (6) having conditional regard for athletes. These behaviours clearly and starkly contrast with the seven autonomy-supportive coaching behaviours (outlined by Mageau & Vallerand, 2003). As a result of an expanding body of research (e.g., Amorose & Anderson-Butcher, 2015; Bartholomew et al., 2011; Hollembeak & Amorose, 2005; Isoard-Gauthier et al., 2012; Matosic et al., 2013), coaching that is perceived as controlling has been shown to undermine self-determined motivation and well-being.

Numerous studies (e.g., Adie et al., 2012; Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011; Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011) have pursued an understanding of psychological need thwarting and what has been referred to as the ‘darker side’ of athletic experience. Vealey, Armstrong, Comar, and Greenleaf (1998) examined athletes’ perceptions of the relationship between coaches’ behaviours and athlete burnout and anxiety. When a coach’s behaviour included use of dispraise, was autocratic in style, and was overly focused on winning, it was linked to negative athlete self-concept, exhaustion (physical and mental), and psychological withdrawal. A key finding in their study was that a significant and positive relationship existed between such coaching behaviours and athlete burnout. Burnout has been defined in various ways, but *athlete* burnout, in particular, was defined by Raedeke (1997) as a syndrome that entails both emotional and physical exhaustion, a devaluing of sport, and a reduced sense of accomplishment.

Gearity and Murray (2011), utilising an existential phenomenological approach, qualitatively examined a range of athletes to obtain their interpretations of the effects of poor coaching. Five themes emerged from the responses; namely, (1) poor teaching, (2) being uncaring, (3) being unfair, (4) inhibiting athletes' mental skills, and (5) inhibiting athlete coping. Interestingly, all of the participants spoke of their mental skills being inhibited by their coach and, although many participants competed on winning teams, they believed that they could have been more successful under a different coach. Participants described coaching behaviours that were distracting, engendering of self-doubt, demotivating, and divisive. From a BPNT perspective, it would appear that coaching behaviours of the kind indicated would likely create an environment that would be undermining of basic psychological need satisfaction. Together they are suggestive of limited autonomy, with, uncaring, unfair and divisive behaviour likely to thwart the need for relatedness, and inhibiting mental skills thereby likely to reduce feelings of competence.

Stirling and Kerr (2013) investigated elite athletes' perceived effects of emotional abuse within the coach-athlete relationship. Their study elicited findings that were mostly negative, and largely supportive of Gearity and Murray's (2011) aforementioned conclusions, such as heightened general anxiety, low self-efficacy, decreased training motivation, impaired focus, and decreased performance. Interestingly, however, Stirling and Kerr (2013) also elicited some contrasting findings, with some athletes in their study suggesting that such coach behaviours increased motivation, triggering a desire to gain the coach's approval, and enhanced performance, due to such demands making them a better athlete.

Some similar studies (e.g., Almagro et al., 2015) have supported the notion that controlling coach behaviours can, in some cases, have a positive effect on motivation and

performance. However, it should be recognised that any immediate positive effects from such controlling behaviours are likely to be driven by extrinsic or non-self-determined forms of motivation, which are regarded as being less beneficial to athletes' optimal long-term functioning (Mageau & Vallerand, 2003) and have been shown to positively correlate with eventual athlete burnout (e.g., Gustafsson, Hassmén, Kenttä, & Johansson, 2008; Lonsdale et al., 2009).

At this juncture, whilst examining the literature pertinent to undesired behaviours and detrimental elements within the coach-athlete relationship, it is appropriate to recognise that the extant research suggests that coaches' unfulfilling athlete need satisfaction and coaches' thwarting of such needs (need thwarting) are somewhat different in nature. The study by Bartholomew, Ntoumanis, Ryan, Bosch, and Thøgersen-Ntoumani (2011) hypothesised that controlling coach behaviours were expected to lead to need thwarting that would in turn promote negative affect (e.g., depression) and patterns of behaviour (e.g., disordered eating) associated with ill-being, beyond what may occur due to a lack of active basic psychological need support. Findings from a more recent study by Costa, Ntoumanis, and Bartholomew (2015) posited that low levels of need satisfaction were not necessarily equivalent to or reflective of need thwarting and that each predicts different psychological effects (i.e., need thwarting is more strongly correlated with negative psychological outcomes than is low levels of need satisfaction).

Frøyen and Pensgaard (2014) also supported this notion, suggesting that a low level of perceived basic psychological need satisfaction was not inherently symptomatic of need thwarting, as thwarting suggests that a lively (deliberate or inadvertent) undermining of basic needs is involved through controlling behaviours. It is important to distinguish, for instance, between an athlete who experiences low levels of perceived autonomy due to limited opportunity and an athlete whose autonomy need is actively thwarted due to

blatant constraints enacted by a coach (Costa et al., 2015). An unexpected finding from Bartholomew et al. (2011) was a modest correlation between athletes' perceptions of autonomy-support and controlling behaviours from the coach, which posited that controlling behaviours and a perception of autonomy-support can actually co-exist, once again highlighting the complex nature of coach-athlete interactions.

3.2.6 Coach-Athlete Gender Dynamics

In pursuit of effective need-supportive coaching, one should consider personal and situational variations in how needs might be satisfied among various individuals (Sheldon & Watson, 2011). While basic needs themselves should vary only slightly from person to person (Deci & Ryan, 2000; Sheldon & Niemiec, 2006), what does appear to diverge is the particular experiences that lead to an individual experiencing need satisfaction, and this provides an additional area of consideration for researchers and, perhaps more importantly, for coaches in their applied contributions.

As reported earlier, BPNT infers that the identified psychological needs are universal, and findings (e.g., Adie et al., 2008; Ryan & Deci, 2000b; Vlachopoulos, 2008) have suggested gender invariance with respect to the motivational processes that nurture optimal functioning (e.g., autonomy-supportive coaching nurturing basic psychological need satisfaction and more self-determined forms of motivation). Adie et al. (2008) suggested that coaches need not consider specifically an athlete's gender when employing an autonomy-supportive coaching approach; however, it has been suggested (Reinboth et al., 2004; Ryan & Deci, 2002) that the ways that needs are satisfied (e.g., types of coach interaction; decision-making opportunities) can vary based on such features as gender and age.

To this point, the relevant literature landscape exploring autonomy-supportive coaching is comprised of studies that have involved various demographics, eliciting findings that appear to be, largely, congruent. For instance, studies have found that autonomy-supportive coaching had a positive impact on need satisfaction for both female (e.g., Frøyen & Pensgaard, 2014; Gagné et al., 2003; Reinboth & Duda, 2006) and male athletes (e.g., Balaguer et al., 2012; Frøyen & Pensgaard, 2014; Reinboth & Duda, 2006; Reinboth et al., 2004). With that said, however, what autonomy-supportive coaching represents likely differs among individuals; therefore, investigating the nature of individual preferences and the challenges of coaching with that recognition require further research attention (Occhino, et al., 2014).

It has frequently been proposed (e.g., Amorose & Horn, 2000; Weinberg & Gould, 2011; Witte, 2011) that female athletes place greater importance on democratic coaching behaviours than their male counterparts. However, it is also important to acknowledge that some female athletes, at times, have endorsed typical autocratic coaching behaviours (e.g., Frey, Czech, Kent, & Johnson, 2006), such as being exposed to a high degree of structure and discipline, while, equally so, some male athletes report a preference for democratic coaching styles (e.g., Høigaard, Jones, & Peters, 2008; Hovden & Tjønnedal, 2019). Notwithstanding, both Horn (2002) and Norman (2015) argued that there are more similarities than differences between male and female athletes' preferences for coaching behavioural styles.

Similarly, Sherman Fuller, and Speed (2000) found when studying three Australian sporting contexts that, despite some minor quantitatively determined differences in coaching preferences, in reality, there was a high level of similarity between genders. Positive feedback, and positive communication in training and instruction, as well as democratic behaviours, were identified as being preferred across both genders.

Moreover, Amorose and Anderson-Butcher (2007) found similar profiles between male and female athletes in the ways that perceived autonomy-support from a coach was associated with particular types of motivation.

Due to some disparate findings within the literature, some researchers (e.g., Riemer, 2007; Sherman et al., 2000) have suggested that observed differences in preferred coaching styles may actually be more attributable to other factors (e.g., type of sport; level of sport; achievement orientations). For instance, it has been reported (e.g., Witte, 2011) that athletes participating in interdependent sports (e.g., basketball; football) prefer more autocratic coaching behaviours, when compared to those within independent sports (e.g., swimming; track and field). Moreover, others (e.g., Hovden & Tjønnedal, 2019; Riemer & Toon, 2001) have suggested that the gender of the coach might provide another variable in determining at least some of the variance in preferred coaching styles; for instance, female athletes reporting greater desire to receive social support from a male coach than from a female coach.

There seems to be a consensus throughout the literature that coach and athlete gender combinations do influence the coach-athlete dynamic, with various studies (e.g., Boardley, 2018; Jowett & Nezelek, 2011; Kavussanu, Boardley, Jutkiewicz, Vincent, & Ring, 2008) having explored such elements. Some results (e.g., Kontos, 2003; LeDrew & Zimmerman, 1994; Norman, 2015) have suggested that both male and female athletes often report preferences to be coached by men. However, other studies, for instance, Kavussanu et al. (2008) and Fasting and Pfister (2000), found that, overall, female athletes experienced greater motivational outcomes when engaging with female coaches. This was seen to be due to a perception that the female coach typically behaves in ways that are more closely aligned to their own preferences (e.g., greater empathy and caring styles of communication).

Some findings (e.g., Boardley, 2018; Manley, Greenlees, Thelwell, & Smith, 2010; Yildirim, Yildiz, & Koruç, 2019) have suggested that gender combination can influence athlete perceptions of coaching behaviour and effectiveness. This seems logical given that results (e.g., Hanrahan & Cerin, 2009; Kavussanu & Ntoumanis, 2003) have indicated gender differences in regard to various concepts, for instance, achievement goal orientations, that might impact on preferences for coach attitudes and engagement. Manley et al. (2010) claimed that coach gender had an impact on athletes' expectations of coach competency, with both male and female athletes expecting male coaches to have greater game-strategy and technical competency than female coaches. On the other hand, female leaders have been described (e.g., Hovden, 2010; Hovden & Tjønnndal, 2019) as typically having greater empathy and communication skills. Findings from a meta-analysis conducted by Kim and Cruz (2016) suggested that athlete gender does affect perceived leadership and satisfaction, with a significantly larger effect size for females, perhaps due to high levels of democratic coaching behaviours, which are often seen as being preferred by female athletes, being reported within the particular sample.

Several studies (e.g., Black & Weiss, 1992; Pyun, Kwon, Koh, & Wang, 2010) have indicated a degree of gender variance concerning how athletes interpret coach praise and how that affects perceived competence. For instance, Black and Weiss (1992) found that female athletes reported significantly lower amounts of praise from their coaches as well as lower feelings of competence than did male athletes, with these (registered praise; feelings of competence) perhaps being connected. More recently, Stuntz, Sayles, and McDermott (2011) found no such difference in perceived level of competence between the genders. However, they did suggest that female athletes valued coach feedback and evaluation as being more important sources of feelings of competence than did male athletes. The latter placed greater emphasis on peer and spectator feedback, strengthening

earlier findings from the likes of Williams (1994) who reported that males primarily looked to their peers for competence-related feedback.

Gender variable contrasts were not structurally addressed within the current study, or even possible given its single case study research design (although as will be indicated, gender combination dynamics involving the coaches and athletes within the study were at times suggested). The at times conflicting findings on gender matters from the above studies do emphasise the need for further research on the issue to deepen our understanding of how gender dynamics *can* influence coach-athlete interactions and experience. Furthermore, such findings highlight the multidimensional, complex, and nuanced nature of the coaching role and, from a practical perspective, emphasise the importance of coaches being aware of potential gender dynamics whilst also being adaptable to meet the needs of their particular athletes. Whilst this might be an implicit quality of coach competency, it might also be enhanced by coaches communicating effectively with their athletes to discuss each other's preferences for working together, so that they can engage with them in ways that are constructive, complementary, and, ultimately, experienced as being need supportive.

In summary, this section of the literature review has focused on the coaching literature and the ways through which researchers have, in a broad sense, explored the complex coaching role. Over recent decades, a growing number of researchers have turned their attention specifically to examining and exploring the psychological and behavioural elements involved in coaching. Since the late 1970s, a number of highly regarded models (see Chelladurai, 1984; Côté et al., 1995; Horn, 2008; Jowett, 2000; Mageau & Vallerand, 2003; Smoll et al., 1978; Vallerand, 1997) have been developed regarding the coaching role (or with a high degree of relevance to the role – for instance, the HMIEM), with each highlighting and emphasising components and qualities considered important.

Furthermore, autonomy-supportive, need-supportive, and controlling coaching styles have received significant attention within the literature, and, ultimately, have enhanced understandings of how coaches can potentially go about supporting, neglecting, and/or thwarting athletes' basic psychological needs. With that said, it has been suggested that, in reality, various and even somewhat contrasting coaching styles can actually coexist, and, up until recently, only a few studies (e.g., Matosic & Cox, 2014; Pelletier, Fortier, Vallerand, & Brière, 2001) have explored how such contrasting styles can operate together.

The extant literature has provided valuable insights into the coaching role and frameworks from which we can study and consider the relevant concepts. Furthermore, studies have explored various gender elements deepening understanding of how such dynamics can influence the coach-athlete relationship and experience. However, extending this body of work by eliciting novel, rich, and informative insights from an athlete perspective, exploring how such matters actually play out seems warranted. Given the intended context of the current study (high-performance sport), attention now turns to reviewing the literature that has investigated relevant features of high-performance/elite-level⁴ sport to more fully explore and consider how such elements manifest within such environments.

3.3 HIGH-PERFORMANCE SPORT

3.3.1 Overview

Significant attention within the literature involving sport in general and, in particular, coaching concerning the satisfaction of basic psychological needs, has been directed at

⁴ Both terms represent sport at the highest level of competition and are often used interchangeably. The term elite can at times be used to represent the 'best of the best', with professional connotations. Given their readily interchangeable quality, along with the particular nature of the case studied in this research, the term high-performance is considered more appropriate.

the effects of an autonomy-supportive coaching approach (e.g., Adie et al., 2008; Felton & Jowett, 2013; Gagné et al., 2003; Sheldon & Watson, 2011). A review conducted by Gilbert and Trudel (2004) suggested, at the time, an overrepresentation of studies examining coaching within youth and recreational contexts, and this trend seems to have continued (e.g., Balaguer et al., 2012; Reinboth et al., 2004). Moreover, many studies claiming to explore, for instance, elite-level environments actually involved ‘elite-youth’ or ‘elite-adolescent’ populations (e.g., Cheval, Chalabaev, Queded, Courvoisier, & Sarrazin, 2017; Gucciardi, Stamatis, & Ntoumanis, 2017; Haerens et al., 2018; Stenling et al., 2014). Whilst these studies have made significant contributions to their respective settings, a widely recognised gap remains in research examining the relationship between social and environmental factors and related elements at the higher levels of sport (Treasure et al., 2008).

High-performance sport involves the highest levels of skill and training, and a focus on obtaining performance outcomes that typically emphasise winning (Santos, Strachan, Gould, Pereira, & Machado, 2019). As such, sport at this level generally involves stress (Frøyen & Pensgaard, 2014) and expectation demands placed on all individuals within the environment (Hägglund, Kenttä, Thelwell, & Wagstaff, 2019). Studies (e.g., Cheon, Reeve, Lee, & Lee, 2015; Deci, Spiegel, Ryan, & Koestner, 1982; Matosic et al., 2016; Taylor, Ntoumanis, & Smith, 2009) have shown that leaders are more likely to exhibit controlling behaviours over their subordinates when the environment exerts expectations to succeed; triggering heightened anxiety leading to attempts to ensure the demanded outcomes. The pressure from the environment typically makes leaders (intentionally or unintentionally) in this space resort to such a controlling style, with this often being seen as acceptable and necessary by those associated with the sport concerned and by the sporting public (Rynne & Mallett, 2014).

Potential exists for this leadership style to be accentuated at the high-performance level, due to the results demand that is constantly placed on coaches to succeed (Olusoga, Butt, Hays, & Maynard, 2009). It is important to note that this is not always the style enacted, and various studies (e.g., Lindgren & Barker-Ruchti, 2017; Lyons et al., 2012; Mallett, 2005) have provided examples of how coaches have been able to deliver effective and holistic athlete-centred coaching approaches under such pressure. However, for the reasons outlined, high-performance sport, with its heightened pressure, is an environment that deserves particular scientific scrutiny exploring athletes' perceptions of their basic psychological needs in that context and how their coaches contribute to or undermine the satisfaction of such needs.

3.3.2 Autonomy-Support within High-Performance Sport

As has been indicated, self-determination theory posits that the identified psychological needs essential for optimal functioning are universal; that is, within a sporting context, all individuals experience these needs regardless of the level at which they operate (Adie et al., 2008). Notwithstanding this, Deci and Ryan (2000) suggested that the degree of influence that social factors (e.g., a coach's input) have may fluctuate developmentally. This means that although the needs are deemed to have universal relevance, coaches should understand how they vary in emphasis and how they themselves influence need satisfaction for the athletes within their particular settings. Furthermore, given the proposed universal nature of the needs, it is also important to recognise that the same needs operate within coaches themselves and inevitably this impacts on the behaviours that coaches employ. As such, the dynamic ways through which coaches interact with their athletes (see Frøyen & Pensgaard, 2014; Stebbings et al., 2011; Stebbings, Taylor, & Spray, 2015) and even each other as coaches (see Zakrajsek, Raabe, Readdy, Erdner, & Bass, 2020) is significant.

Moreover, it would seem important to establish the meanings that athletes at various levels attach to each basic need and, further, how such needs can be supported, neglected, and thwarted in response to various coaching behaviours. For example, understanding the importance that athletes operating within a high-performance environment place on their need for relatedness, in comparison to, say, their need to experience perceived competence and, subsequently, which coaching behaviours best support and undermine these needs, will likely contribute to the overall effectiveness of a coach.

Studies have been conducted exploring the potential outcomes of an autonomy-supportive coaching approach at the higher levels of sport and, thus, have broadened the literature on this matter. Findings suggest that high-performance athletes commonly report a preference for coaches who provide them with decision-making opportunities (Males, Kerr, Thatcher, & Bellew, 2006), establish a positive rapport (Côté & Sedgwick, 2003), motivate appropriately (i.e., in accordance with individual preferences; Becker, 2009), communicate openly, clarify roles (Jowett & Cockerill, 2003), and provide an effort-mastery climate (Keegan et al., 2014).

Mallett's (2005) paper outlined his use of various coaching strategies as he went about preparing Australia's two men's track relay teams for the 2004 Athens Olympics. This case study outlined various behaviours employed in an attempt to establish an autonomy-supportive environment, many of which were consistent with the behaviours proposed by Mageau and Vallerand (2003; e.g., providing choice and decision-making opportunities; seeking input; providing rationales). The reflective nature of that particular study did not allow for causal relationships to be determined; however, the athletes in the study were reported to have performed close to optimal (i.e., personal-best times) in a highly pressurised environment (i.e., the Olympics). Mallett suggested that the level of athlete performance was likely supported by qualities such as, among others, personal ownership,

self-sufficiency, and self-efficacy, with such qualities being consistent with the principles underpinning an autonomy-supportive approach.

Similar conclusions were drawn in a study by Lyons et al. (2012) involving elite-level skiers that considered the perceptions of the athletes as well as their coaches' reflections. Findings suggested that the employed autonomy-supportive coaching approach was likely to have contributed, at least in part, to the skiers performing above expectations. Similarly, and strengthening this notion that autonomy-supportive coaching can enhance performance at the highest levels of sport, a case study of the New Zealand Rugby Team (The All Blacks) conducted by Hodge et al. (2014) also aligned successful on-field performances to the coaching staff deliberately nurturing the needs of autonomy and relatedness, in addition to developing competence via autonomy-supportive coaching and creating a supportive-mastery climate.

Such revelations are consistent with research (e.g., Annerstedt & Lindgren, 2014; Chan & Mallett, 2011; Raabe & Zakrajsek, 2017) that has posited that effective relationships and autonomy-support at higher levels of sport promotes optimal functioning and performance. Utilising such athlete-centred strategies to empower is expected to develop athletes who have a high degree of self-efficacy, are enthusiastic and accountable, feel important, perceive a level of trust and respect, and cooperate to enhance mutual goals and directions of the coach/es, themselves and their team (Kidman, 2005, p. 25).

When considering the range of coaching behaviours commonly considered to be autonomy-supportive, it is interesting to note that Goose and Winter (2012) indicated that they found no correlation between elite-level coaches providing a rationale for decisions and an increase in athlete motivation. This specific coaching strategy of providing

rationales has been regularly highlighted (e.g., Lyons et al., 2012; Reeve, Bolt, & Cai, 1999) as an autonomy-supportive behaviour that enhances motivation (via enhancing need satisfaction). The researchers in this case attributed their finding to a high degree of trust being established between the athletes and the coach in the study, and, consequently, the athletes did not perceive being provided with rationale for coaching decisions as essential.

Frøyen and Pensgaard (2014) also found that although the elite-level participants in their study overall had a desire to experience decision-making in regard to their training, one participant described relinquishing this to the coach, thereby seeming to abdicate their own control, but at the same time they viewed this as still maintaining an adequate degree of self-determination in that choice. In this regard, Deci and Ryan (2002) suggested that feelings of autonomy can be maintained when we voluntarily give up control, so long as the decision is made autonomously. However, it has been indicated (e.g., Keegan et al., 2014) that specific behaviours are rarely connected to a singular motivational outcome and that such outcomes will inevitably be influenced by a range of variables. This further highlights the complexity of coach-athlete interactions, as it seems that, for instance, a perception of trust may affect athletes' experience of need satisfaction in relation to their coaches. As such, it might be that trust in itself might impact directly on basic psychological needs satisfaction.

Frøyen and Pensgaard's (2014) paper provided insights into how elite-level athletes may experience need satisfaction in collaborative relationship with their coach/es (with coaches experiencing the same basic psychological needs) with autonomy-supportive attitudes and behaviours actually involving a degree of mutuality (i.e., athletes and coaches can support and thwart each other's needs). The researchers suggested that the overall findings highlighted a central role played by the coach with regard to providing

antecedents of both need satisfaction (e.g., positive approach, fostering self-confidence) and lack of satisfaction (e.g., thwarting a sense of security), a premise consonant with earlier research (e.g., Amorose & Anderson-Butcher, 2007; Bartholomew, Ntoumanis, Ryan, & Thøgersen–Ntoumani, 2011). This further highlights that what this looks like *in situ* for each individual may differ quite significantly, and emphasises the need to continue exploring how a coach can go about successfully employing a need-supportive coaching approach in the face of such personal variations.

There is a considerable body of research examining the nature and consequences of need-support provided by coaches (Matosic et al., 2016) and this is reflected in the evolving awareness of the influential role that coaches play in the development, well-being, and performance of those under their care. Further research should continue to pursue and illuminate high-performance athletes' perceptions and interpretations of coaching behaviours believed to be need-supportive and need-neglecting and how they affect athletes' experiences. Ultimately, this is likely to contribute to the on-going refinement and improvement of coaching programmes and practices at the high-performance level. A key feature of supporting athletes' basic psychological needs appears to be the relationship that develops between coach and athlete (Choi, Cho, & Huh, 2013; Felton & Jowett, 2013), and, as such, this review of the literature now turns attention to the research that has explored and considered dynamics pertinent to the coach-athlete dyad.

3.3.3 The Dynamics of the High-Performance Coach-Athlete Relationship

The coach-athlete dyad relationship is a critical platform upon which subsequent performance, success, and satisfaction are developed (Jowett & Cockerill, 2002; Trzaskoma-Bicsérdy et al., 2007; Vealey et al., 1998), and is an area of study that is receiving increasing attention within the literature (Lafrenière, Jowett, Vallerand, &

Carbonneau, 2011). Various studies (e.g., Hollembeak & Amorose, 2005; Jowett & Cockerill, 2003) have asserted that at the highest levels of sport, the coach-athlete relationship is a key determining factor of athlete satisfaction and well-being, and a positive relationship will generally lead to higher levels of athletic performance (Bennie & O'Connor, 2010). Considering all the social constructs that influence an athlete's experience (training, performance, and many factors outside of the direct sport environment), there is a general consensus (e.g., Becker & Wrisberg, 2008; Pensgaard & Roberts, 2002) that coaches play a role that has considerable impact on athletes.

It is apparent that high-level athletes look to their coaches for more than simply technical instruction and they consistently report preferences for establishing positive relationships with them that extend beyond the sporting context (Bennie & O'Connor, 2010; Jowett & Cockerill, 2003; Pensgaard & Roberts, 2002; Raabe & Zakrajsek, 2017). Poczwardowski et al. (2002) posited that the coach-athlete relationship encompasses three fundamental components; namely, (1) technical/instructive (training and performance issues), (2) social-psychological (needs, affect and cognition), and (3) spiritual (connection "at the heart" between athlete and coach). Participants from their study reported a preference for coaches who interact, share and care for their athletes, and establish a relationship where each individual respects the other. Such elements, each in their particular way, are foundational within the major coaching frameworks; including, positive pedagogy (Light, 2019), need-supportive coaching (Occhino et al., 2014), and athlete-centred coaching (Kidman, 2005).

Frøyen and Pensgaard's (2014) findings suggested that elite-level athletes have a need for their coaches to have faith in them and support them, and that this helps cultivate a sense of security, which appears to be an antecedent for experiencing relatedness in sport settings. Nurturing such a sense of security, however, is obviously a challenge within the

complex and demanding level of high-performance sport. Although there have been conflicting findings regarding, for instance, athletes' perceptions of their coach's influence on their feelings of relatedness (see Hollombeck & Amorose, 2005), such contrasting assumptions from study to study are in some ways expected (see Ryan & Deci, 2000b). Ryan and Deci suggested that the salience and ways through which the coach-athlete relationship affects basic psychological need satisfaction will vary depending on how such influences are internalised. Essentially, it appears that the perceived role of the coach within the relationship can vary quite significantly from athlete to athlete (Pensgaard & Roberts, 2003); for instance, some look to their coaches for relatedness, support and validation, whilst others are content with a provision of adequate technical expertise.

Trzaskoma et al. (2007) supported the notion that in addition to sport-specific components (e.g., technical feedback; goal-setting), the coach-athlete relationship usually encompasses wider psychological and social components (e.g., care; trust). Their particular study qualitatively examined various Hungarian Olympic coach-athlete dyads to obtain the coaches and athletes' interpretations of their relationships and what contributed to their on-field success. This study examined the constructs of (1) closeness, (2) co-orientation, and (3) complementarity. Many of the conclusions are consistent with those that have involved a self-determination theory perspective, highlighting the value placed on developing such interpersonal constructs as respect and trust by both coaches and athletes and the important role these qualities play in performance. This perspective is consistent with other studies (e.g., Becker, 2009; Durand-Bush & Salmela, 2002; Johnson et al., 2012) that have emphasised the importance of a positive coach-athlete relationship and the key dimensions that underpin this.

A phenomenological investigation conducted by Becker (2009) examined elite-level athletes' perceptions of 'great coaching' with the athletes emphasising the importance of the relationship established between themselves and their coaches. Specifically, six overarching dimensions emerged that were perceived by the elite-level athletes as contributing to 'great coaching'; namely, (1) coaching attributes (e.g., technical abilities; experience) (2) the environment (e.g., communication; athlete-centredness), (3) the system (e.g., adaptable; strategic), (4) relationships (e.g., treatment as an athlete; quality of coach-athlete relationship), (5) coaching actions (e.g., preparation; performance under pressure), and (6) influences (e.g., development; performance). Many of the outlined dimensions would be expected to promote one or a combination of the needs outlined in BPNT. For example, employing an athlete-centred coaching approach would likely create an environment that was supportive of the need for autonomy through an enhanced sense of freedom, but, also, of the need for relatedness, as athletes feel that their opinions were being valued. It is evident when examining the reported attributes of 'great coaching' that many of those are related to fostering effective relationships, and that this, in turn, would be expected to lead to heightened need satisfaction.

The interactions between an athlete and a coach at the high-performance level involves a complex dyad that requires ongoing scientific study to (1) illuminate the ways through which coaches influence the need satisfaction of the athletes that they work with, and (2) learn more about how athletes perceive and experience coaches' contributions to their need satisfaction/lack of satisfaction. Further studies are needed to pursue high-performance athletes' interpretations of the coaching attitudes and behaviours that they are exposed to, with such findings likely to deepen understanding of the coach inputs that athletes consider to be need-supportive as well as those that are need-neglecting. In addition, the field would benefit from studies that specifically explore the elements that

determine a coaching approach being regarded by one athlete as need-supportive and another as controlling. Such information would provide greater insight as to what is required to create relationships and environments within high-performance sporting contexts that are most likely to be need-supportive in character.

This section of the review focused on the literature relevant to athlete basic psychological needs and coach-athlete dynamics within high-performance sport environments. Attention shifts now to reflecting on the methodological approaches commonly employed within the extant work and considers a number of areas for growth.

3.4 METHODOLOGICAL CONSIDERATIONS

It is clear within the literature that, as with many domains in sport, coaching research has traditionally involved a positivist epistemology that seeks objective and unbiased knowledge (Cushion, 2007; Moran et al., 2011). Accordingly, the majority of studies (e.g., Adie et al., 2012; Baker, Yardley, & Côté, 2003; Balaguer et al., 2012; Myers et al., 2005; Reinboth et al., 2004; Sheldon & Watson, 2011) have employed nomothetic quantitative methodologies, and such undertakings have made significant contributions towards our understanding of sport coaching. For context, and to show progression over time, a comprehensive analysis conducted by Gilbert and Trudel (2004) indicated that, as at 2001, 80% of published coaching science research was quantitative in nature and this would have continued in similar vein in subsequent years.

Various matters seem to have reinforced a preference for such quantitative methods. One of these has been the pursuit of and development of objectively-oriented instruments, which have subsequently generated studies built around them. Examples of these in the coaching discipline are: the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980; Jambor & Zhang, 1997), the Coaching Feedback Questionnaire (Amorose & Horn, 2000;

Smith, Fry, Ethington, & Li, 2005), and the Coaching Behaviour Scale for Sport (CBS-S; Côté et al., 1999). Additionally, within academia, its scientific traditions and historical pursuit of factual knowledge has resulted in higher status being given to research that is aligned with such traditions (Trudel et al. 2014).

Whilst all research approaches have their own strengths, limitations, and objectives (Hennink, Hutter, & Bailey, 2011), it appeared that, historically, few sporting journals seemed prepared to publish studies employing qualitative methods (Culver, Gilbert, & Sparkes, 2012). This may have been due to the common positivist stance that emphasises ‘objectivity’ in epistemological and ontological domains (Giacobbi Jr., Poczwardowski, & Hager, 2005), which are certainly appropriate for particular types of research and research objectives (e.g., quantifying and comparing effectiveness of an intervention). However, when adopted as an overall epistemological framework, it would seem that it can create tension between theoretical perspectives and be limiting of knowledge development as a consequence.

Another likelihood for this methodological preference is that the potential value of research involving qualitative methods has faced considerable criticism over time (Morse & McEvoy, 2014; Punch, 2009). This is likely due to several factors; namely (1) the training in qualitative methodologies is often seen as being inadequate (Kidd, 2002; Leech & Onwuegbuzie, 2011; Trudel et al., 2014), (2) there is considerable variation (and a perceived lack of precision) in terms of how studies of this type examine and present data (Côté, Salmela, Baria, & Russell, 1993), as opposed to the structure of more traditional manuscripts (i.e., IMRaD format) that provide a form of clarity (Eklund, Jeffrey, Dobersek, & Cho, 2011; Trudel et al., 2014), and (3) sample sizes typically being relatively small.

It has been suggested (e.g., Camic, Rhodes, & Yardley, 2003; Silverman, 2006), however, that qualitative methods are particularly appropriate when pursuing a deep understanding of complex and dynamic human experiences. As such, there have been calls for more studies to be undertaken that explore coaching elements utilising qualitative methods (Amorose & Anderson-Butcher, 2007; Becker, 2009). This has perhaps also been stimulated by an evolving constructivist viewpoint within sport coaching research that seeks to embrace subjective perspectives that are individual and context specific (Giacobbi Jr. et al., 2005).

The findings of Gilbert and Trudel (2004) showed that the percentage of qualitative studies within coaching science research had, even at that time grown somewhat remarkably, from 0% (over 1970-74) to 28.2% (over 1998-2001), and Rangeon, Gilbert, and Bruner (2012) suggested that this trend has continued since then. In response to the emergence of the growing interest in qualitative research, a journal entitled *Qualitative Research in Sport and Exercise* (recently renamed as *Qualitative Research in Sport, Exercise and Health*) was established in 2009, which is dedicated solely to progressing, debating and presenting qualitative research within sport, exercise and health contexts. The recent review of sport coaching literature conducted by Griffo et al. (2019) indicated that as of 2019, coaching research employed a balanced approach regarding methodological choices, involving quantitative (49%), qualitative (43.8%), and mixed-method (7.2%) approaches.

For some time, researchers (e.g., Gilbert & Trudel, 2004; Potrac, Brewer, Jones, Armour, & Hoff, 2000) have been advocating for the utilisation of mixed-methods designs, thereby broadening the nature of data collected as well as more readily allowing for data-triangulation. Such designs seem likely to further our understanding of the coaching process, but, as at 2019, it still appears to be an approach that is only slowly

being adopted (Griffo et al., 2019). Moran et al. (2011) highlighted several advantages to mixed-methods research designs; these included (1) data-triangulation (i.e., using multiple methods to provide corroboration of meaning units), (2) clarification of findings from one method by another, (3) using findings from one stage of research to inform subsequent stages and, (4) gaining new insights into phenomena. Accordingly, studies utilising mixed-methods (e.g., Pereria, Mesquita, & Graca, 2010; Mouchet, Harvey, & Light, 2014) are starting to become more prevalent within the sport coaching literature, and may provide for a more comprehensive understanding of the range of elements under consideration; for instance, quantifiable precision data combined with the depth and richness of data that comes from qualitative attention.

Gilbert and Trudel's (2004) findings involving data collection techniques from the coaching science research from 1970-2001, indicated that questionnaires were by far the most commonly used instruments (69%) over that time period; however, it seems that their usage, in relative terms at least, has shown some decline. More recently, studies (e.g., Becker, 2009; Goose & Winter, 2012; Lindgren & Barker-Ruchti, 2017) have been using interviews as a common 'instrument' for obtaining data that conveys more fully participants' personal experiences. Accordingly, various papers (e.g., Culver et al., 2012; Trudel et al., 2014) have highlighted interviews as being by far the method of choice for sport coaching research, in line with the increase in using qualitative methodologies.

Studies conducted from a self-determination theory (SDT) perspective in various contexts have predominantly been cross-sectional in nature (e.g., Blanchard et al., 2009; Hollebeak & Amorose, 2005; Holmberg & Sheridan, 2013), often seeking to quantify need satisfaction at a particular point in time. Such a predominance has meant relatively few longitudinal-type studies being undertaken scrutinising such dimensions within sporting contexts, including high-performance environments (Gaudreau, Amiot, &

Vallerand, 2009). Longitudinal-type studies collect data at multiple points throughout an extended period and it has been suggested (e.g., Bartholomew et al., 2009; Frederick-Recascino, 2002) that research within sporting contexts should utilise such an approach to deepen understanding of the processes through which elements can develop and change over time, as opposed to capturing such information on a single occasion. For instance, Gaudreau et al. (2009) were able to show how their participants' affective states changed as a result of, amongst other variables, their perceptions of their basic psychological needs at three different data-collection points. Moreover, Adie et al. (2012) found that autonomy-support from a coach predicted athlete basic psychological need satisfaction over the course of two seasons.

Further, a longitudinal-type approach has the potential to allow researchers to obtain data with greater accuracy and rigor as it captures evolving perceptions, as opposed to retrospective studies that, to a greater extent, rely on participants' recollections, which could be skewed by recall gaps and inaccurate memory (Jowett & Cockerill, 2003). There is also the potential in retrospective studies on coaching for the behaviours of a coach potentially being evaluated by end results (Stirling & Kerr, 2013), whereas employing a longitudinal-type study design would likely provide a richer and more accurate representation, with greater clarity in terms of the variables in question. Amorose and Anderson-Butcher (2015) also highlighted that whilst in cross-sectional studies the significance of particular findings may be minimal, there may be a cumulative effect that occurs over time that can be more adequately captured during a longitudinal-type study (Amorose & Anderson-Butcher, 2015; Standage et al., 2003).

Given the viewpoints, debate, and directions evident in the literature examined above, the current study sought to draw on several key issues, gaps and suggestions evident in regard to determining a suitable methodology for research of the kind being proposed.

Attention was also given to the growing calls for studies to (1) utilise multiple methods of data collection (e.g., Haerens et al., 2018), (2) pursue and present methodological coherence (e.g., Poucher, Tamminen, Caron, & Sweet, 2019), and (3) consider the importance and benefits of conducting longitudinal-type case studies (e.g., Ntoumanis, 2012; van de Pol et al., 2015). On the basis of such considerations and in regard to the research questions under attention, a qualitative case study approach was seen as best suited, incorporating both an interpretive dimension and a longitudinal orientation, for eliciting data that would illuminate rich experiences and insights helpful in deepening an understanding of the elements under consideration.

3.4.1 Bridging the Theory-Practice Gap

Within sport research, including in regard to coaching, establishing sufficient congruence between the interests of practitioners and theorists has been a longstanding challenge. However, in 2007, Williams and Kendall suggested that an encouraging link was increasingly evident between the reported needs of coaches for enhancing their practice and the research that was being conducted in that regard. That said, it appears that the dissemination of the findings to more readily available fora (e.g., education programmes, coaching gatherings, coach consultations, sport-specific magazines) was, and still is, a central issue that requires attention.

Vella et al. (2010) posited that various models of coaching have not been as influential as they might have been through the often limited practicality of positivist research approaches. The positivist paradigm seeks to establish causal relationships where possible and develop findings that are directly generalisable; yet, this can risk an over-simplification of the coaching process and, consequently, a stifling of the advancement of meaningful knowledge (Cushion et al., 2006). Furthermore, a rationalistic and somewhat ‘removed-from-experience’ approach to coaching and coach

education research has led to a depiction that has often left coaches disillusioned with frameworks and programmes that, in theory, appear logical, but are somewhat disengaged from practical reality (Jones & Wallace, 2005). Both Cushion (2007) and Potrac et al. (2007) have highlighted that there have been challenges and regular frustration when attempting to apply research findings to the sophisticated and complex nature of the applied coaching scene.

Abraham and Collins (2011) proposed that a cull in the breadth of coaching science, and an increase in practical and useable theories and models, would help (1) to ensure that research maintains its relevance to practitioners (i.e., coaches and educators), and (2) avoid research becoming increasingly esoteric, and, thereby, irrelevant to the very domain for which the research was being conducted. Whilst such a proposition was, perhaps, excessive, it underscored the need to establish better links and positive associations between scientific research and the coaching community. Trudel et al. (2014) suggested that the increasing employment of qualitative designs was indicative of an attempt by coaching researchers to bridge the theory-research gap and that such researchers should be commended for this ambitious work.

In accepting that the motivational influences on elite-level athletes, as well as the ways through which basic needs are supported, will be in contrast with other sporting levels, Keegan et al. (2014) highlighted the need to examine in general what coaches specifically do to impact motivation. To date, the literature does not appear to have provided adequate empirical evidence to shed significant light in general on athletes' perceptions of the processes through which coaching behaviour influences basic psychological need satisfaction. What makes this challenging is that effective coaching relies considerably on 'structured improvisation' (Cushion 2003), and this can create a difficult challenge when attempting to make behavioural recommendations (Jones &

Wallace, 2010). It has been recognised that while specific behaviours of coaches are likely to influence motivation in particular ways, the nature of the effect will vary between contexts, situations and individuals' personal and athletic development levels (Keegan et al., 2010); thus, making it difficult to draw meaningful and all-encompassing conclusions and, subsequently, offer consistently relevant behavioural recommendations.

Whilst there is, largely, consensus throughout the literature (e.g., Frøyen and Pensgaard, 2014; Lyons et al., 2012; Mallet, 2005) regarding the importance of psychological need satisfaction within high-performance sport environments, there remains a paucity of studies that have provided findings involving (1) the meanings that high-performance athletes attach to the satisfaction/lack of satisfaction of such needs, and (2) the ways through which coaches can go about influencing the athletes' needs experience. The growing number of studies employing qualitative and mixed-method designs is likely to increase our understanding of these matters by procuring data that captures a rich representation of the dynamics. This has the potential to provide enhanced meaningful and practical learnings, with implications for those within high-performance sport in regard to coach education, performance and impact.

3.5 SUMMARY OF THE LITERATURE REVIEW

Since Deci and Ryan presented their basic psychological needs theory as part of their overarching self-determination framework, studies have made valuable contributions to the ways through which we consider and study such needs and their satisfaction. Whilst competence, relatedness and autonomy needs are considered by many as being both important and universal, there remains limited understanding of how high-performance athletes interpret and experience such needs within their environment; including, the impacts of need satisfaction/lack of satisfaction, the degree of interplay between each need, and how they can be supported, neglected and thwarted by coach(es). Extending

knowledge and understanding in this area will be of value to those individuals working within this aspect of sporting endeavour. This would be especially the case with coaches, for instance, in seeking to understand and employ a more need-supportive coaching style and being likely to benefit from a greater understanding of the significance of devoting time to nurturing relationships within high-performance environments.

Regarding coaching contributions to need satisfaction, studies have identified and labelled certain coaching behaviours as being, for the most part, autonomy-supportive or controlling and, thereby, have enhanced our understanding of how coaches can *potentially* go about establishing need-supportive *or* avoiding need-thwarting environments. Furthermore, considering the complexity of these dynamics and the indications that athletes' perceptions are important in determining the impact of coaching behaviours, further study exploring how needs can be supported or undermined seems important. Such work should include identifying factors that influence the nature of how athletes interpret coaching behaviours and subsequent need satisfaction/lack of satisfaction.

Up until recently, the majority of studies exploring athletes' basic psychological needs have investigated autonomy-supportive or controlling coaching with a focus primarily on the need for autonomy. Whilst such studies are valuable in their own right, what seemed to be lacking from early studies were investigations into how coaches can go about more directly nurturing the needs for competence and relatedness more directly, as well as all three needs together; thereby, deepening an understanding of need-supportive coaching overall. Moreover, due to the primary focus of attention being on either need-supportive or controlling behavioural styles, there has seemed to be a gap in understanding behaviours that could be considered as 'need-neglecting'; that is behaviours that are neither overly need-supportive nor need-thwarting, but likely to be perceived by athletes

as coaching that overlooks or disregards their needs. Although it seems that coaches, as a populace, are shifting away from employing controlling behaviours, enhancing understanding of key coaching behaviours and attitudes that have the potential to neglect needs would be helpful.

Whilst significant work has been completed examining coaching behaviour and basic psychological needs through cross-sectional studies often involving large samples, with an objective of establishing generalisable principles, perhaps the most glaring gap within the relevant literature landscape has appeared to be limited in-depth longitudinal-type explorations that involve rich descriptive data. The lack of such studies seems particularly pertinent given the multifaceted and phenomenological nature of the elements under consideration. As pointed out earlier, a common criticism of coaching research is that it is often overly simplified, presented in an esoteric manner, and lacks adequate practicality; in response, the researcher's vision for the current study was to pursue data that would deepen understanding as well as present the findings in a way that was clear and meaningful.

During the early stages of completing the literature review, the researcher began considering the merit of conducting an in-depth case study that would involve spending significant time within a unique setting and this was a notion that over time became increasingly alluring. As the literature review took further shape, a small number of studies (e.g., Frøyen & Pensgaard, 2014; Hodge et al., 2014; Keegan et al., 2014; Lyons et al., 2012; Mallet, 2005) were discovered that (1) involved high-performance participants, (2) prioritised depth (as opposed to sample size), (3) were satisfying and at times motivating to read, and (4) included practical recommendations and context relevance; leading to such works contributing to the approach and design of the current study.

As highlighted within this chapter, what we do know with some certainty is that coaches typically have a significant influence on the experiences of their athletes, likely mediated or at least significantly influenced by the athletes' perceptions of how their basic psychological needs are supported and/or neglected. Moreover, findings from the extant literature have largely confirmed that basic psychological needs are relevant and important for athletes, as is their being adequately satisfied. An area for further investigation however, is exploring athletes' perceptions of the various ways through which coaches contribute to their basic psychological needs, as well as understanding the significance to athletes, from their perspectives, of experiencing need satisfaction within their sport environments.

The aim of this study then was to investigate within the context of a bounded high-performance team environment athlete perceptions of and experiences regarding their basic psychological needs and their coaches' contributions towards meeting such needs. Extending from that aim and based on the findings an intention was to offer coaches informed insights into athletes' basic psychological needs and the attitudes and behaviours of coaches most likely to contribute to their satisfaction. The researcher hopes that this study, which begins being addressed within the following Methodology Chapter, contributes meaningful knowledge to the current body of research in extending the extant work, and addressing some highlighted gaps.

CHAPTER FOUR

METHODOLOGY

4.1 INTRODUCTION

This chapter provides an in-depth explanation of the research purpose, design, methodology, and the overall investigation. Research objectives are provided and consideration is given as to how they refined the research questions. The philosophical framework within which the study was conducted is also discussed; including, the research paradigm and the researcher's ontological and epistemological assumptions. The study design is presented, and ethical considerations are discussed. Finally, the employed data-gathering and data-analysis techniques are laid out and described in detail. Ultimately, this chapter provides readers with a comprehensive understanding of how the study was designed and executed.

As has been outlined, past research has provided significant insights into the interplay between coach and athlete concerning motivation and basic psychological needs. In essence, the present study sought to extend aspects of the more recent, aforementioned, work (e.g., Adie et al., 2012; Amorose & Anderson-Butcher, 2015; Frøyen & Pensgaard, 2014; Hodge et al., 2014; Mallet, 2005) by conducting a case study of a high-performance sports team that would contribute insights into athletes' perceptions of their basic psychological needs as well as their coaches' contributions to satisfying such needs within the team environment. It was decided that this would best be achieved through conducting a substantive qualitatively-oriented case study that would elicit rich and meaningful data from participants and from the interactions within the team.

Maintaining cognisance of the research objectives, and seeking to answer the research questions, the researcher undertook an observational presence within the team

environment over a seven-month (almost season-long) period. During that time, participant interviews were conducted and observations of the team environment were undertaken *in situ* within a variety of settings (i.e., practices, games, team meetings and social activities), with particular emphasis on coaching behaviours and coach-athlete interactions.

4.2 PHILOSOPHICAL FRAMEWORK

An important aspect of executing and presenting research is developing and declaring the philosophical viewpoints from which a study is informed and carried out (McGannon et al., 2019). This enhances the likelihood of establishing, and, importantly, portraying methodological coherence (Poucher et al., 2019), which has been highlighted within the literature (e.g., Smith & McGannon, 2018; Sparkes, 1998) as an important area for consideration. Various paradigms (e.g., positivist; post-positivist, critical) have been used in regard to coaching research (Mallett & Tinning, 2014), each incorporating their own unique ontological and epistemological assumptions.

As highlighted within the Introduction (Chapter One), the current study was conducted from and underpinned by an interpretivist paradigm. Interpretivist research is rooted in the notion that knowledge is socially constructed, in contrast to the more traditional view that realities can only be objectively examined or investigated (Potrac et al., 2014). An interpretive approach to research seeks to understand peoples' perceptions of their own experiences (Hennink et al., 2011), whilst also acknowledging that a researcher in pursuit of such understanding cannot avoid having some influence on the process of generating new insights.

This study was not seeking to establish a single and objective truth, as typically is the goal within the positivist paradigm (Moran et al., 2011), but, rather, the researcher looked

to elicit and explore the athletes' subjective experiences within a specific social context and understand the various ways through which they perceived that their coaches had contributed to their psychological needs. Research of this kind involving efforts to explore and better understand coach-athlete dynamics from an interpretive perspective has been used in numerous studies (e.g., Hodge et al., 2014; Jones & Wallace, 2005; Nelson, Potrac, Gilbourne, Allanson, Gale, & Marshall, 2013; Purdy & Jones, 2011).

Generally, an interpretive paradigm adopts a relativist ontological assumption (Potrac et al., 2014) that accepts the existence of multiple, mind-dependent, realities that are uniquely constructed (Sparkes & Smith, 2009) and experientially shaped and influenced (Erickson et al., 2016). There is acknowledgement of and acceptance within this perspective that realities exist beyond the individual's mental constructions; however, the meanings and interpretations that are so constructed in relation to personal experiences play a central role in determining the characteristics of such realities (Sparkes & Smith, 2014). Such a viewpoint contrasts with a realist ontology, which suggests that there exists a singular truth that is independent of individual perceptions, and, as such, is suitably linked with a positivist epistemology (Weed, 2009).

The current study adopted a subjectivist epistemology that holds that each individual constructs their own realities, and that, in research, the researcher inevitably does the same in seeking to engage with and understand the realities of the participants (Uehara, Button, Falcous, & Davids, 2016), as opposed to being able to remain totally objective. Those subscribing to this viewpoint regard research as being interactive and co-constructed between the researcher(s) and the participants (Howell, 2013). Thus, within a subjectivist epistemology, knowledge cannot exist or be generated independently of one's experiences, values, or prior knowledge (Lincoln, Lynham, & Guba, 2018; Poucher et al., 2019).

Aligned with the aforementioned philosophical underpinnings in regard to a subjectivist epistemology, in this study the researcher sought to gain insights into the participants' realities comprised of their experiences and interpretations of their basic psychological needs and of their coaches' contributions to the satisfaction of such needs. Collectively, this viewpoint and the aims of the study shaped the research questions and methodology used, which are presented within the following sections.

4.3 RESEARCH QUESTIONS

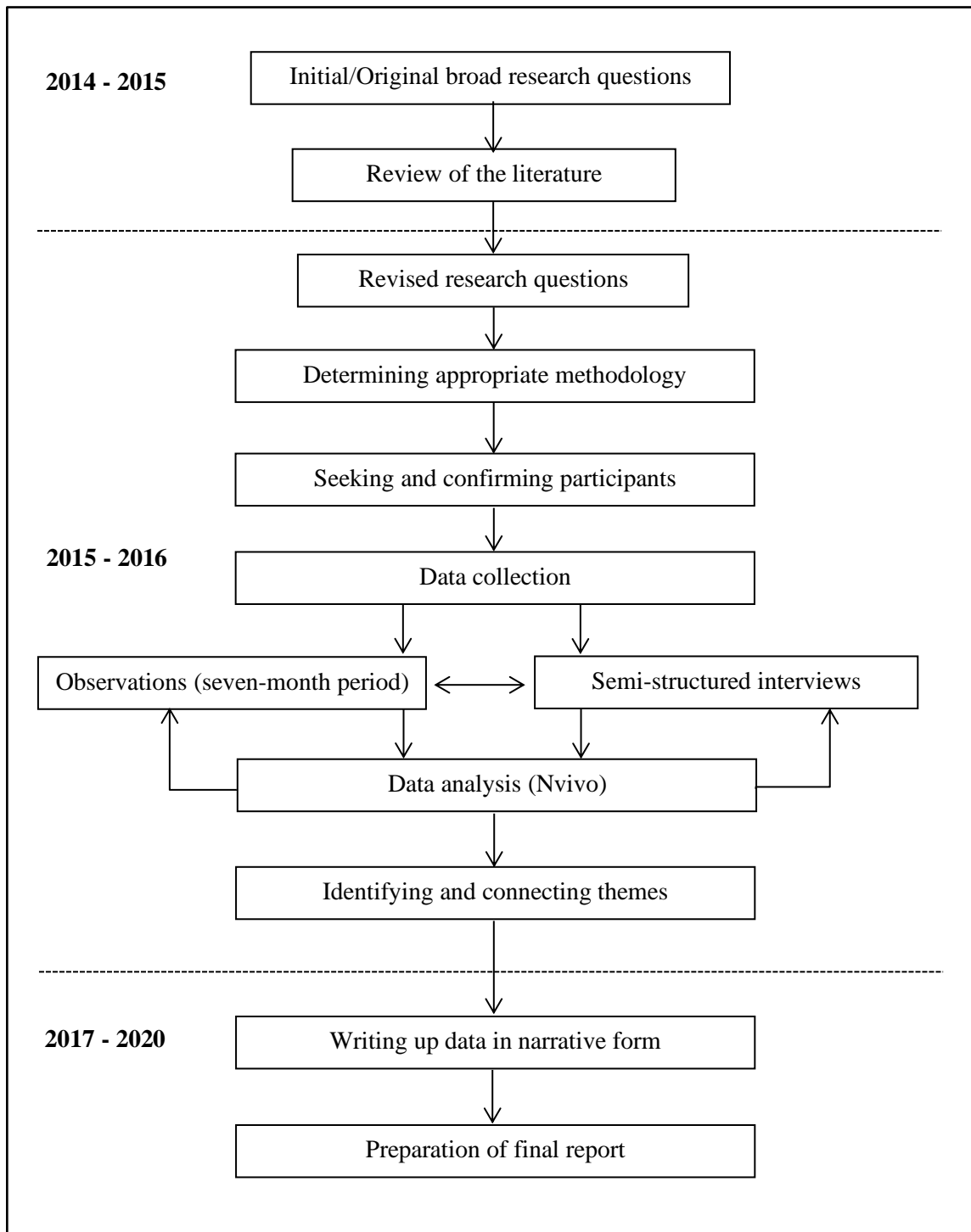
Following initial discussions amongst the candidate and supervisors in regard to the candidate's areas of interest and potential questions to explore, the researcher undertook a review of the relevant literature. The review provided a level of critical understanding of the literature landscape from which the following questions were generated for this investigation;

1. What perceptions do high-performance athletes have of basic psychological needs (for competence, relatedness, and autonomy) and of the importance of these needs being satisfied within the context of high-performance sport?
2. What coaching behaviours do high-performance athletes perceive as contributing to satisfying their needs to experience feelings of competence, relatedness, and autonomy?
3. What coaching behaviours do high-performance athletes perceive as being neglecting of their needs to experience a sense of competence, relatedness, and autonomy?

4.4 RESEARCH DESIGN

4.4.1 Mapping the Research Methodology

Drawing conclusions that would help provide answers to the research questions relied on identifying and selecting an appropriate methodology that would procure rich and relevant data, as well as employing appropriate methods of data analysis. Figure 9 illustrates the research process in its entirety to provide a visual representation, a timeline, and an overview of how the study was conducted.

Figure 9*Research process and timeline***4.4.2 Qualitative Research**

Qualitative research is concerned with the study and understanding of qualitative data, which Punch (2009) defined as “data which are not in the form of numbers” (p. 3). As

opposed to a quantitative approach that results in measurable data (e.g., numbers or ratings), qualitative research pursues a deeper understanding of various perspectives and perceptions that can be used to enhance our understanding of a particular area. Qualitative studies involve the procurement and analysis of various types of non-numerical data, including rich descriptions of a research setting and/or in-depth interview transcripts (Tenenbaum & Driscoll, 2005).

Patton (2002) referred to the choice of qualitative or quantitative methods as a pragmatic decision based on what one wants to know. Furthermore, Patton described the underlying difference as being like “if you want to know if someone is obese, use a scale, however if you want to know what their weight *means* to them and how it affects them, then you need to ask questions about their experiences” (p. 13). Another way of looking at the paradigm is that while quantitative methods are more concerned with *examining* a phenomenon, the purpose of qualitative methods is *exploring* (Tenenbaum & Driscoll, 2005) and *finding ‘meaning’* within it (Shank, 2006). For instance, quantitative methods would be an appropriate paradigm for measuring and quantifying basic psychological need satisfaction; however, to gain an understanding of how athletes perceive and interpret their coaches’ behaviours as being supportive or neglecting of their basic psychological need satisfaction, qualitative methods would seem appropriate.

As is the case within this particular study, such an approach is typically underpinned by an interpretivist perspective that maintains that people construct their own realities based on how they interpret themselves and the environments within which they exist, and that exploring such interpretations is important (Amis, 2005). Given the research objectives and interpretive nature of the study, it was decided that a qualitative inquiry was appropriate to pursue, which involved a case study design. Furthermore, interpretative phenomenological analysis (Smith, 1996; IPA) was employed as the

framework for data-analysis as it was believed that it would be an effective method for interpreting the participants' lived experiences and, thereby, suitably informing the research questions.

Winter and Collins (2015) highlighted that IPA incorporates elements of both social and cognitive psychology, here providing scope for the researcher to examine both personal and social dimensions. Eliciting data relevant to the research questions through gaining insights into the athletes' experiences within a high-performance team environment was the researcher's primary objective, and IPA was therefore considered to be an appropriate framework from which to analyse the data within this particular case study. IPA has been utilised in a number of studies within the coaching and sport psychology fields (e.g., Callary, Rathwell, & Young, 2015; Capstick & Trudel, 2010; Lundkvist et al., 2012; Winter & Collins, 2015), and is regarded overall as an acceptable approach for analysing qualitative research data (Smith & Eatough, 2007).

It is important to note that although IPA is generally viewed as being an approach most suitable for studies involving a small number of participants, it has been adopted from time to time in studies involving larger sample sizes. For instance, it has been used in studies exploring such concepts as psychological resilience (e.g., Sarkar & Fletcher, 2014; 13 participants), coach communication (e.g., Capstick & Trudel, 2010; 15 participants), coping effectiveness (e.g., Nicholls, Holt & Polman 2005; 18 participants), and experiences of competition (e.g., Warner & Dixon, 2015; 76 participants). Furthermore, Holland (2014) explicitly highlighted that although she had initially planned to use thematic analysis in a study involving 13 individuals, a late decision was made to instead employ IPA, and she felt that, although challenging with such a number, it provided a richer account of the participants' experiences. The various conceptual elements of IPA and its use within this study is explored further within Section 4.6.1.

4.4.3 Case Study Design

A case study approach was decided upon as it has the potential to gather rich data to address the stated research questions by allowing the researcher to spend a significant amount of time with the participants and within the team environment, and, thereby, gain a deep understanding of the context and how things operated within it. Case studies seek to explore and “...understand a case in depth, and in its natural setting, recognising its complexity and context” (Punch, 2009, p. 119), and allows a researcher to investigate a particular context through the integration and comparison of various perspectives (Johnson et al., 2012). A case gets selected and studied because the complexities of a specific context are deemed to be important and could potentially stimulate new insights (Tenenbaum & Driscoll, 2005), and it focuses on the *how* and *why* of the elements to be investigated within the case context (Stake, 1995; Yin, 1994).

Yin (2009) highlighted a key strength of case studies as being able to provide the opportunity to examine whole units in a natural setting often involving multiple forms of data-collection, as opposed to studying aspects of units, and this can be particularly relevant when examining, amongst other things, small group behaviour. Yin (2009, p. 2) outlined that case studies, while being one of the more challenging of social science endeavours, are the preferred method of qualitative inquiry when;

- (i) “*How*” or “*Why*” questions are being posed;
- (ii) the investigator has little control over the events; and
- (iii) the focus is on a contemporary phenomenon within a real-life context.

Whilst it seems that traditionally case studies have been used somewhat infrequently within the sport science literature (Horn, 2008b), they have played an integral role in the accumulation of knowledge in various fields and have the potential to identify meaningful

intervention strategies that may lead to enhanced performance and psychological well-being (Sharp & Hodge, 2013). By studying particular individuals or groups, Hodge and Smith (2014) posited that we can draw logical assumptions and extrapolate these to individuals in similar environments (i.e., in this context, across comparable high-performance sport settings).

Despite some criticism (e.g., Flyvbjerg, 2011; Punch, 2009) surrounding the limited external validity/transferability of case studies, the challenge in this doctoral investigation was to seek to produce findings that would be appropriately transferrable to similar cases, particularly within high-performance sport environments. From a positivist perspective, comparative and correlational studies would likely enable stronger and more reliable generalisations; however, an interpretivist viewpoint (e.g., Williams, 2000) would suggest that learnings from a case study may still be valuable and potentially transferrable to similar settings. For instance, Johnson et al. (2012) highlighted that a researcher's interpretations of case study data can be valuable for comparing with other environments.

It has been highlighted (Stake, 1995; Yin, 2009) that case studies can validate or extend existing theories by providing novel findings that enhance our understanding of a particular phenomenon; for instance, and with regard to this study, insights into basic psychological needs that are considered as having universal relevance. Whilst one case study may not in its own right generate profound philosophical, theoretical or practical changes, either within the case concerned or similar contexts, it has the potential to provide sound insights, and for these to form the basis for future researchers to replicate the study in similar and/or contrasting environments and, therefore, to deepen our understanding of the issues concerned. To enhance the transferability of the present study, the researcher sought to (1) select and use appropriate data collection and analysis techniques (explained in detail in the following sections) and, (2) accurately conceptualise

the findings (Punch, 2009). The latter was performed utilising, mostly, an inductive approach, moving from participant perceptions of psychological needs and specific coaching behaviours to more generalisable themes.

4.4.4 Selection of Case and Participants

A high-performance female sports team that competed in a New Zealand national league became available opportunistically and was selected for the case study. Agreement for involvement was negotiated through initial email conversations and subsequent meetings with key stakeholders; namely, the organisation's high-performance director and head coach of the team. Purposeful sampling is a commonly utilised selection method in case studies (Ridder, 2017; Yin, 2011) as well as in studies utilising interpretative phenomenological analysis (Larkin & Thompson, 2012). This method of sampling determines a case and the participants to be involved, based on the aims and objectives of the study and the availability of a relevant and sufficiently bounded unit (Smith & Eatough, 2007; Strauss & Corbin, 1998). Purposeful sampling in this case involved, potentially and then actually, all the athletes and coaches in the team to which the researcher had the privilege of access.

The study involved 18 participants in total; specifically, 15 athletes and three coaches. All individuals agreed to be involved in the study and signed consent forms to participate in one-on-one interviews and to be observed throughout the data-gathering phase. One athlete participant decided that she did not want to be interviewed, but was comfortable about being observed, and one other athlete could not be formally interviewed a second time, as was planned for the study, due to overseas sporting commitments. The athletes varied in age between 18 and 31 years and ranged from highly experienced international-level professional athletes through to regional-representative athletes who juggled their sporting commitments with work and/or study.

It is noteworthy to mention that having several international-level athletes who represented the national team in addition to playing for the team focused on for this study did create some tensions within the team. For instance, there were differences in fitness work requirements (i.e., international-level athletes working on fitness-level plans from their national trainer) and, for some, a perception of differential treatment arising from elevated profiles, which always has the potential to create tension (see Stuntz & Boreyko, 2018). Furthermore, for those athletes engaging with national coaches outside of the immediate environment, this likely influenced the extent to which their basic psychological needs satisfaction was dependent on their engagement with the coaches in question. It might also have prompted contrasting comparisons in this regard between the two sets of coaches with whom they were involved. Finally, this reality may have also impacted on the ways through which the coaches within this team interacted with the international-level athletes. To a degree, this difference thereby affected the bounded nature of the case being studied.

The team coaching staff included one female coach and two male coaches. As at the time of the study, professionalism (regarding monetary payments) in the women's form of the sport concerned was beginning to grow rapidly; however, budgets and resources were still relatively limited. Consequently, the two assistant/specialist coaches held only part-time positions within the team. As specialist coaches they worked with specific positional groups and supported the head coach in other areas.

The overall staffing group also included the roles of team manager, physiotherapist, and strength and conditioning coach, all of whom were in part-time positions. Although such individuals inevitably would have some degree of impact on the basic psychological need satisfaction/lack of satisfaction of athletes, they and their contributions were not directly targeted in the study as it was decided that focusing on the three coaches

throughout the study was ambitious enough. Those additional individuals were inevitably included in the observational attention, but their more direct contributions to the area of interest were not examined. It is also important to acknowledge, as was indicated within the consideration of the literature, that the same basic psychological needs for a sense of competence, relatedness and autonomy would have been in operation for the coaches themselves within the study, and their personal experiences relating to such needs would have influenced their behaviours and interactions with the athletes.

The candidate was satisfied that the selected case (i.e., team/coaches/athletes) would provide data that would adequately inform the identified research questions. The following background factors contributed to the engagement with the case and the participants involved:

1. Whilst there has been a large body of research conducted that has investigated coaching behaviours, only limited research has been conducted that has qualitatively explored high-performance athletes' experiences and perceptions of coaching behaviour. This has led to a limited understanding of such areas, both internationally as well as in New Zealand sporting environments.
2. The professional/amateur nature of the team/participants, and consequential challenges faced, are ubiquitous throughout New Zealand sport environments and, therefore, provided a context that would likely produce findings relevant to a significant cohort of coaches, organisations and researchers. Stake (1994) suggested that a key aspect of case selection should involve selecting a case that will maximise learning; therefore, this was considered important to the study.
3. The location of the team headquarters and training/playing facilities allowed for *relatively* easy commuting back and forth by the researcher as required to conduct interviews and observations so there was also an important convenience

dimension to this selection. Due to the significant time commitments of this study, this was a critical factor in allowing the researcher to achieve a fly-on-the-wall-type presence over a relatively prolonged period.

4. During an initial meeting, the head coach of the team described their philosophy as being athlete-centred and autonomy-supportive. The researcher asked the coach to elaborate what that meant to them, and it appeared that the coach was knowledgeable about the concepts. Such a response was a contributing factor to the researcher confirming that the team would be appropriate as a case study that would help in the pursuit of meaningful answers to the research questions.
5. Due to the extensive and time-consuming nature of case study methodology, including as it did interpretative phenomenological analysis, it was decided, after engaging more fully with the literature (e.g., Larkin & Thompson, 2012; Smith, 2004; Smith & Eatough, 2007), that having a single case rather than comparative cases would be best suited to the study. Moreover, Smith (2004) has encouraged researchers to be bold and, when appropriate, to conduct detailed and thorough examinations of single cases. Further, given the nature of the study, it was also important to find a team/organisation that was open to allowing a researcher to maintain a presence in the team environment over a prolonged period (not to mention coaches who were willing to be constantly under observation).

4.4.5 Ethical Considerations

Being welcomed into a team environment to conduct a research study is a privilege that was not taken casually. The researcher was mindful that he represented himself and Massey University. The researcher also felt, to a certain degree, that given the nature and focus of the study and his involvement in the field of sport psychology as a teacher and a practitioner, he also represented that field to a degree. Whilst sport psychology is a

rapidly growing field, globally as well as in New Zealand, many individuals still have a fairly hesitant and cautious stance towards it, and the researcher was cognisant that this study should not have a negative impact on the participants' perspectives of what that field has to offer.

Prior to commencement of the study, it was important to consider various ethical issues to ensure that the study was morally and ethically acceptable (Gratton & Jones, 2004). This involved crafting and submitting a substantive research proposal to the Massey University Ethics Committee that outlined various aspects of the study; including, (1) research objectives, (2) data collection methods, (3) data analysis strategies, (4), cultural considerations, (5) qualifications of the candidate (and supervisors) to conduct such a study, and (6) various forms that would be used throughout the study (i.e., information forms, consent forms, interview scripts). Such a process provided opportunity for experienced and objective personnel to gauge the appropriateness of the study and ensure that it would be conducted with an appropriate level of benevolence and ethical responsibility. The research proposal was accepted, and the Ethics Committee provided written approval to conduct the study (refer to Appendix 1).

Various ethical considerations were identified throughout and actions taken within the research process, and these are discussed herein.

Gaining entry and trust. Initial communication with the participants was made (via email) through the High Performance Director (HPD) of the sporting organisation concerned. A meeting took place a week later between the researcher and the HPD at the organisation's offices, which involved discussion around the objectives and methods of the study. Further matters concerning confidentiality and potential benefits of being involved in the study were discussed (listed below). Following this discussion, a

subsequent meeting was arranged between the researcher, the HPD, and the head coach of the team. This meeting was similar in discourse to the initial meeting; however, it was the first meeting between the researcher and the head coach, so it was a particularly important discussion, as first impressions were made and initial responses/concerns about the research were communicated and discussed.

Following these first two meetings, the HPD and head coach both gave their consent to being involved, and, also, gave permission for the researcher to attend the first team meeting/training of the season to address the athletes regarding their potential involvement. This meeting took place three weeks after the initial meeting. At the first team meeting, the researcher was introduced to the group and was allocated time to talk with the team about the proposed study. This was the opportunity to discuss the reasons for conducting the study, the objectives, and methods to be employed, as well as talking about how confidentiality protection would be pursued. Furthermore, potential benefits to being involved in the study were conveyed to the team members so that they understood how their involvement might benefit their organisation, the sport in general, and the sporting literature; with the following benefits being explained:

1. A summary of the findings would be given (on request) to the team members upon the completion of the study.
2. Coaches would have access to in-depth information regarding their identified behaviours (as a group) and how athletes interpreted such behaviours.
3. The participants would make a contribution to the advancement of the sport coaching and sport psychology literatures regarding coaching behaviour (and, therefore, potentially enhancing coaching education and practice).

Athletes' perspectives were sought regarding potential challenges that they envisaged, so that there could be discussion regarding any concerns (e.g., where observations would take place, where the researcher would situate himself, appropriate times to approach athletes, etc.). At this point, there were no major concerns raised regarding the study or objections to the researcher's presence in the team environment. Finally, participants were provided with an Information Sheet about the study, which also listed the researcher and supervisors' contact details, as well as those of Massey University's Ethics Committee, so that they could make contact should any concerns emerge concerning the research. All participants (coaches and athletes) were provided with consent forms to complete if they agreed to being involved in the study. At this juncture, consent forms were completed by all team members and given back to the researcher.

As part of ethical responsibility, efforts have been made to protect the identification of the team itself in the write-up and any dissemination of the study. Due to various nuances, some readers may have a sense of what team/sport was involved; however, steps have been taken to reduce this likelihood. Firstly, neither the team nor sport are named or referred to at any point in the dissertation. Secondly, when participants' comments were sport-specific, the particular words used have been changed slightly to be more general in nature. Finally, observation notes/accounts have been crafted in ways that are designed to be sufficiently meaningful but also somewhat generic, to, again, reduce the likelihood of revealing the sport, team, and/or participants involved.

Moreover, a key feature of the study was ensuring that all participants were assured and, subsequently, trusted that personal information would not be attached to their data at any point during the study, and that confidentiality would be maintained. This ensured that athletes understood that (1) readers of the final dissertation would be unlikely to

identify or link quotes with any one individual, and (2) coaching staff would not be provided with information relating to how each athlete perceived and described them and/or their coaching behaviours. This was a fundamental step in ensuring that accurate data were collected as honest responses to the interview questions were less likely if athletes believed that their coaches/teammates would be informed of or be able to identify their individual responses.

Once entry to the team environment had been granted, it was important to obtain the trust of the participants. Building rapport is an essential step for acquiring accurate data through interviews and having any extended presence with participants. Krane and Baird (2005) suggested that to establish rapport in a sport environment, researchers should “be sincere, communicate empathy, breakdown communication barriers, understand and employ the participants’ language, establish common ground, assist in everyday chores, and be humble” (p. 93). These were all strategies that the researcher strived to genuinely convey throughout the study; for instance, checking for permission prior to entering certain rooms or facilities, and regularly thanking the participants.

To enhance the credibility of the study, the researcher explicitly conveyed to the participants the objectives of the study (i.e., to pursue athletes’ interpretations of coaching behaviours, as opposed to judging athlete or coach effectiveness) and the importance of collecting honest and accurate data. Secondly, it was important that the researcher was not viewed as a performance consultant or a specialist that was being brought in from outside to fix a problem. Again, this was reiterated to the participants during the first meeting. These messages were conveyed as it was believed that the likelihood of participants behaving normally (thereby minimising any likely observer or ‘*Hawthorne*’ effect) and answering questions openly and honestly would be enhanced if they understood that they were not being judged or placed in a threatening situation.

Participation was voluntary. All participants had the right to accept or reject the invitation to be involved in the study. Moreover, the participants were informed that if they were to give their consent to being involved, they had the right to withdraw from the study at any time. The head coach of the team was also asked by the researcher to inform the athletes that they were under no obligation to be involved through partaking in interviews and that their decision to be involved/excluded from the study would in no way affect their position in the team or relationship with the head coach and the organisation.

Record keeping. All files and documents regarding the study were kept in the locked office of the researcher as well as being stored on a computer that required a password. Letter/number combinations (e.g., 'A1'; 'CX') were assigned to each participant and were kept strictly confidential. These letters/numbers were to be used at any point where the findings would be conveyed. Participants were informed that they could request access to their specific data at any time (i.e., the interview transcripts) via the researcher. Participants were also informed that, after the study, upon request, they would receive a summary of the findings.

4.5 DATA COLLECTION

The following sections describe the data-collection methods utilised within the study. Consistent with case study methodology that often involves multiple forms of data-collection (Creswell, 2009; Yin, 2009), this study involved formally interviewing participants on two separate occasions (approximately seven months apart) and conducting observations of the team environment during formal team activities (i.e., meetings, trainings, games) that took place over the course of a seven-month (almost season-long) period. The observational period stretched from the first team meeting of the season and pre-season training and finished approximately eighty percent of the way

through the season as agreed to at the time by the researcher and the team. Whilst the researcher was confident that the team would have agreed to an extended period if necessary and requested, it was believed that data-saturation regarding observational data had in fact occurred by that particular point.

4.5.1 Interviews

Within case study investigations, participants can be viewed as ‘experts’ or ‘actors’ (Smith & Eatough, 2007; Stake, 1995) and the use of interviews allows for data to be generated based on various and unique perceptions and the meanings participants attach to various phenomenon (Tenenbaum & Driscoll, 2005). Potrac et al. (2000) suggested that enhancing an understanding of coaching and the experiential, social, and contextual factors that underpin the coaching process can only really be achieved through interpretive investigation such as through interviews. As this study, incorporating as it did interpretative phenomenological analysis, sought an understanding of the participants’ lived experiences, interviews were viewed as the most appropriate type of data collection, and, therefore, was the primary data collection tool utilised.

Due to the nature of the investigation, the researcher believed that it was critical that there was scope to reframe and ask additional questions during interviews if it seemed that this would obtain fuller relevant data. With that said, it was equally important that standardised questions were asked during the interviews to provide a necessary structure within which to pursue and consider responses. Whilst a structured interview would allow for maximum comparability of interviews, semi-structured interviews provide more accurate depictions of informants’ perceptions (Minichiello, Aroni, Timewell, & Alexander, 1990). Furthermore, it appears that the semi-structured interview is the most common and exemplary data-collection method when conducting interpretative phenomenological analysis (Smith & Eatough, 2007; Smith & Osborn, 2003; Winter &

Collins, 2015). Consequently, semi-structured interviews were deemed to be most suitable for the present study as such an approach would (i) ensure that necessary data were obtained, while, simultaneously, (ii) provide an adequate degree of flexibility to pursue fuller details as seemed necessary and desirable.

As earlier indicated, one of the participants declined to be formally interviewed during the study, whilst one other was unable to be formally interviewed the second time after being interviewed in the first round. The remaining participants were formally interviewed twice each. The first interviews took place in the first month of the team's campaign (i.e., during pre-season training) to gain initial thoughts and perceptions of the importance that individuals placed on psychological need satisfaction within the team context and of coaching behaviours impacting that intent. It was envisaged that the coaches would likely employ and emphasise different coaching behaviours as the season progressed as a response to athlete needs as well as, potentially, growing pressures and expectations on performance outcomes. The second round of formal interviews was conducted approximately seven months after the initial ones (during the month after the season had finished), to gain insights into any variance to perceptions, and also shed light on coaching behaviours that were utilised during the season after the first round of interviews had been conducted. Also, from time to time (e.g., during breaks at a training session), participants might informally mention something to the researcher (e.g., views about a particular coach; feelings of belonging or isolation), and these interactions were subsequently recorded into the researcher's field notes and helped deepen the researcher's understanding of participants' experiences.

The formulated interview scripts (first and second rounds) were developed from the theories that informed the framework for the study; namely, basic psychological needs theory (Deci & Ryan, 2000) and self-determination theory (Deci & Ryan, 1985).

Furthermore, given its use within the data-analysis, literature on interpretative phenomenological analysis (Smith & Osborn, 2003) was explored and considered as interview scripts were crafted. The interview scripts were similar in nature, with the first round focusing more on initial perceptions of their basic psychological needs and coach contributions (e.g., general beliefs and perceptions of early coach-athlete interactions) and the second round having similar areas of focus but involved the participants reflecting on how such elements had played out throughout the season. The scripts involved questions regarding competence (e.g., *In what ways do your coaches engage with you to make you feel competent?*), relatedness (e.g., *How have your relationships with your coaches affected you?*), and autonomy (e.g., *What do your coaches do that encourage autonomy?*).

In line with suggestions from Gratton and Jones (2004), the interview scripts (1) followed a logical order to avoid jumping about from topic to topic, (2) started with one or two ‘easy’ questions as ice-breakers to establish rapport and comfort between interviewer and interviewee, and, (3) were clearly worded to avoid ambiguity or confusion. Nestor and Schutt (2012) have also highlighted the importance of developing rapport with participants during the initial stages of an interview, so each interview script started with an open-ended question (e.g., *“Tell me about your position on the team”*) that allowed the participant to reflect and share insights regarding a non-threatening topic (refer to Appendices 5 and 6 for the full interview scripts).

As encouraged within the literature (e.g., Gratton & Jones, 2004; Stake, 1995), pilot interviews were conducted with two individuals in a convenience sample of similar-level athletes prior to commencement of the actual study, to gauge appropriateness and reveal any likely issues. Following the pilot interviews, several subtle changes were made to the wording of questions (e.g., reduced esoteric language). This exercise also enhanced

the researcher's familiarity with the interview scripts and, subsequently, led to greater ease of interaction during the actual data-collection phase.

With permission, the interviews were recorded via a dictaphone so that the researcher was free to engage fully with the participants rather than taking notes at the time. This allowed the researcher to (1) display interest in and connect with the participant, which helped foster a positive rapport, and (2) concentrate to the level required that ensured a high quality interview (Nestor & Schutt, 2012), particularly given the flexible nature of semi-structured interviews. Following each interview, the recording was used to manually type the transcript verbatim on the researcher's computer for analysis, and the audio recording was saved so that it could be later accessed if needed for re-checking/clarifying information.

4.5.2 Observations

Undertaking observations was the second form of data collection used in this case study which were enacted to enhance contextual awareness and to provide a richer portrayal of the issues of interest. The objective of qualitative observation (i.e., 'fieldwork') is to spend time in a setting where one can fully observe a phenomenon and describe what it is that is seen (Tenenbaum & Driscoll, 2005). Whilst often utilised in ethnographies, observations are often also conducted in various other types of research (e.g., phenomenology; case study) to provide greater contextual understandings of, for instance, the participants' lives *in situ* (Sparkes & Smith, 2014).

In this case study, the key data being pursued were coach behaviours and coach-athlete interactions, and the researcher also attempted to capture the various nuances of the case study environment. Furthermore, data collected within observations were utilised from time to time to cultivate potential discussion points for the interviews; for

instance, the researcher was able to pursue participants' perspectives and interpretations of various events that were witnessed during observations (e.g., *Can you tell me about how you interpreted [certain behaviour]?*). Finally, as encouraged (e.g., Patton, 2015), observations were conducted to allow for cross-checking of information, improved likelihood of consistent interpretation, and enhanced credibility (Tracy, 2010).

Although there are various types of observations, the current study employed a passive non-participant form that involved seeking an accurate representation of the situation being observed whilst striving to have minimal influence over the behaviour of the participants (Punch, 2009). The objective of this case study was to gain an accurate depiction of how coaches engaged with athletes, and this would only be achieved if the researcher could stay true to his research role and function. Having said that, Tenenbaum and Driscoll (2005) highlighted that although one might begin research observations with the intention of being simply an observer, over time participants can get drawn in and a shift towards being a participant, in some way, can occur, and, thus, this highlighted a point for consideration.

Throughout McConnell's (1996) case study of the New Zealand All Blacks rugby team, which had similarities to the current study, he employed numerous self-imposed strategies to maintain a balance between being regularly present in the environment, while seeking to have minimal impact (p. 102). These strategies were perceived as being relevant to the current study and, consequently, were utilised throughout the involvement in observing:

1. Dressing to fit in, but not be identical (i.e., avoiding team colours, sports attire).
2. Occupying a place in team space that allowed for recording but which did not disturb.

3. Sitting at the back of team meetings.
4. Using recording equipment that was as silent as possible (i.e., pen/paper as opposed to typing).
5. Finding an appropriate seat when travelling that did not intrude on rituals/routines.
6. Helping with basic tasks (such as carrying equipment prior to or following sessions) when deemed to be helpful.
7. Maintaining silence in a changing room or when athletes/team were preparing to perform/compete.

Within the current case study, the observations had no distinguishable structure other than that the primary observation focus was on coaching behaviours and their likely effects (with particular focus on basic psychological needs). With that said, however, during the observations the researcher looked to document his interpretations of the whole environment (e.g., communication, enjoyment levels, session objectives), so that these could later be drawn on and perhaps interpreted further to provide a richer description of the environment and context for the dynamics associated with coaching behaviours.

Throughout the season, observations were conducted in various settings so that a comprehensive range of coaching behaviours were attended to and to reduce the risk of missing meaningful data (e.g., particular coaching behaviours or noteworthy athlete responses). To gain a full, accurate and holistic perspective of coach-athlete dynamics, it was important that the observations incorporated various settings; including, practices/trainings, official meetings, informal discussions, and competition. As indicated earlier, coaches engage in various behaviours depending on the context and situation they are in (Cheon et al., 2015; Taylor et al., 2009); therefore, conducting observations in as wide a range of settings as possible was believed to be integral to the potential depth and quality of the study. For instance, whilst a coach may be largely

autocratic (coach-centred) during competition, he/she may be more democratic (athlete-centred) in a practice environment, so ascertaining how the situation concerned might have influenced behaviours was essential.

Observational data were recorded via field notes as this method allows for capturing details that are observed in the investigation (Tenenbaum & Driscoll, 2005). No universal protocols or guidelines appear to exist for 'best practice' field notes, as each environment is different and researchers will have their own idiosyncrasies for recording notes effectively (e.g., writing materials, shorthand, symbols, storage, etc.). With that said, consistent with suggestions from Gratton and Jones (2004), field notes should be (1) descriptive (i.e., describing the setting, participants, actions, behaviours), (2) detailed (i.e., to include as much meaningful information as possible), and (3) reflective (i.e., include the researcher's interpretations of the situation). Such guidelines are congruent with suggestions from Patton (2015) who suggested that field notes need to be both descriptive and interpretive in nature. It is important to record both what occurred (i.e., a description) as well as the researcher's interpretations of the events to help with analysing the various data more fully at a later time, as well as providing a greater contextual understanding of the phenomenon.

Taking notes by hand into A5 notepads was the researcher's primary method of recording the observed data. Initially, it was envisaged that data would be recorded straight into a portable computer; however, that was deemed problematic for several reasons. Firstly, the researcher was standing during most of the observed sessions, so typing was not a realistic option. Secondly, the researcher moved around a lot, so carrying a computer would have been difficult. Finally, recording notes into a notepad could be performed more discreetly (e.g., limited noise, less obvious), and, therefore, less likely to cause distraction or influence the environment in a meaningful way. Once away from the

sessions (i.e., that night/following morning), the researcher used the notes to write fuller observation details. To enhance accuracy, a dictaphone was also regularly used (with permission) to capture dialogue during team sessions, as the recordings provided a verbatim record of messages/discussions/interactions.

As has been suggested (e.g., McConnell, 1996), the researcher pilot-practiced the recording of observational data in a different team environment prior to the commencement of this study. This provided valuable practice in taking notes *in situ* and provided an understanding of the various challenges involved in observation work (e.g., distractions, interruptions, noise, obtaining good vantage points, difficulty hearing). Such understandings enhanced data-collection as the researcher entered the actual team environment cognisant of various potential challenges and how these could be managed.

4.6 DATA ANALYSIS

4.6.1 Interpretative Phenomenological Analysis (IPA)

There appear to be no prescribed rules governing the analysis of qualitative data, and within the literature there is limited guidance regarding case study methodology data analysis (Houghton, Murphy, Shaw, & Casey, 2015). Various data analysis methods are utilised within such research; with some of the more common methods including, thematic analysis (e.g., Brown, Arnold, Reid, & Roberts, 2018; Hodge & Smith, 2014; Kinnafick et al., 2014;), content analysis (e.g., Antonini Philippe & Seiler, 2006; Gustafsson et al., 2008; Keegan et al., 2010), hierarchical content analysis (e.g., Chung, 2018; Latinjak, 2018; Mallet & Hanrahan, 2004) and grounded theory analysis (Côté et al., 2003; Norman & French, 2013).

The current study was not seeking to generate new theory (i.e., grounded theory) or to establish a hierarchy of themes based on, for instance, how many times particular

words/terms were used by participants (i.e., hierarchical content analysis; word count). Thematic analysis was strongly considered as a method given its focus on interpretation, writing, and not being linked to a specific theory (Sparkes & Smith, 2014), which in many ways is similar to interpretative phenomenological analysis (IPA). In fact, Chamberlain (2011) highlighted that quite often research involving IPA can be indistinguishable from thematic analysis. There are also similarities between IPA and various forms of discourse analysis; however, whilst both are interested in and closely consider participants' interpretations via linguistic responses and analysis, discourse analysts are more concerned with understanding how participants *construct* their accounts (Kavoura, Ryba, & Chroni, 2015), as opposed to IPA's objective of *making sense* of their experiences (Smith, 2011).

Having considered various approaches, ultimately, interpretative phenomenological analysis (IPA), with its strong emphasis on individual lived experience and meaning, as well as its inherent theoretical dimensions formed the framework through which the data were collected and analysed. IPA was developed by Smith (1996) as a research approach that would involve (1) participants interpreting and communicating their experiences, and (2) the researcher making sense of their interpretations. Smith (1996) explained "...the aim of IPA is to explore the participant's view of the world and to adopt, as far as is possible, an 'insider's perspective' of the phenomenon under study" (p. 264), and, as such, it involves in-depth qualitative analysis (Smith, 2004).

IPA draws on three distinctive theoretical approaches; namely, phenomenology, hermeneutics, and idiography (Smith & Eatough, 2007). Phenomenology "aims at gaining a deeper understanding of the nature or meaning of our everyday experiences" (Patton, 2015, p. 115). Such an approach is regarded as appropriate when attempting to reveal how people make sense of their social world (Lundkvist, Gustafsson, Hjälm,

Hassmén, 2012). Hermeneutics is described as analysing the world as though it is a text to be read, and that one's interpretation of a phenomenon, rather than the phenomenon itself, is the source of meaning (Shank, 2006). Finally, idiography is concerned with studying individuals to acknowledge and greater deepen understanding of differences in traits and dispositions (Runyan, 1983). IPA research, therefore, seeks to fully understand one case, before looking for convergence, or divergence, between cases (Smith, 2004; 2011). This perspective was a central aspect of selecting and employing IPA in the study as it was considered important to be able to present not just themes that were common amongst the participants, but also to explore the unique, but still noteworthy, individual experiences of the participants.

Although complex, a strength of IPA is that it involves a relatively straightforward set of guidelines for conducting this type of analysis (Sparkes & Smith, 2014), whilst at the same time, allowing for individual variances in approach (Smith, Jarman, & Osborn, 1999). Interpretative phenomenological analysis here involved the researcher progressing through a four-step process as he engaged with and analysed the interview data. Consistent with suggestions from the literature (e.g., Smith & Eatough, 2007; Storey, 2007), an iterative cycle was negotiated that involved the following phases:

1. Initial reading and re-reading of the interview transcripts.
2. Identifying and labelling themes.
3. Linking themes and identifying thematic clusters.
4. Producing a summary table of themes with illustrative quotations and presentation of the analysis in narrative form.

With regard to the interview data, reading, and re-reading, of the interview transcripts allowed the researcher to become increasingly familiar with what was expressed. Each

transcript was read several times until it was felt that a satisfactory understanding of the dialogue had been achieved. As the transcript was read notes were made (labelled in NVivo software as ‘nodes’) regarding initial thoughts or points of difference that were believed could be important. At this juncture, the researcher had transcripts with notes highlighting key points or features of the interviews. The next step involved utilising the nodes to make theoretical sense of the data and, as such, often stimulated links to psychological principles and concepts. This process involved identifying psychological themes that would accurately represent the participants’ interpretations of their experiences (refer to Appendix 7 for an interview data-analysis sample); in IPA, these are referred to as *subordinate themes*. This step allowed the researcher to investigate the perceptions of the participants regarding how they valued and experienced basic psychological need satisfaction or lack thereof within the case context.

The third stage of the analysis involved linking similar themes and identifying clusters (i.e., ‘clustering’) with a *mostly* inductive emphasis (see Figure 10). Smith (2004) highlighted that, in reality, analysis inevitably involves elements of induction and deduction as both subordinate and superordinate themes certainly have an influence on the other. This process involves grouping similar/related subordinate (descriptive) themes (e.g., individual performance plans; seeking athlete input) together to represent broader *superordinate* (interpretive) themes (e.g., athlete-ownership). Within the current study, such superordinate themes provided insights into the participants’ perceptions of how their needs were supported or neglected within the team environment. Furthermore, the themes provided an overall sense of the participants’ perceived importance of basic psychological need satisfaction; that is, exploring how they experienced their needs within their environment ranging from the more basic (e.g., training meets needs) to the more complex (e.g., a sense of ownership).

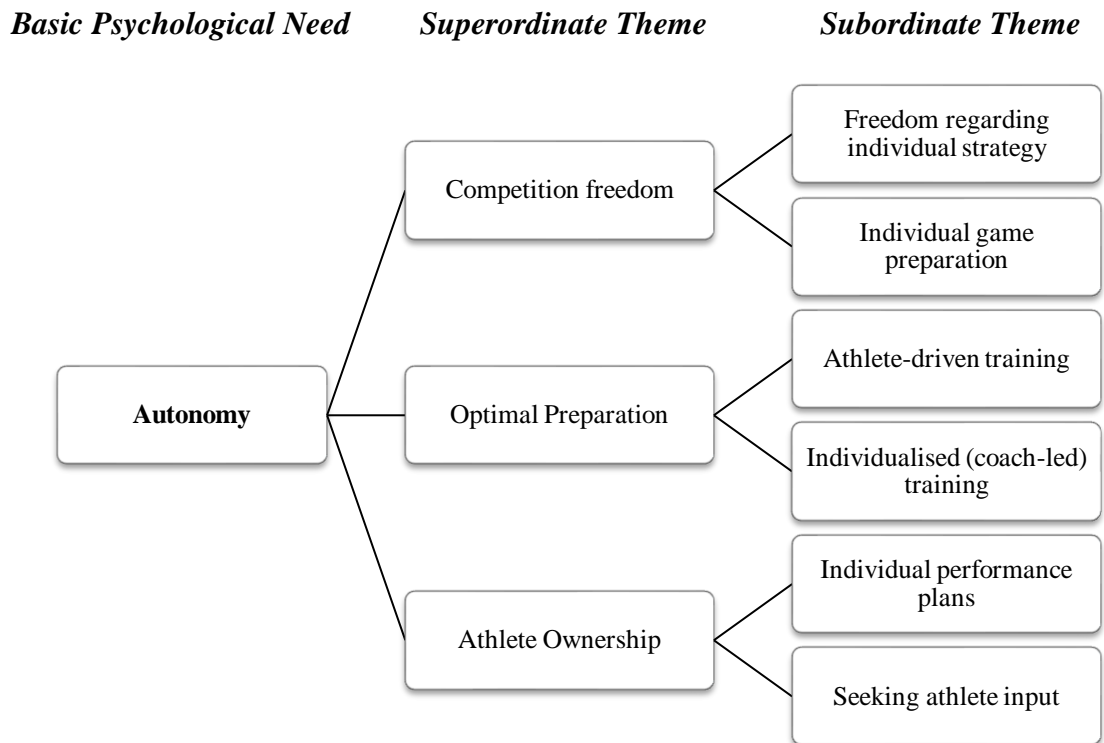


Figure 10. Example of linking subordinate themes and establishing superordinate themes.

The final step in IPA involves presenting the superordinate and subordinate themes in Table form with illustrative (verbatim) quotes, as well as presenting the data in narrative form. It should be noted that this final step is inherently connected with analysis, as analysis is likely to continue throughout the writing phase (Smith & Osborn, 2003). It is this presentation that allows the writer to articulate an understanding of the participants' experiences, including, in this regard, how they interpreted their experiences, their relationships, the coaching behaviours, and the environment. This step gives insight into the participants' inner lives, as well as the core aspects of the analysis process.

Although not explicitly referred to within the cycle outlined above, as part of the study of the case, observational data and associated field notes added to interpretations throughout the study, as such data have been regarded as helping to make sense of a case overall (Cresswell & Eklund, 2007). For instance, during analysis of the interview data,

at times when participants referred to being provided with decision-making opportunities, the researcher's observation field notes and interpretations (refer to Appendix 8 for a field notes sample) at the time were able to be drawn on to add context to the participants' perceptions of what had played out (e.g., coach behaviour; features of the environment; individual and overall team response). These notes could either complement and support or, on some occasions (e.g., some participants reporting excessive negative feedback), qualify what was reported during participant interviews. A degree of abductive reasoning occurred in this regard, and throughout the study of this case, the researcher looked to engage with both interview and observational data whilst also considering and drawing from theory to synthesise and enhance understanding overall (Lindgren & Barker-Ruchti, 2017; Taylor et al., 2009).

4.7 TRUSTWORTHINESS AND CREDIBILITY OF FINDINGS

This section outlines strategies used in pursuing and establishing trustworthiness and credibility of the study. There are constant debates and new developments that emerge regarding the understanding of, and what constitutes, rigour in qualitative research and how to judge its quality (see Lincoln et al., 2018; Smith & McGannon, 2018). Establishing trustworthiness (Sparks & Smith, 2014) and credibility (Tracy, 2010) are important when conducting such research. Within this study, various strategies were employed to heighten the likelihood of establishing a satisfactory degree of both qualities and these are presented herein.

Reflexivity within research is viewed as being an important aspect of firstly (1) securing trustworthy data (e.g., Culver et al., 2012; DiCicco-Bloom & Crabtree, 2006) and, secondly (2) interpreting such data appropriately (e.g., Morrow, 2005). As highlighted above, in regard to qualitative research, this is not so much to confirm validity, but rather to enhance trustworthiness and sincerity (Tracy, 2010). Rennie (2004)

viewed reflexivity as “self-awareness and agency within that self-awareness” (p. 183), and the researcher in this study strived to operate with such reflexivity throughout. During the study, there were no major alterations made to the protocols with regard to ensuring that data were being secured and interpreted appropriately, and in that regard, a number of self-reflexive practices were engaged in throughout the study and steps were taken throughout its write-up to heighten the likelihood of securing data and presenting results that were as trustworthy and credible as possible:

1. Where possible, interviews were not scheduled with participants immediately prior to or following training sessions, as participants may have been (consciously or subconsciously) tempted to rush through their answers, and, thereby result in important data being missed.
2. Interviews were scheduled for times and at locations where the chances of distractions or interruptions were minimal, and participants would be more likely to feel comfortable.
3. As indicated earlier, as a result of the pilot interviews, slight changes were made to interview scripts; such as basic wording and the ways that concepts were described by the researcher to make them less esoteric and technical.
4. It was decided early in the planning process that the researcher would have a presence at all formal team activities throughout the duration of the data-gathering phase. Primary reasons for this have already been highlighted; however, an additional reason was believing that participants would become more comfortable if the researcher had a constant presence within the environment. It was predicted that spasmodic attending might heighten a sense of novelty, and, thereby, elicit less natural behaviours when the researcher was present.

5. A selection of observation field notes and interpretations have been provided in the Appendices for reference. Such data provide a cross-checking reference, and, as highlighted earlier, can enhance the credibility of the study (Patton, 2015).
6. Within the dissertation, the researcher has presented strengths, weaknesses, and challenges of the study with honesty and transparency, which can portray sincerity and, as such, improve the credibility of the study overall (Tracy, 2010).

When conducting interpretive research such as the current case study, accessing accurate data is both dependent on and made complicated by the researcher's own conceptions (Smith & Osborn, 2003; Winter & Collins, 2015). Whilst interpretive research seeks to understand participants' lived experiences, it is also grounded in the assumption that it is impossible to understand fully participants' interpretations because of inevitable interpretation-bias from the researcher (Hefferon & Ollis, 2006). It is a researcher's knowledge-base that allows specific ideas and useful knowledge to surface during qualitative research (Lopez & Willis, 2004), and, therefore, a degree of subjectivity is recognised as being important (Patton, 2002). However, it is equally important that a researcher is actively reflexive (Morrow, 2005) and strives not to impose preconceived ideas in looking to make sense of the data. For instance, here, the researcher's understanding of those behaviours consistently identified and referred to within the literature as being need-supportive or as controlling will inevitably influence to some degree the ways in which he interpreted behaviours enacted within the case under study.

One strategy adopted to lessen the likelihood of such prior understandings inaptly skewing the interpretation of data was that of member reflections. Tracy (2010) suggested that utilising member reflections enhances the likelihood that participants' thoughts, feelings, and perceptions are recorded and interpreted appropriately (as opposed

to objectively), and, thereby, are considered as being appropriate for such interpretive research (Braun & Clarke, 2013; Smith & McGannon, 2018). This process involved participants being requested to review documents (e.g., transcribed interview transcripts, with researcher interpretations) where they personally featured, to reflect on the researcher's interpretations of their interview transcripts and to provide their perceptions about such interpretations (Schinke, McGannon, & Smith, 2013). None of the participants requested any changes. Included below are two examples of responses that were received:

I am happy with the documents and believe you have portrayed my views and perception of last year appropriately. There is nothing that I would change from what you have noted. (A7)

I feel that you have accurately captured my experiences from this season. The analysis provides an accurate and effective reflection of my feelings of the team environment. (A6)

In addition to the athlete interview data, the head coach was engaged with on multiple occasions throughout the study to review, reflect on, and respond to the observation notes that were recorded during team activities. One response via email from the coach read:

It's quite cool reading the observations, and nice to see/read from an objective viewpoint. Also, pretty spot on, I didn't find anything that wasn't accurate. (CX)

As has been suggested (e.g., Hill, Knox, Thompson, Williams, Hess, & Ladany, 2005; Smith & McGannon, 2018), throughout the study the researcher utilised his two supervisors as 'critical colleagues' to provide another layer of feedback regarding the analysis of the data to ensure that it was being interpreted in an appropriate manner with minimal bias. This was most often carried out through sharing his field notes and

interpretations of the data. Liaising with key individuals throughout data-analysis is believed to enhance the quality of data interpretation (Punch, 2009) as potential misinterpretations can be highlighted for further scrutiny. Throughout the research process, the researcher maintained regular communication with participants and his supervisors regarding data-analysis. When different interpretations emerged (i.e., meanings, terminology), they were considered by the researcher and, if needed, further discussed and analysed amongst the candidate and supervisors until consensus was reached.

Consistent with calls from within the literature (e.g., Preston & Fraser-Thomas, 2018), the researcher attempted to capture and analyse data with sincerity and rigour, and, therefore, a degree of trustworthiness. Accordingly, the above strategies were applied, and adjustments made when required. Nevertheless, inevitably there were limitations within the research, and these are addressed in Chapter Nine of the dissertation.

In summary, this chapter presented the methodology adopted within the investigation to inform how the study was designed and executed. The study was introduced, followed by exploration and description of the philosophical framework from which the study was carried out. Research questions and the research design were laid out, including, information on case study design, selection of the case, and ethical considerations, before attention was given to methods of data-collection and analysis. Finally, trustworthiness and the credibility of findings were considered, including strategies implemented that were used to enhance such elements. Attention now shifts in the following three chapters to the results of the study.

CHAPTER FIVE

RESULTS: RESEARCH QUESTION ONE

5.1 INTRODUCTION

To provide meaningful structure to presenting the results, it was decided to attend to them within three separate chapters, each addressing one of the three specified research questions. The focus of each of the chapters is as follows: Athletes' Perceptions of the Importance of Basic Psychological Need Satisfaction (this Chapter: Chapter Five), Athletes' Perceptions of Coaches' Need-supportive Behaviours (Chapter Six), Athletes' Perceptions of Coaches' Need-neglecting Behaviours (Chapter Seven). Determining the importance that the participants attached to their basic psychological needs and their nature within the high-performance context provides a foundation from which to then address coach contributions towards need satisfaction. Therefore, the results addressing athletes' perceptions of the importance of basic psychological needs satisfaction are presented first, followed by the exploration of the athletes' perceptions of their coaches' contributions towards the satisfaction or neglect of such needs in the subsequent chapters.

Whilst the basic psychological needs are interrelated and are typically regarded as an overlapping set, they each have unique qualities. In the data gathering process and analysis, attention was given to each of the needs (competence, relatedness, autonomy) separately, whilst still recognising their interrelationship. For that reason, each need initially is addressed separately within the Results Chapters. Although this inevitably leads to some repetition, in that particular coaching behaviours can obviously impact on more than one of the needs, this step was done to consider the importance of each separate need to the athlete participants, along with their perceptions of coaching behaviours impacting on their fulfilment. In the Discussion Chapter (Chapter 8), the needs are considered in more of an overall sense, which reflects their unity in operational terms.

The study of the specific case (a bounded high-performance sporting team) and its elements relevant to the primary focus of this research (coach behaviours impacting on basic psychological need satisfaction) involved several methods, as a part of pursuing triangulation (Denzin, 1978). These were (i) a naturalistic examination of the case and its complexities within its immediate and broader environment, (ii) structured interviews and informal discussions, and (iii) extended observations. The analytic thread running through these data components involved interpretive analysis, drawing on the filters of theory and research, along with the researcher's best efforts at objective and meaningful engagement with the case in question.

The interpretative analysis results are presented, as has been suggested (e.g., Smith & Eatough, 2007; Storey, 2007), in both table and narrative form to provide enhanced context and meaning. The tables provide a visual representation and overview of the relevant themes, both superordinate and subordinate, and how they are connected. Thereafter, the researcher's analytic interpretations and explanations of the themes are articulated, with accompanying participant comments for illustration. With regard to the results presented in Chapters Six and Seven in particular (perceptions of coaches' behaviours impacting on need satisfaction), insights arising from the observational data are periodically provided for added depth to the interpretations.

As previously indicated, the observational dimension of the study was extensive and involved descriptions along with notes and reflections. This helped the researcher gain a fuller understanding of the dynamics of the case in regard to the focus of the research, and formed data to draw on for analysis and to use for illustrative purposes. A selection of observational data is made available for the record and for reference purposes in three appendices: Appendix 8 (sample of field notes), Appendix 9 (in regard to coach need-supportive behaviours) and Appendix 10 (in regard to coach need-neglecting behaviours).

To help maintain individual confidentiality, the athlete participants were each allocated a letter and number code (i.e., A1-A15; Athletes 1-15). Serving the same purpose, coaches are referred to throughout as Coach X (CX), Coach Y (CY) and Coach Z (CZ) respectively, and, where possible referred to by gender neutral pronouns. Also, as previously made clear, any sport-specific terminology within participant quotes is modified, in the pursuit of confidentiality in regard to team identity.

Prior to considering the findings, it is important to re-emphasise the primary purpose of the study. The objective was not to gauge and/or critique the effectiveness of the coaches in terms of their technical expertise or their overall effectiveness in their roles. Rather, building on efforts to gain a thorough understanding of athletes' views about and experiences related to basic psychological needs in the high-performance setting, the primary aim was to explore and understand how the coaches in that context directly contributed to the satisfaction or lack of satisfaction of those needs. The results presented within the following three chapters provide such insights and inform these research objectives.

5.2 ATHLETES' PERCEPTIONS OF THE IMPORTANCE OF BASIC PSYCHOLOGICAL NEED SATISFACTION

An important research question looked to explore the importance for athletes of experiencing basic psychological need satisfaction within a high-performance sport setting. During the interviews with participants they were asked open-ended questions encouraging them to reflect on and describe the importance they gave to the needs for a sense of competence, relatedness and autonomy, as athletes within their team environment.

What became evident from the conversations was that these three somewhat conceptually independent needs were perceived as being important in and of themselves, but also appeared to have interdependence, with each having an effect on the others. For instance, if an athlete did not perceive themselves as having competence to perform and fulfil their role in the team due to a lack of technical skill, self-belief or poor preparation, then they would be unlikely to feel autonomous especially during competition, as they would have a reduced sense of being self-governing (autonomous) in their choices and actions. Essentially, in such circumstances, the athlete would experience a sense of being controlled more by external factors (e.g., the opposition; the spectators; outcome expectations). Given that confidence through having a sense of competence has both intrapersonal and interpersonal dynamics, then relationships (relatedness) with others will also be affected, both in terms of developing or undermining shared contributions. Along with peers, coaches in particular are important in this regard and their attitudes and behaviours are of significance for athletes in regard to each of the three basic psychological needs, separately and in combination.

5.2.1 Competence

Given the nature of high-performance sport, it was not surprising that every participant in the study placed high importance on experiencing feelings of competence. However, the ways in which the participants described their experiences of this need did vary. As the researcher read and interpreted the participants' perceptions of feeling either competent or, in some cases, incompetent, three superordinate themes emerged (see Table 1); namely, (i) mindset, (ii) positive perceptions of oneself, and (iii) negative thoughts.

Table 1

Importance to Athletes of Experiencing Competence

<i>Superordinate themes</i>	<i>Subordinate themes</i>	<i>Illustrative quotes</i>
Mindset	Playing intuitively	<i>I think when you've got it [competence], you don't overthink... you just play. (A8)</i>
	Negative distraction	<i>I tend to be quite hard on myself, so if I don't [execute] perfectly all of the time, I can get quite frustrated. (A3)</i>
Positive self-perception	Trust in preparation	<i>I'll know I will have done the skills work beforehand... when I walk out to perform, I need to know that I can do it. (A7)</i>
	Experiencing growth	<i>I definitely got way better throughout the season... my performance in the final was good. It seems to happen to me... it takes a while to warm up [to it]. (A1)</i>
	Self-belief	<i>I feel completely at ease with everything, and I feel I have the confidence to [perform]. (A13)</i>
Negative thoughts	Doubting Ability	<i>Performance drops... we don't back ourselves, and we don't think others back us. (A10)</i>
	Questioning self-worth	<i>You begin to question your ability... and even self-worth. (A10)</i>

Mindset

Some participants described how their perceived competence affected their mindset leading into competition, and others referred to the effects that it had on them psychologically during competition itself. It became evident as participants reflected on their individual experiences of feelings of competence that one of the potential positive outcomes was a sense of psychological freedom when competing. With that said, however, some participants reported that when they had a perception of incompetence, they had a tendency to become distracted by worrying thoughts. Two themes were clustered together and became subordinate themes under the superordinate theme of mindset; (i) playing intuitively and (ii) negative distraction.

Playing intuitively. Several participants described skill execution as something that they just went out and did when they felt competent, as opposed to overthinking or consciously attempting to execute a skill when they did not feel that way:

[Feelings of competence] gives you that sense of freedom to just go out and do your thing, (be)cause you know you can do it. When you think of the opposite, like, when you're in a rut and you don't feel that you can do it, you're just out for survival. (A1)

Such a stance suggested that to perform freely, one should not be [consciously] thinking too much. This is opposed to when one finds oneself not performing well (“*in a rut*”, as A1 suggested), and the focus potentially shifts from *performing* to *surviving*. A3 held a similar stance:

When you're in a game, you don't really want to be thinking technical things, you just want to [intuitively respond]... I overthink sometimes about what's going on and I'm quite hard on myself, but if I can get into a headspace where I'm in my routines and I just [spontaneously react]... that's where I'm trying to get to at the moment. (A3)

Negative distraction. In some ways in stark contrast to ‘playing intuitively’, a number of participants described what it was like to feel less competent when competing. It appeared that what they were referring to was a resulting sense of distraction and, consequently, attention being shifted towards something other than being engaged in their performance. A14 described how low perceived ability affected her:

I guess what happens [when lacking a sense of competence] is that you play [differently]... you start to think about all of those things that could go wrong, and nothing is going to go right from there. (A14)

This suggested that an athlete is likely to act and make decisions based on their perceived competence levels rather than their actual ability. A5 reported that when there was a perception of performing poorly, she would begin searching for answers that, ultimately, led to decisions that adversely affected her performances:

I kinda naturally overthink anyway... I thought it [not playing well] must be because I'm not doing [this action] or [that action], and I started making up all of these things that were nothing... looking back, not necessarily the pressure, but a perceived pressure as a result of me under-performing led to me doing [this action] or [that action] and started [undesired outcome]. (A5)

A10 suggested that a lack of a sense of competence can often lead to a fear of failing and that this perception of inadequacy, as well as opinions of what others are potentially thinking, can affect one’s mindset:

We're so scared of [making mistakes]... performance drops because we don't back ourselves, and we don't think others back us... then we start to think conservatively rather than positively. (A10)

An interesting point from A10 was that, in addition to a perceived lack of one's own competence, a perception that others did not back them may actually have had a similar impact in regard to adversely affecting their ability to hold attention where it needed to be (i.e., moment-to-moment execution). The subordinate themes of playing intuitively and negative distraction revealed accounts of how one's perceptions of personal competence could influence their performance, either positively by allowing focus on performance matters, or, negatively, by becoming distracted by unhelpful thoughts.

Positive Self-perception

Another superordinate theme that was established encapsulated how a number of the participants developed a positive self-perception as a result of feeling competent, and it included three subordinate themes; (i) trusting preparation, (ii) self-belief, and (iii) experiencing growth. Whilst it was evident that feeling competent meant that participants trusted their preparation and, therefore, had greater belief in their ability going into competition, participants also described experiencing development and improvement, as well as what appeared to be a natural desire to experience continuing growth as an athlete.

Trust in preparation. A number of participants reported experiencing a sense of trust in their preparation, with such trust allowing them to go out and perform without doubting their work and preparation leading up to competition. It appeared that this feeling provided a greater sense of readiness for an upcoming challenge:

When you got to games, you knew you could do it, because you'd just done it in training... it made it fun. (A10)

Such a simplistic view illustrated the importance of providing athletes with clear opportunities to develop feelings of competency so that they are more likely to have a

high degree of belief in their ability when they get to competition. A9 revealed how experiencing a sufficient level of trust in her ability affected her:

...I think part of that was [lead-up to season]... you're [engaging with opposition], so come start of the season you know you've put the work in and there is that belief... I think it allows you to walk out onto the [field] and play your natural game. (A9)

There seemed to be a level of interplay between feeling competent and trusting preparation, as subconscious thoughts questioning the adequacy of preparation were less likely to develop if individuals perceived themselves as competent. With doubt being less likely to emerge, attention could be focused more on matters relevant to performance.

A7 described how competence manifested for her:

I'm not really one that if someone says 'you're a really great player' it's gonna do a whole lot for me... I have to get the opportunities to go out and do it... for me it's more of a [personal] feel thing. (A7)

A7's stance reaffirmed the premise that competence is important and that it has a close relationship with an individual trusting that adequate work has been done. Furthermore, this particular participant highlighted the importance of developing competence through training, as opposed to it manifesting as an outcome of someone (e.g., the coach) giving positive feedback. Such a comment suggested that even when positive feedback is provided from an external source, unless there is a sufficient level of self-perceived ability, then it is unlikely that the positive feedback would make a meaningful contribution to one's actual feelings of competence.

Self-belief. It appeared from the participants' responses that there was a link between feeling a sufficient degree of perceived competence and experiencing self-belief, and that self-belief was a key factor in their performances. Participants reported that when feeling

competent, there was less likelihood of becoming distracted by questioning ability or one's place in the team, and one would, therefore, be more likely to achieve a mindset where they could maintain focus on performance:

When you're competent, you're not thinking 'shit, if I don't [do my job] today, I might not be in the team tomorrow', you're focused on the process, not the outcome. (A3)

Interestingly, the above comment proposed that competence, perhaps, acts as somewhat of a buffer to various external distractions. The perception that one has sufficient ability seemed to allow the individual to direct attention towards the process, as opposed to second-guessing and becoming preoccupied with peripheral matters (e.g., 'what-if...?' thoughts). A14 further highlighted that attentional changes occurred because of perceived competence, reinforcing the idea that perceived competence allowed participants to maintain attention on the process and the immediate situation:

When I'm confident, I can experiment more and think more according to the situation... if I'm not confident, that thinking stops. (A14)

It seems as though when doubt regarding any ability to meet a demand emerges, the capacity to evaluate the immediate situation effectively becomes hindered. Furthermore, A14 suggested that when feeling competent, she was more likely to experiment – a quality that is generally viewed as positive. As a result of feeling as though their needs for competence were satisfied and, therefore, having high levels of self-belief in their ability to be successful, such participants were more able to maintain focus where it was most important (i.e., on performance matters).

Experiencing growth. The importance of perceiving growth concerning one's ability emerged as a further subordinate theme from the participants' responses. A number of comments stood out as portraying a desire to grow and develop:

It [competence] pushes you to want to succeed more and learn more... It feels good to be good at something, so you keep chasing that. (A15)

A8 held a comparable perspective, and also highlighted the coaches' roles in this:

That's why I think everyone enjoyed the [specialist] coaches coming in and providing that support, so we felt like we were growing as players... I guess we've all got good enough skills to play at this level, but to continue to get better you need to be growing and getting those gains. (A8)

In this case, having access to specialist expertise contributed to this perception of growth. When improvements were made and feelings of competency increased, individuals were more likely to have positive perceptions of their growth as athletes. It appeared from a number of the participants' remarks that feelings of adequate competence led to a positive perception of themselves that encompassed trust in their preparation, belief in their ability, and a view of overall growth as an athlete.

Negative Thoughts

In addition to mindset and positive perceptions of oneself, negative thoughts emerged as a superordinate theme in making sense of the participants' perceptions and accounts of the importance of experiencing feelings of competence regarding performance elements. It appeared that when a perception of a reduced sense of competence existed, participants were likely to experience doubt and, for some, a questioning of self-worth. Consequently, two subordinate themes were established under the superordinate theme of negative thoughts; (i) doubting ability and (ii) questioning self-worth.

Doubting ability. During the interviews, a number of participants discussed experiencing low feelings of competence regarding certain dimensions of the sport and

provided insights into the effects that this can have on mindset and performance. A8 described how doubt affected her:

When you don't have it [a feeling of competence], you doubt every action you take.

(A8)

A8 went on to explain that at times, as a result of the nature of her thoughts, she would question her performance and could get caught up in a spiral of negative thinking, which can be “quite draining”. A9 highlighted how doubt impacted her decision-making:

I think this has happened where I haven't put the work in, or I haven't done as much as I wanted to... and as soon as there is a little bit of doubt in your mind, you might pull out of a [behaviour]. (A9)

A9 appears to have been proposing that doubt regarding competence can directly influence decisions that are made on the field of play. Due to a perception of lesser ability, an individual may make a split-second decision to change tactic or, alternatively, fail to commit fully to a decision, and this would likely adversely affect skill execution.

Questioning self-worth. Athletes spend significant time in the sport environment working on their craft and it is common for high-performance athletes, to some extent, to gauge their personal self-worth on their athletic endeavours. A number of the participants reported going through challenging times at some point(s) throughout the season with reference to their self-worth:

...am I not a good person? Am I not good tactically? You just need that clarification.

It [coach behaviour] just made me question myself a bit more. (A3)

A12 reported that doubting her ability led to her questioning her place in the team altogether:

I think about the times when I've felt like I didn't have the skillset, I started doubting whether I even deserved to be in the environment to start with, and [questioned] 'why am I here?' ... that's made me feel anxious and worried. (A12)

Such comments revealed the profound impact that a lack of perceived competence had on some individuals, and that, for some, it extended beyond merely performance matters. When athletes have a negative view of their competency relative to their athletic ability, they may also begin to question their sense of self-worth.

5.2.2 Relatedness

Similarly, as with competence, the participants described relatedness as being a critical factor concerning operating effectively and experiencing satisfaction within their team environment. Four superordinate themes emerged that captured the participants' interpretations of the importance of experiencing relatedness; (i) being part of something, (ii) effective relationships, (iii) negative coach-athlete relationships, and (iv) negative perception of team (see Table 2).

Table 2

Importance to Athletes of Experiencing Relatedness

<i>Superordinate themes</i>	<i>Subordinate themes</i>	<i>Illustrative quotes</i>
Being part of something	Sense of belonging	<i>I think if I didn't feel part of the team, I wouldn't enjoy it, and then it just wouldn't work. (A14)</i>
	Playing for the team	<i>I've been in teams where the environment is shit, and you don't end up playing for each other... this team plays for each other. (A13)</i>
Effective relationships	Honesty	<i>I think it's really important, and we've got a team at the moment where everyone feels like they can say something. (A3)</i>

	Support	<i>I felt that I could approach both of them [coaches] and ask questions or make suggestions, regardless of the time of day... I felt very supported. (A6)</i>
	Cohesion	<i>I'd always voice to [CX] if I thought a decision wasn't right... at the end of the day, the decision is [CX's] and I'll respect that. (A7)</i>
Negative coach-athlete relationships	Lack of respect for coach	<i>You have to have respect for them as a coach, and feel that they respect you. (A1)</i>
	Unmotivated	<i>Your motivation switches, and I think your enjoyment just filters out to almost nothing at the end of it. (A13)</i>
	Unvalued	<i>I think probably from the start it didn't kick off that well, and I didn't feel that valued. It [coach behaviour] made me feel like I'm not that valued in the team. (A3)</i>
Negative perception of team	Weak team identity	<i>I feel it's more individual than it used to be and we didn't click as much as a team... I didn't feel that we were one unit. (A2)</i>
	Impeding honesty	<i>It was interesting. We all get along, I think you can see that... but there are also a lot of big elephants in the room that aren't addressed. (A10)</i>
	Playing for self	<i>That [occasion] I was actually being really selfish and [playing] for me. (A3)</i>

Being Part of Something

It was evident while reading interview transcripts that having a positive perception of the group, as well as one's place within it, was important to all participants. Connected to the theme of being part of something, two subordinate themes were established; (i) a sense of belonging and (ii) playing for the team.

Sense of belonging. Many of the participants reported experiencing a sense of belonging and feeling as though they were a valued member of the group. Even though the team in this study was at the high-performance level (where social elements often seem to be viewed as secondary), the participants still reported a desire to enjoy their social interactions and have a positive perception of the team environment as a whole:

When I started I was quite young, I felt really welcome in the team... I felt part of it straight away and it's something that we pride ourselves on now... team culture and being really inclusive. (A2)

Furthermore, A3 referred to it being desirable when you feel like you fit in and that the team environment was different to others that she had been in:

It's good to feel like you fit in and that you're not on the outside. I've been in teams before where it's like 'these are the senior players and you're a junior player so just shut up and listen'... I love being part of the [team]... they're some of my closest mates. (A3)

Playing for the team. It became clear that the participants who had positive perceptions of the team (e.g., values, culture, and environment), as well as their place within it, were motivated to exert effort and add something:

You want to work hard for your teammates, you want to do well for them, you want to contribute... you want to be in the team. (A12)

A1 alluded to the importance of individuals buying into the team concept and working together:

We've put a premium on team culture and just trying to ensure that everyone is buying into what we're trying to achieve... so I think it affects everything, when

you're out [there] and you get to a pressure moment, and you need everyone to band together... that's what you play for. (A1)

Several participants reported that it was not important to develop overly close friendships with teammates. For instance, A5 suggested that it was not critical that everybody in the team was best friends; however, respect and engaged communication was considered important in maintaining effective relationships in their team environment:

I don't expect everybody to be 'buddy buddy' with me... they have to respect and talk to you, but I don't expect everyone to say 'hey, do you want to go to a movie tonight?' ... I guess everyone has their own little groups or cliques of people that they get along with more, and it's not necessarily a bad thing, as long as we're all going in the same direction, then there is no animosity between anyone. (A5)

Effective Relationships

A superordinate theme that emerged when exploring the importance that the participants placed on relatedness was effective relationships. A connection appeared to exist between the manifestation of effective relationships and a perception that the need for relatedness was being satisfied. Effective relationships linked together three subordinate themes; (i) honesty, (ii) support, and (iii) cohesion.

Honesty. Within their responses, many of the participants referred to the importance of honesty and that when the need for relatedness was satisfied, it allowed honest communication to be shared among team members; including that involving coach-athlete, athlete-coach, or athlete-athlete. Many of the participants described having a good relationship with the coach(es) and that this allowed honest communication to take place:

[Coaches] were approachable and easy to deal with and bounce ideas off... also, having those hard conversations. I feel confident talking to them about those sorts of things. (A8)

You need to feel comfortable going to talk to them. Like when we talked about understanding your roles, like feeling comfortable that they're approachable and that you can go and say to them 'hey, what do I need to do here?', and also that they can come and speak to you and give you advice. (A2)

Interestingly, A2 also referred to the importance of the coaches being comfortable approaching the athletes with feedback and advice. Furthermore, some participants suggested that experiencing relatedness allowed teammates to communicate honestly amongst each other:

Sometimes it's hard to tell someone 'you need to do this', but those conversations need to be had because sometimes I have no idea what's going on... 'is my [technique] good?' Sometimes I don't know... but it helps us be better, as a person, and as an athlete. (A4)

It was also suggested that positive relationships helped deal with conflict and differing opinions openly when they emerged:

After a players' meeting, I noticed a difference in the team... it still wasn't quite where it has been or as good as it could be, but I think there were improvements and people were starting to say what they were feeling and not holding on to things, which we had got into a habit of doing. (A2)

Support. Many of the athlete participants referred to feeling supported as a result of positive relationships (with teammates and coaches), and, therefore, highlighting the premise (indicated earlier) that all team members can fulfil key roles in contributing to

the satisfaction/lack of satisfaction of others' basic psychological needs. Feeling as though their teammates supported them appeared to be important to all of the athlete participants:

For me personally, it makes me feel better about my game when you feel like you're being backed by your team. I'm not thinking 'oh my god, the team doesn't back me'... That's a big one for me... knowing the team are behind you. (A7)

A3 suggested that having positive perceptions of her relationships in the team helped with performance as she had a sufficient level of trust that her relationships were not based nor reliant on performance matters:

Yeah if you're relaxed and you're happy and you know that if you don't [perform], it's not the end of the world and your teammates are still going to like you. (A3)

A number of participants described the importance of feeling supported by the coaches and this experience meant that they did not feel alone in working towards what they were trying to accomplish:

I think... most importantly... they understood what I was trying to do and made me feel like they had my back... just having someone go 'you know what, I know what you want to do, let's do it together' and all of a sudden it makes you connect with them... it's just like... they do care. (A5)

A3 reported a desire to be able to comfortably approach coaches for support and advice without concern of judgement:

You want to feel like you can just approach [them] and that it's not like 'oh shit, I don't want to talk to them about getting some help because they're not going to select me if I tell them that. (A3)

It was clear from such remarks that these participants felt, largely, supported by their teammates and coaches and that this had a positive impact on their experiences in the team environment. It appeared that feeling as though their teammates supported them, and that their relationships would not be affected by poor performances, allowed the participants to go into competition with a more relaxed mindset, perhaps helpful for performance. Furthermore, having coaches that they trusted meant that the athletes felt supported and that such coaches could be approached without hesitation or with minimal concern that they as athletes were putting their position in the team in jeopardy.

Cohesion. An important aspect of effective relationships among team members was developing a sense of cohesion where individuals felt that interactions were cohesive and each team member contributed to the group in a complementary way. A number of participants also described how they benefited when they had cohesive relationships with their coaches:

We've had coaches where they'd turn up, tell us what to do, and go home, and it would just be demanding... I think the coach should be just as much a part of the team as the players, but everyone is equal... so [a coach] is constantly sharing and we're sharing [in return]... more collaboration. (A10)

A number of the participants highlighted how feelings of cohesion affected how they operated and nurtured a degree of comfort in how they went about contributing:

Yeah I felt a lot more comfortable in the team, making suggestions, and expressing myself. (A6)

You need to feel like you can be yourself and that you can approach them when things aren't going well. (A3)

It seemed that the participants desired relationships with coaches where they felt they could express themselves and operate with a sense of comfort.

Negative Coach-Athlete Relationships

Somewhat in contrast to the previous superordinate theme of effective relationships, negative coach-athlete relationships emerged as a superordinate theme relevant to the need for relatedness. It was clear that some of the participants had a negative perception of the relationship that developed between themselves and a coach(es). Three subordinate themes developed under negative coach-athlete relationships; (i) lack of respect for coach, (ii) unmotivated, and (iii) unvalued.

It is important to note here that none of the athlete participants seemed to have any personal issues with the coaches as individuals; with that said, however, several athlete participants described specific (mainly expertise) elements of the relationships with a coach or coaches that they experienced as lacking within the particular context and those elements had a negative impact on themselves and/or their experiences in the team environment.

Lack of respect for coach. The majority of the participants conveyed a desire to respect their coaches and that respect was an essential element of developing positive connections with the coaches in the team. Unfortunately, a number of the participants did describe experiencing lessened respect as the season progressed for one of the coaches that they worked with:

You need to have respect, both ways, otherwise the coach is going to tell you something and you're not going to take it on board... because of the lack of communication and just beating around the bush, I lost a bit of respect for [CX];

when that happened, it kind of went downhill from there, and I didn't really have that respect for [CX] again. (A2)

It was interesting that A2 mentioned that she never regained respect for the coach, suggesting that it is a quality that is difficult to recover once you have lost it. It appeared that a lack of respect led to athletes not trusting feedback from a coach, regardless of the content of the messages, as much as they would have, had it come from someone that they had greater respect for:

It's a funny thing, like if [CX] said something I probably would've been like 'yeah okay' [shrugging shoulders] whereas if [A9] said the same thing I'd probably write it down as gospel. (A12)

I don't think I'd necessarily go to [CX] for advice... if I did, I probably wouldn't value it like I value [invited external coach's] advice, or I'd much more value what [A9] or [A12] had to say and I'd look to them for direction. (A3)

Unmotivated. A reduction in motivation throughout the season was reported by many of the participants and became a subordinate theme under negative coach-athlete relationships. A12 described her feelings following some tension with one of the coaches over a disagreement.

At the end of that round I was like 'thank God we've only got one more round', I couldn't wait for the season to be over at that point. (A12)

It appeared that the athletes' perceptions of a particular coach and their coach-athlete relationships were key factors in influencing athlete motivation levels:

...[we were] still doing stuff, but kind of like "oh well" ... and maybe wouldn't put in as much effort as we would've put in in the past with [former coach] for instance, because we knew that there were really high standards, and perhaps more value was

placed on what [former coach] had to say about skills and stuff... maybe that does come from a lack of respect for the coach. (A3)

A2 had a similar perspective, referring to her level of enjoyment being influenced by the coach and extended the premise by suggesting a link into performance matters:

I think enjoyment, if you're not going to enjoy turning up to trainings and games because of the coach, then you're not going to play very well. I think enjoyment is pretty big... if you don't want to turn up, then you're screwed for competition. (A2)

Unvalued. Whilst many of the participants described positive experiences when asked about the relatedness aspects of their involvement/position in their team, a number of the athletes described feeling unvalued by a coach at some point during the season:

I think probably from the start of the season it didn't kick off that well, and I didn't feel that valued. It [poor communication] made me feel like I'm not that valued in the team. (A3)

A small number of participants reported that they felt that some members of the team were valued more by the head coach than others and this had an impact on their experience:

Sometimes it just felt like we were there [in the background], because they [more valued players] wanted to [use us for their training]. (A4)

Being forced to [train in a certain way] would be the only thing that actually annoyed me during the season cause it felt like I was there just to [help others train]. (A5)

Negative Perception of Team

Within their responses, a number of participants referred to developing negative perceptions of the team. Such a perception led to undesired repercussions with regard to

the individuals as well as to how the team functioned collectively as a group. Three subordinate themes emerged; (i) weak team identity, (ii) impeding honesty, and (iii) playing for self.

Weak team identity. Some comments proposed that, in contrast to previous seasons, there was a lack of clarity around the team's identity and that there was a level of frustration regarding team direction, miscommunication, and ambiguity concerning the culture that had manifested within the team:

I feel like it's more individual than it used to be, and we didn't click as much as a team, I'm not sure why that is, and if other people felt it, but that was just how I felt. I didn't feel like we were one unit. (A2)

It appeared that the culture had been stronger in previous seasons and that it had taken a backwards step. A13 referred to instances where she had noticed that things were not quite the same:

There was an element of just going through the motions a little bit. Not faking it, but... maybe a little bit of that. It didn't feel as genuine as previous seasons... personally, there were times when I thought 'this is a bit odd, this isn't the team that I know'. (A13)

Similarly, as with other participants, A6 acknowledged a weakening of the culture, and attributed it to uncertainty concerning various elements of team functioning:

I think it [the struggle] was frustration and miscommunication almost that no one really was on the same page or knew why things were happening... they were just happening and then nothing was being done about it... we lost that culture for the first half of the season... it became completely individualised and almost... there was no team culture. (A6)

Impeding honesty. In stark contrast to the participants who felt a sense of relatedness and reported a level of honesty within the group, several participants described how either a negative perception of the team or one's position in the team negatively influenced communication by impeding honesty. Irrespective of the perception that there was an adequate degree of social cohesion within the team (which many of the participants testified to), a number of participants suggested that there was a lack of open and honest feedback between individuals throughout the season:

It [team culture] was interesting, we all get along, I think you can see that, but there are also a lot of big elephants in the room that aren't addressed. (A10)

We used to be quite good at that... pulling people up for things that they're doing, and I don't think that we do that anymore. (A2)

A13 supported this premise and described feeling as though, for her, it was difficult to 'speak up' due to another athlete's presence in the team:

I think there is a bit of a [particular athlete] element where people are not comfortable speaking up with [her] around... like I'm certainly not. I might speak up when I really think there is something to say, but it's definitely not going to be directed at her or anyone around her. That would be my take on it. (A13)

These remarks, as well as those presented earlier, reinforced a stance that the social elements (i.e., "getting along") of being in a team are important; however, athletes also attach value to cultivating an environment where honest communication can take place and experiencing relatedness is a key aspect of this.

Playing for self. Again, in contrast to being driven by and primarily focused on the success of the group, a perception that some team members were playing for largely individual reasons, was reported by a number of team members:

Quite often some people are looking at national team stuff, rather than worrying about [this] team... you know? Kind of like 'how am I gonna make the [national team] now?'... It's not about that. It's about playing for [our team]. So sometimes there's too much focus on other stuff, and I think that can affect the team culture as the players who aren't in a position to make the [national team] are probably going to feel under-valued or that [our] team is undervalued. (A7)

A3 validated such remarks that individuals were focused on individual goals at times, by describing how she, as a result of being dissatisfied with her position in the team, became more motivated to do well for herself:

...at that point, within trying to [play] to the team situation, I was kind of like 'well f..k it', I want to do well for me... not necessarily anybody else, so maybe that's a good thing I don't know... but it did shift my mindset. (A3)

The above comments exposed that frustration can build when such a perception develops that athletes are operating with their own interests primarily in mind. Moreover, A3's comment showed how an individual's motivation can change as a result of a reduced sense of relatedness with her teammates/coaches.

5.2.3 Autonomy

All of the athlete participants in the study described valuing feelings of autonomy and experiencing an adequate degree of volition concerning their involvement in the team environment (e.g., preparation; roles; development). Moreover, participants also commented on a strong desire to experience a sense of control when they stepped onto the competitive field of play. When interpreting the data, two superordinate themes emerged in regard to the importance of autonomy; (i) self-regulating performance and (ii) athlete ownership (see Table 3).

Table 3*Importance to Athletes of Experiencing Autonomy*

<i>Superordinate themes</i>	<i>Subordinate themes</i>	<i>Illustrative quotes</i>
Self-regulating performance	Control	<i>I felt like I had plenty [of control]... I didn't really talk to [CX] about my own game. (A12)</i>
	Playing freely	<i>Went out feeling pretty relaxed and free and played how I wanted to. (A2)</i>
	Self-reliance	<i>At the end of the day, it's up to you. (A13)</i>
Athlete ownership	Self-expression	<i>It's okay to give guidance, but to tell me to [do this, do this]... it's not freedom and expression of yourself. (A10)</i>
	Sense of readiness	<i>You feel like you're growing and improving... it's important to always feel like you're making gains. (A1)</i>

Self-Regulating Performance

Self-regulating performance encapsulated and linked a cluster of subordinate themes that described how the athlete participants experienced autonomy throughout the season in regard to their performance. It became clear that the participants valued being able to manage their individual performances, as opposed to relying solely, or excessively, on coach support. Three subordinate themes were identified that captured the experiences of the athletes in regard to self-regulating their performances; (i) control, (ii) playing freely, and (iii) self-reliance.

Control. A number of the participants made remarks concerning a desire to feel as though they were in control during competition. One of the areas identified involved making decisions and having the scope to apply their own strategies that would help them perform as a result of the belief that they knew what worked best for themselves:

I was able to say 'no' ... [to a suggestion from a coach] which is pretty cool... in the [game] I made [tactical decision], it was cool that they trusted me to do that, you know? (A5)

I have full control over what [tactic] I want, can make changes... I have full control, [Captain] will give suggestions... but I know what I'm [doing] so that's really good during games, you're used to knowing what you want to do, I think it's easier. I feel like I have a good amount of autonomy. (A4)

Such remarks revealed a positive perception of the freedom that athletes received and experienced throughout the season. This perception seemed to be a result of athletes being given the scope to make tactical/strategic decisions that made them feel as though they had a sufficient degree of control over themselves and their performances during competition. A5 reported feeling autonomous as a result of the perception that she could control her performances and, as such, could place pressure on her opponents. It seemed that a combination of strongly perceived competence and being provided with tactical decision-making opportunities led to her experiencing freedom in how she performed:

I had the control when I was [competing] to go 'no I'm not going to [let you do that, so if you want to do that] you're going to have to do something that's risky', so that was cool. (A5)

In contrast, A6 went on to describe how she did not know how to counter her player opposition's strengths at one point early in the season due to not feeling prepared; however, she received greater support later in the season:

I wish there was more structure around competition analysis... [CY] sat us down prior to the last few rounds and we talked about other teams' players and also what we would do to counter their strengths which was so helpful... whereas early in the season, we had no idea what to do with [the opposition]. (A6)

Such a comment revealed a desire to prepare effectively and, consequently, experience stronger feelings of autonomy during competition.

Playing freely. Similar to the theme of control, a number of participants reported a sense of freedom when competing. Whilst the theme of control referred to being able to make tactical and strategic decisions, playing freely represented a sense of psychological freedom (i.e., playing without constraints):

When I [was out there]... I'd kind of forget about everything and had a sense of freedom, which was quite cool. (A2)

A5 and A7 held similar perspectives to A2, suggesting that coach behaviour led to them feeling free to play without constraints:

The fact that [when I made a tactical suggestion] [CZ] just went 'yeah do it' made me feel like they had my back and made me feel that I had the control to make it happen, you know? Like there was nothing holding me back and if it doesn't work out... oh well. (A5)

We've all got the freedom to play our own game, within a set plan of what we want to achieve... always felt pretty free to play how you want to play. (A7)

The theme of 'playing freely' was similar to the 'playing intuitively' theme that emerged when the participants were referring to feelings of competence. This would suggest that feeling competent and having a positive perception of their environment in regard to the provision for decision-making is likely to lead to athletes experiencing a sense of freedom when performing.

Self-reliance. Whilst autonomy was perceived as important by all of the athlete participants, many attributed that value to the belief that athletes need to be self-reliant in how they prepare and perform:

When you get to a high level, you need to be able to do things for yourself, you can't have people telling you what to do all of the time, you can't be spoon-fed... no one is going to tell you to go for a run at 7am, you've got to do that yourself. I think it's good... you take responsibility for your own game. [Coaches] can't hold your hand all of the time. (A3)

It appeared that A3 experienced a sense of being self-reliant and that this was viewed as being positive as a result of the belief that, as a high-performance athlete, there is a need to be able to do things of your own volition and that one should be responsible for their 'own game'.

A2 described the importance of experiencing autonomy in regard to the training environment in particular:

For me personally, it's put a lot more responsibility on me to actually think about what I'm gonna do before training... not just rock up and rely on the coach to say 'we're going to do this tonight', so it's me thinking about my game more and what I need to do better, and then obviously I can turn up to training and all of the things are in place for me to do that. (A2)

As a consequence of being able to make autonomous decisions regarding her training, A13 described feeling self-reliant, which allowed her to train the way that she believed was most effective and, as a result, there was less reliance on coaches to tell her exactly what to do:

You become a self-reliant player at the end of the day, which is perfect, because it means you come to the [training] and do what you need and then go... you don't need 100 coaches telling you what to do. (A13)

A10 mentioned that, at times, she had the opportunity to express her preferences for what to commit time to during training sessions and that this enhanced feelings of control during competition:

I felt a lot more confident that if things happened in the game, I could control it. Up until then [when most decisions had been made by a coach] the only time we had practiced some of those specifics were actually in a game. (A10)

The above remarks suggested that when participants were able to make some decisions regarding their game preparation, they felt more autonomous during competition as they had a greater perceived competence to be able to control what was occurring.

Athlete ownership

As participants explained what autonomy meant to them and the value they placed on it, many of their remarks appeared to reveal a need to experience ownership over oneself and one's sporting experience. Two subordinate themes emerged; (i) self-expression and (ii) sense of readiness.

Self-expression. As a result of their needs for autonomy being supported, a number of the participants reported feeling that they were able to express themselves and that this was important to them. These participants referred to such an experience with regard to both how they competed, as well as feeling comfortable being themselves within the team environment. For instance, A10 believed that it was important that she felt comfortable that she could contribute and be herself:

You may as well be able to express yourselves the way you can with everybody else and [CX] made it known that you were able to be who you are and no one was allowed to pull you down... our team grew so much once we were open to contributions and freedom of expressions. (A10)

A8 described being given, and enjoying, a sense of autonomy that led to feelings of freedom of expression within the team environment that allowed for a sense of creativity and excitement:

[When given some freedom], you can express yourself more... you can try things to see if they work and be a bit creative; it allows motivation and brings a bit of excitement. That's important to let players express themselves in different ways... have flexibility to be able to try things. (A8)

Sense of readiness. A perception of a sense of autonomy led to some participants having enhanced feelings of readiness for competition. When such autonomy was supported, participants felt that they were more likely to effectively prepare for competition, as the training environment supported attention to needs specific to them or allowed relevant decision-making opportunities.

Rather than someone telling you 'do this, do this', you're kind of doing it for why you want to, or you think learning a new skill is going to benefit your game... yeah it's important. There was always freedom to kind of do whatever you thought you needed, which was good. (A7)

A13 and A6 both highlighted the importance of being able to train and prepare in ways that met their individual needs to feel adequately prepared for competition:

...I remember having a chat with [CX] and said 'this is what I need to do to feel prepared' and [CX] gave me that freedom which was nice. (A13)

You know your body best... and you've got a pretty good idea of what you need to do to get your body ready and be in the right mindset prior to the game. (A6)

With regard to the need for autonomy, when satisfied, participants described having a sense of freedom to self-regulate their performances. Moreover, feeling autonomous supported feelings of ownership over one's journey, which allowed them to express themselves and feel an enhanced sense of readiness for competition.

5.3 SUMMARY POINTS

This chapter examined athletes' perceptions of the importance of basic psychological needs satisfaction. All of the participants within the study reported that it was important to experience feelings of competence, relatedness, and autonomy within their high-performance sport environment. Discussions with the participants revealed that these needs appeared to have an impact on them in regard to their athletic performances, but, additionally, more widely with regard to their feelings of belonging, and a sense of ownership over their experiences overall. It also appeared, as indicated earlier, that there was a degree of symbiosis among the needs; for instance, it was reported that feeling a sense of security within the team (relatedness) enhanced their belief in their ability to perform during competition (competence). Having established that such needs were considered as important to these high-performance athletes, attention now shifts to the coaching contributions that were interpreted by the athletes as being nurturing of such basic psychological needs.

CHAPTER SIX

RESULTS: RESEARCH QUESTION TWO

6.1 INTRODUCTION

This chapter details the coaching behaviours that the athlete participants indicated as positively contributing to them experiencing feelings of competence, relatedness and autonomy within their team environment. Throughout the participant interviews, various coaching behaviours were described that were perceived by the athletes as having the potential to satisfy or positively influence how they experienced their basic psychological needs. At times these behaviours surfaced also within informal discussions, and observations focusing on coach behaviours and athlete reactions provided another perspective on this dynamic. As previously indicated, such data were analysed into distinct superordinate themes, which are presented here along with subordinate themes and illustrative quotes.

6.2 ATHLETES' PERCEPTIONS OF COACHES' NEED-SUPPORTIVE BEHAVIOURS

6.2.1 Behaviours Contributing to a Sense of Competence

When asked to reflect on how the coaches contributed to their experience of feeling competent, the athletes in the study described a number of behaviours that positively influenced a satisfaction of this particular psychological need. The superordinate themes and specific behaviours that emerged from the data-analysis are presented in Table 4. Three distinct superordinate themes encompassed specific coaching behaviours that were perceived by the athletes as being nurturing of a sense of competence; (i) facilitating effective preparation, (ii) providing emotional support, and (iii) promoting athlete ownership.

Table 4*Coaching Behaviours Contributing to a Sense of Competence*

<i>Superordinate behavioural themes</i>	<i>Subordinate behavioural themes</i>	<i>Illustrative quotes</i>
Facilitating effective preparation	Discussing game plans and mental preparation	<i>[I] was definitely more confident going out to play (be)cause we'd talked about plans and what I needed to do. (A2)</i>
	Game-like and targeted training	<i>...working on your strengths, executing repeatedly at practice... I think it was that that gave me the confidence to perform in games. (A6)</i>
	Effective technical feedback	<i>[CY] just has so much knowledge, and passes that over to you... and is honest. [CY] might say 'that wasn't good, but do this' and so gives you so much [good] feedback. (A10)</i>
Providing emotional support	Genuine positive reinforcement	<i>[CX] encourages me and tells me that I've got the skill and all that sort of stuff. (A12)</i>
	Getting to know athletes individually	<i>...the first thing [CZ] did was get to know us, asked us how [a trip] went, and [CZ] could sense that we were disappointed. (A13)</i>
	Role communication	<i>...when we talk, [CX] has always been like 'I see you as a senior [position label]'. (A4)</i>
Promoting athlete ownership	Seeking athlete input regarding training focus	<i>...we could identify what we wanted to work on. (A6)</i>
	Supporting athlete preferences	<i>I need to be focused, but also having fun. (A7)</i>

Facilitating Effective Preparation

For many, it seemed that to feel competent, they had to have the sense that they had been able to prepare effectively and have been exposed to adequate feedback and support – aspects that are largely determined by coaching inputs. Three distinct behaviours were clustered together under the theme of facilitating effective preparation (i) discussing game

plans and mental preparation, (ii) game-like and targeted training, and (iii) effective technical feedback.

Discussing game plans and mental preparation. A number of participants suggested that engaging in one-on-one discussions with a coach that involved mental preparation had a positive impact on their perceived competence. It seemed that having a coach who took the time to go beyond just the physical aspects of preparation and assisted the athletes in preparing mentally for competition was valued:

It just gave me a real [sense of competence], without a doubt, the way [CZ] went about preparing us. I was never big on that... I used to just rock up and go, but [CZ] was quite big on that side of the game so the way [the coach] would reiterate those kinds of things [routines, game plans] were really good... it reminded me that I needed to prepare fully, so that was a massive positive. (A13)

During the observations, the researcher often observed coaches having such one-on-one and small group discussions with athletes; for instance, questioning them in a non-threatening way during breaks regarding their routines or potential strategies for upcoming matches (e.g., “hey, how are you thinking you’ll approach X” [CY]) and providing suggestions when appropriate. A key outcome, for some, of such mental preparation involved athletes having the perception that they had a plan in place that put them into a position where they could be successful:

When [CY] would look up what they [the opposition] were like and say ‘I think you should do this, and this is a plan B, here’s a plan C’... that was really good. [CY] would make lots of suggestions... so that would help with your competence as you felt like you had ideas of what you were going to do... made you feel prepared. (A4)

A number of comments also suggested that, at times, coaches were able to help the athletes achieve a positive mindset as a result of one-on-one discussions aimed at reflecting on when performances had been of a good standard and how such experiences could be replicated in the future:

It's the conversations that we've had about how things have gone and continuing on that way... can be technical stuff in terms of them viewing a training and then giving me feedback... or it's been just talking about what went well last season and just trying to replicate that again. (A9)

From such remarks, it appeared that some participants valued focusing on the positive aspects of performances and feeling supported by the coach in regard to determining what needed to be done to continue performing at a high level. The researcher felt that the coaches, CY and CZ in particular, were effective in maintaining a positive focus and identifying and communicating areas for improvement. It seemed that, mostly, attention was directed at positive dimensions, as opposed to reflecting excessively on weaknesses or undesired performances.

Game-like and targeted training. Some of the athletes described their coaches providing types of training that cultivated belief in their ability to compete. This appeared to be due to a perceived alignment between their individual needs and how the coaches delivered such training sessions. Most clearly, the participants described how the coaches provided training that made them feel as though they were adequately prepared to perform. Many of the responses concerned being exposed to game-like situations prior to competition:

Providing the environment that allowed me to develop in confidence and giving me opportunities to do that. It was doing drills to see how well we could execute them

and turning them into competitions... I liked that cause it kind of put you under a bit more pressure. (A6)

It seemed that participants who identified this felt heightened competence going into competition as a result of the training that they were exposed to. Coaches were observed from time to time integrating pressure situations into training sessions (e.g., outlining key targets; identifying consequences; integrating scoring into drills), and some participants reported that this helped with their perception that they were better prepared for the competition environment as they had experienced pressure and what it felt like to perform under a certain level of stress.

Providing effective feedback and advice. Many of the participants in the study referred to receiving expert feedback and/or advice from their coaches, and that this contributed positively to feelings of competence in regard to their ability to perform successfully. Interestingly, several of the participants described (directly or indirectly) having a level of trust in a particular coach's knowledge and ability to provide accurate and relevant feedback that would help them improve:

[CY] kept me grounded... there weren't any highs or lows, [they] kept saying 'keep doing what you're doing' and it built that trust. I guess I just trusted that [CY] knew what [was required] and that if I did what [was said], it would all work out. (A5)

The researcher perceived the athletes as being highly engaged when interacting with particular coaches (i.e., nodding; smiling; asking additional questions) and it seemed to be a result of a level of trust in the specific coach's knowledge, and, as such, the messages being conveyed. Some participants described particular coaches as being able to communicate in a clear and simple manner:

[CY] kept it really simple, didn't over-complicate it... and backed us. Told us we were good enough to be here. What I found was that [they] kept it really simple and clear, you had a focus and you worked towards it. (A6)

A number of the participants attributed value to the head coach bringing in external expertise from time to time. This seemed to be targeted on enhancing participants' competence levels by contributing a fresh perspective or adding additional knowledge to the coaching staff's existing ideas:

[CX] was pretty good at getting other coaches in... for instance, getting [a particular specialist] to help with [specific skills] on a few occasions. [CX] was open to asking for help when needed. We were in need of some hard-core [skill] work and got [an external coach] in, which was awesome. (A13)

The above comment suggested that coaches who were both open to and willing to accept when additional expertise should be utilised helped towards satisfying their athletes' needs for feelings of competence. It provided them with opportunities to learn from people with particular expertise from outside of the immediate team environment and, thereby, be exposed to focused skill development and meaningful feedback. The intensity (high energy; positive communication) shown by the athletes during such sessions conveyed a level of enthusiasm and appreciation when these external specialists were invited in.

Providing Emotional Support

In addition to the coaches facilitating effective preparation for competition in regard to technical feedback and mental preparation, the athletes in the study also identified the importance of being supported emotionally by their coaches. A number of the behaviours that athlete participants described as supporting their need for feelings of competence were somewhat surprising to the researcher as, at first glance, they seemed more likely to

be linked closely with the need for relatedness. Three subordinate themes emerged under providing emotional support; (i) genuine positive reinforcement, (ii) getting to know athletes individually, and (iii) role communication.

Genuine positive reinforcement. Many of the participants identified behaviours conveying positive reinforcement from the coaches as being important in cultivating their perceptions of competence. It appeared that the majority of the athletes valued having their abilities positively reinforced, as well as having a coach who focused primarily on what was going well:

We did a big session last year to give feedback to the coaches and senior management and one of the big things was for [CX] to be a bit more positive. I think this year [CX] has worked really hard to be more positive with us. (A3)

Several of the participants mentioned, though, the importance of receiving a balance of positive and constructive critical feedback and, so long as the latter was done in a positive way, it was viewed as a valuable experience:

[CZ] would tell us that it wasn't good enough, but would also add 'you guys did this really well'. (A10)

Researcher observations revealed a high degree of positive feedback provided to athletes from all three coaches, with such messages appearing to be genuine and they were usually enthusiastically delivered. A6 referred to the importance of feeling that the coaches were giving feedback for the right reasons:

A lot of it is body language, making you feel comfortable through their communication, and like they want to be there and want to help...not just going through the motions of giving feedback because it's the right thing to do, but giving it because they genuinely care and want to see you improve. (A6)

Such a statement proposed that positive contributions in this space would be due essentially to feelings that the support from the coach was genuine. Some suggested that they experienced increased feelings of competence when they sensed that others supported and believed in them:

Support was really key... I guess in combination with repetition, that was where it [a sense of competence] came from. I knew that if others backed me, I backed myself, and I knew I'd done the work, then I'd be able to execute. (A6)

Getting to know athletes individually. A number of participants referred to the importance of the coaches getting to know the athletes and highlighting simple one-on-one discussions as being important with regard to nurturing feelings of competence. Coaches were often seen, particularly prior to training sessions, engaging with athletes and enquiring about what they had going on in their lives outside of the team setting:

Just acknowledging that other things are going on as well was important... university, work, stuff like that, just talking about how you can work around those. (A6)

In addition to getting to know the athletes and showing an interest in what was going on outside of the immediate sporting environment, some participants also referred to the coaches seeking a better understanding of them as people and what made them tick:

I don't know if [CY] worked me out pretty quickly or just understood where I was coming from but I felt like I could talk about something and that [they] understood exactly what I was saying. [CY] worked out how to talk to me early on and I think that meant that I had buy-in... I felt so much better knowing I had someone who had my back. (A5)

It appeared from the above comments that participants experienced an increase in feeling competent due to believing that their coaches were actively seeking to understand them better as individuals. As such, the enhanced support seemed to contribute to feelings of being valued and thereby reinforced a sense of having the capacity to deliver within the team.

Role communication. As a subordinate theme, role communication was linked with ‘providing emotional support’ as it appeared that having clarity regarding one’s role was seen as an important aspect of feeling satisfied with one’s place in the team environment. Several athletes identified clarification from the coaches regarding their role as being a positive contributor to them believing they could be successful:

When you got named, you got told your role, which was good... ‘you’ll be [doing this and doing that]’, so that was positive. (A8)

During training sessions, coaches were often observed indicating to athletes potential areas that they would contribute to during competition (e.g., “*It’s likely that you’ll have [this function]...[CX]*”), which would logically enhance feelings of role clarity. Additionally, several athletes suggested that part of the impact that role clarification had on them was achieved through their coaches reinforcing to them their value to the team; for instance, through the allocation of official roles:

Being included in the leadership group; to be part of that is reinforcing that I’m part of the team and that they do want me to contribute. (A2)

A number of athletes referred to the coaches being consistent in regard to team selections. Comments suggested that some athletes felt that their place in the team would not be jeopardised by one poor performance and that this helped them feel more secure in the team, and, as such, they experienced a greater sense of competence:

[CX] is consistent with selections and stuff like that. So if you had a couple of bad games, [CX] isn't going to just drop you, so that sort of gives you that confidence that you're going to [perform]. You don't have to think 'shit if I don't [do well] today, I might not be in the team tomorrow'. (A3)

I feel quite safe in the team... I guess that's portrayed in how [CX] talks with me and deals with me. (A5)

A2 suggested that a sense of belief conveyed from the coaching staff was perceived by her to be as a result of experiencing consistency in the opportunities and roles that she was given in the team, and that this enhanced the confidence that she had in her own ability:

I started to become a bit more confident, I got opportunities to [play in a particular position] and they showed that they backed me and it wasn't a one-off. (A2)

Promoting Athlete Ownership

Promoting athlete ownership emerged as the final superordinate theme that described how athletes interpreted their coaches' contributions to their perceived competence. Two subordinate themes were clustered together here; (i) seeking athlete input regarding training focus, and (ii) supporting athlete preferences.

Seeking athlete input regarding training focus. A number of athletes reported that, at times throughout the season, the coaches sought their input in regard to what the focus of trainings should be. Also, the coaches were often observed asking athletes questions regarding various inputs. It appeared that being given scope to contribute to these decisions, or make the decisions entirely, allowed the athletes to identify and work on areas that they believed needed attention:

This year it's been a bit more on us, and we turn up to training and it's like 'What do you want to do? What do you want to achieve?', which has been really cool. You feel like you're getting something out of training and you're not just doing specific things because you've been told to. (A2)

This comment suggested that when given opportunities to make, or at least contribute to, some decisions regarding training, A2 experienced an increase in perceived competence, which was likely due to a feeling that she was developing the skills necessary to improve as an athlete. A8 commented on the positive impact that having input had on training effectiveness and also on her perception of her place in the team:

It [CY's approach] made you feel important, because I feel sometimes we're just there to give others [focused training], and often it's like 'hold on, I've been [doing this] for an hour'. (A8)

It was clear to the researcher when observing that some athletes appreciated being able to direct their own training sessions, or at least particular focus areas, and they appeared to be more content when such opportunities were provided (so long as they were also receiving sufficient coaching support). This seemed to be as a result of a sense that they were practicing skills that required attention and would enhance competence. The above comments were consistent with the researcher's observations and suggested that feelings of competence were enhanced when coaches sought athlete input into deciding on or at least influencing the focus of training.

Supporting athlete preferences. Many of the participants referred to the importance of the coaches supporting their preferences in regard to how they best operated. Having coaches support them without encroaching unnecessarily on their sense of freedom to prepare and function the way that they wanted to was reported to have positively impacted on athletes' perceived competence levels:

[CX] knows how I work... and doesn't spend as much time with me as with other people because I understand my game a bit better. [CX] knows when to talk to me and knows before I go out [to perform] that I don't want someone talking in my ear... so letting me be, that sort of thing... if someone was in my ear, that would completely change how I was feeling about things. (A7)

In a similar way, A9 described being given sufficient scope to prepare in her own way, whilst at the same time she still felt she received sufficient support from her coach:

[CX] kind of lets me do what I think I need to do... but adds 'if you need anything, shout out', so it's probably a little more hands-off approach. (A9)

The researcher observed the coaches operating in ways prior to competition that seemed to be largely aligned to athletes' personal needs, which was mostly in the form of fulfilling a supportive role. They would engage more with some athletes than others and appeared to have a good understanding of what each athlete needed concerning coach input on competition days. For some athletes, this involved receiving a quick final message before heading out to compete, whilst others had limited interaction with coaches during such times.

6.2.2 Behaviours Contributing to a Sense of Relatedness

A number of coaching approaches and behaviours emerged throughout the participants' descriptions of how their coaches contributed to their sense of relatedness in the team environment; with these presented in Table 5. Three superordinate behavioural themes emerged; (i) complementarity, (ii) co-orientation, and (iii) cultivating a supportive environment.

Table 5*Coaching Behaviours Contributing to a Sense of Relatedness*

<i>Superordinate behavioural themes</i>	<i>Subordinate behavioural themes</i>	<i>Illustrative quotes</i>
Complementarity	Collaborative discussions	<i>[CY] throws out ideas and says 'try it, you don't have to use it, but we'll give it a go'. (A8)</i>
	Open and regular communication	<i>...it was just constant communication I guess. (A10)</i>
	Seeking and considering athlete input	<i>[CY] always asks opinions or 'what do you think about this?'... and might offer guidance as well, so it's a two-way street. (A10)</i>
	Adaptability	<i>[CY] knew when to talk to me and when not to talk to me. (A5)</i>
Co-orientation	Meaningful instructional and technical feedback	<i>[CZ] gave a lot of technical feedback when we started so that was really good. (A4)</i>
	Genuine positive reinforcement	<i>...lots of positive communication. (A15)</i>
Cultivating a supportive environment	Exhibiting care for athletes beyond the sporting environment	<i>[CX] made it clear that if I have any questions, I can talk to them anytime, even if it's not about sport. (A6)</i>
	Promoting team culture and teamwork	<i>[CX] has been really good at promoting team culture. (A3)</i>

In regard to this theme, a quality that was consistently referred to by the participants and was repeatedly identified as being a fundamental aspect of developing positive relationships with coaches, was that of 'being approachable'. Although this quality was inevitably experienced by athletes, conveyed by coaches and observed by the researcher in a variety of ways, it was consistently highlighted in many of the interview discussions:

[CX] is approachable... last year I struggled, and I felt comfortable going to [them] and saying 'what do I need to do?' ... Some coaches you're not going to want to go speak to them about that... you just kind of put up with it. I found I could quite happily go see [CX] and say 'what do I need to do?'. (A2)

It became clear to the researcher that having coaches who were perceived as approachable was important to athletes in regard to nurturing a sense of relatedness in their team environment. As A2 mentioned, athletes will avoid speaking to coaches if they do not identify them as being approachable and, if this occurs, a positive connection between coach and athlete would seem unlikely to develop.

Complementarity

As the participants described their interactions with their coaches and how they interpreted the coaches' contributions to them experiencing relatedness, it appeared that a relationship where each party complemented the other was desired. The participants valued coaching behaviours that nurtured a sense of collaboration, and many mentioned responding positively to coaches who work in partnership with their athletes, as opposed to fostering a more traditional hierarchical relationship. A key theme within the researcher's observations was that many coach-athlete interactions appeared to be complementary and collegial in nature (e.g., open body language; suggestions from coaches, more than directions; two-way questioning). Four specific coaching behaviours in this regard were clustered together; namely, (i) collaborative discussions, (ii) open and regular communication, (iii) seeking and considering athlete input, and (iv) adaptability.

Collaborative discussions. In contrast to more traditional coaching methods that involve instructing athletes on what to do and when to do it, a number of the participants described their coaches as mostly making suggestions to them, and that this had a positive impact on their feelings of relatedness. Many of the participants reported that being

involved in decisions had a positive impact on this particular psychological need, as highlighted below:

I'd ask [CY] something and [they'd] either go 'what are you doing that for?'... but it would also be, 'why have you done that?... so was almost like a sounding board as well. I'd suggest something and [they] would ask questions about why I was doing it and give their opinion, but it never felt like I was wrong, it was just more along the lines of 'this is what you should do' or 'this is what I'd do', but then leave it up to you whether you did it or not. [They] didn't force things on you. It was more collaborative. (A5)

A3 described her perceptions and highlighted the importance of athletes feeling respected and that this is often influenced by the nature of the culture that a coach creates.

I think it needs to be more of an even keel... I think it comes back to culture. If the coach can develop a good culture in the team, and that players feel respected enough that they can approach the coach honestly, then it's generally pretty good. (A3)

As the researcher observed coach-player interactions, it was clear that the coaches were attempting to empower the athletes to make decisions and to guide their own training sessions at times, and they seemed to support the athletes to develop and perform, rather than by imposing their own philosophies or ways of thinking. As the comments indicated, this was often effected through collaborative discussions and appeared to have a significant impact on the athletes' feelings of connection with the coaches.

Open and regular communication. Interview responses suggested that open and regular communication between coaches and athletes was considered to be an important contributor to athletes developing feelings of relatedness:

[CY] would often check in ... ask how things went in the weekend, 'how are you feeling?', and would let me know when they were free to catch up... [CY] was really willing with their time. (A10)

...personally, with my injuries [CX] touches base quite often, even still, I'll get a text saying 'how's your [injury]?', which is cool. (A2)

Such remarks posited that athletes wanted to be engaged in regular communication with the coaches and preferred those who would proactively make contact, which conveyed a level of dedication and a willingness to share their time. Furthermore, open communication regarding technical feedback also appeared to foster a sense of connection between athlete and coach. As was mentioned earlier, athletes were not generally looking for a 'friendship' relationship with their coaches; they more often desired someone who (whilst being respectful of roles) effectively supported them in reaching their goals. This meant that honest and regular communication was considered important:

[CY] is really upfront and honest... wouldn't lie to us and say 'oh yeah, you're [executing] really well' and we weren't. There was that openness where if you weren't doing something right, they weren't going to hide away and pretend to encourage you. [CY] would be upfront and you'd work through it, and you'd come out [performing] better... really straight up. (A6)

During observations, the researcher noticed that CY, in particular, was effective in highlighting areas that needed improvement, but would then quickly change focus to what the athlete could work/focus on to make such changes. This was in contrast to spending excessive time focussing on the issue/problem, and that seemed to strengthen connections between coach and athlete.

As an extension of the above points, several participants indicated the importance of coaches communicating with them regarding team selections and their individual roles, particularly as this seemed to have been an issue in the past:

In one of the games I asked why I didn't get to play, [CX] responded and told me why, so that was great... after one of the rounds, I just asked what I needed to do differently, and [CX] was open to talking about that. (A10)

What stood out throughout these responses about communication was that when athletes held a perception that the coaches were open with them and were generous with their time, it conveyed that they were valued and, accordingly, it promoted a greater sense of relatedness.

Seeking and considering athlete input. One of the positive ways that the coaches seemed to collaborate with the athletes was through providing opportunities for the athletes to contribute to decisions within the team environment. Almost all of the participants in the study reported that their sense of connection with the coaches was enhanced when the coaches actively sought, and subsequently considered, input from their athletes. The two most commonly mentioned areas where the coaches sought input from athletes were (i) decisions regarding training focus and (ii) giving feedback.

Many of the participants reported being provided with opportunities to make decisions regarding the focus of training:

[CX] had a better idea [this year] of what we wanted to work on. The planning process was better, rather than coming to training and saying 'you're doing this, you're doing that', [CX] knew certain people wanted to do specific things and would accommodate that. (A6)

It appeared that being given scope to convey preferences for training to the coaches and being aware that such preferences were taken into consideration when planning sessions, contributed positively to how athletes interpreted coach-athlete relationships. Participants' responses suggested that as a result of coaches seeking their input, they were exposed to the kinds of training that were going to help them be successful and, as such, it seems logical that they would feel a greater sense of connection with coaches when this occurred.

Several participants also referred to coaches pursuing feedback from them as athletes regarding how they as coaches approached their role and what they could do more effectively. It seemed that seeking athlete input regarding training focus was actually implemented as a consequence of prior feedback from athletes regarding what they would like the coaches to do differently:

I think that's really cool that they're open to having people give feedback. Say we don't like training, but [CX] just won't accept any change, then we're gonna not want to go to training... so one great thing that [CX] has is that openness to feedback.

(A4)

At the end of training sessions, the researcher noted that the coaches would often ask the athletes for feedback on various matters; including the quality of the session overall, areas needing greater emphasis, a tactical/strategic matter and, at times, asking what they, themselves, could do differently as coaches. Comments from A8 revealed a similar stance, suggesting that it was positive when the coaches sought feedback, and that this made it easier for her to provide feedback or have, what could be perceived of as 'hard' conversations, with a coach:

[CX] did take some things on board, which was good. I didn't hesitate once to contact [them] about something that was a hard conversation, so in that respect, [CX] was always like 'I appreciate your feedback and your honesty' so that was good that [they were] open and responded... the relationship between [CX] and the players were better as [the coach had] made improvements. (A8)

Adaptability. Being able to adapt one's coaching approach to get the best out of each athlete was identified by a number of participants as being an important aspect of coaches developing a sense of relatedness with the athletes. Some participants described the importance of coaches having an understanding of the needs of each individual in the team in regard to coaching support, and that the coaches needed to behave in ways that were aligned to such needs:

I don't mind getting told straight up... I can take criticism, but I know some of the girls struggle with that. So it's tough for a coach as every player is so different... Someone might respond to a 'firey' speech with swearing, where some others will hate that... I don't know how they do it to be honest. (A1)

A5 also touched on the importance of coaches understanding their athletes' unique mindsets and adapting their behaviour to suit their needs when it was required:

[CY] is trying to keep it simple with me. I hope [they've] figured out that I think too much. The other night I was like 'my other coach said this', and [CY] was like '[stick to your strengths], it's just one of the things that I do, but [CY] keeps it simple, and when [they] give feedback it's 'how did that feel? I'm a big believer in [it] being simple. I think [CY] understands me. (A5)

A9 shared a similar stance as she suggested that coaches needed to have an understanding of what their athletes were working towards and how to best support them:

The coach needs to understand what you're trying to achieve and... how to get the best out of you, what makes you tick, do you need a lot of positive reinforcement? Do you need a kick up the bum? Just that understanding of individuals... it's about managing individuals to get the best out of them. (A9)

It would be logical to deduce that coaches who were cognisant of their athletes' needs and approached and interacted with them in ways that were congruent with such needs would nurture a sense of relatedness. The participants' accounts conveyed to the researcher that such efforts from the coaches led to the athletes feeling valued and understood by the coaches; arguably, perhaps, the most influential individuals in the team.

Co-orientation

As the participants narrated various interactions that they had experienced with their coaches and how such interactions had contributed to their sense of relatedness, it appeared that several of the key behaviours were associated with being aligned. This alignment signified that the coaches were aligned to the athlete's needs and preferences. As such, co-orientation was identified as a superordinate theme that captured two specific coaching behaviours; specifically, (i) meaningful technical and instructional feedback, and (ii) genuine positive reinforcement.

Effective technical and instructional feedback. Some participants described receiving effective technical and instructional feedback and that a positive connection with the coach was enhanced when this was perceived to be occurring. One of the clearer aspects that emerged from the data regarding such feedback was the importance of it being perceived to be relevant and delivered in a way that was usable and helpful:

...you just wanted to spend more time with [them] cause you trusted that your game was improving. You knew that [CY] knew what [they were] talking about, and you

have that confidence, and as a result, I think your relationship just gets better... [CY] came prepared with stuff for me to work on; me as an individual, not just as part of the [position group]. (A2)

One could infer from A2's comment that it was important that she trusted the feedback from the coach, but also that the coach provided instruction that was relevant to her as an individual – not just generalised comments. There were instances evident throughout the season where the coaches would have athletes do drills that were creative and relevant to their specific positions, as well as having meaning in regard to their unique qualities as individual athletes. A5 also described one of the coaches providing instruction that challenged her as an individual:

[CY] challenged me in [training], telling me 'I want you to do [behaviour] or [behaviour]' and that was cool, because sometimes you don't really think about it. (A5)

The above comments suggested that for some participants' their sense of relatedness with a coach was affected by the nature of the feedback and instruction that they were exposed to. The participants had more positive perceptions of the coaches and their relationships with them when they interpreted their coaches as being technically sound and provided information and/or advice that was relevant and meaningful to them as individuals.

Genuine positive reinforcement. An additional behaviour encapsulated by 'co-orientation' was positive reinforcement. Many of the participants stated that genuine positive reinforcement from their coach(es) contributed to the nurturing of a meaningful connection associated with relatedness:

I like it when someone says 'you're doing a good job'. Just a little bit of reinforcement, like saying 'you're working really hard... I'm with you on this' (A5)

A2 described how genuine positive reinforcement from a coach can create somewhat of a ripple effect permeating throughout the group:

When you get positive reinforcement from the coach, I know I personally will talk to other players about it and tell them 'this is going really well for me at the moment'... the coach has said this, and it rubs off on everybody else. (A2)

Such comments suggested that the coach's attitude also contributed to the tone regarding how team members communicated with each other. Positive reinforcement from a coach may encourage positive communication among athletes and, therefore, help cultivate a positive and communicative team environment, and thereby nurture feelings of relatedness.

Cultivating a Supportive Environment

The final superordinate theme identified that described how the coaches nurtured the athletes' sense of relatedness connected with how they went about developing a supportive environment for the athletes to operate within. Two subordinate themes materialised that depicted how they sought to nurture such an environment; these were, (i) exhibiting care for athletes beyond the sporting environment, and (ii) promoting team culture and teamwork.

Exhibiting care for athletes beyond the sporting environment. A majority of participants referred to having the perception that at least one of their coaches cared for them as an individual beyond the sporting environment. As such, it seemed that these athletes in a high-performance context, valued developing a positive connection with their coaches that extended beyond the immediate environment. Comments suggested that

they felt cared for and that the coaches were interested in them in a wider sense, as people with lives beyond the team context. As was indicated earlier, this kind of connection did not inherently need to signify a close friendship; however, there did appear to be a basic need to feel cared for as a person:

They'll ask how I am. [sport-] and [non-sport-] related stuff. It gives you that balance of coaching and friendship... so they're interested in [sport], but they care about my life as well. Not too personal... but you know... just showing an interest, like 'how's it going? What's new?' (A15)

Such care was often observed by the researcher, with the coaches quite regularly touching base with the athletes and questioning what was going on in their lives. This commonly happened before and after training sessions, at meetings, or more casually when travelling as a team (e.g., during meals). A3 described feeling understood and enjoyed what she saw as a holistic type of support from one of the coaches:

[CX] has been really good... when I did my [external commitment] last year, [they were] really understanding with that, and that helped me feel confident that I could turn up to training late and would not get absolutely slattered (sic) for it... I'd talk to [CX] about other stuff, like work or whatever, and I felt like I could do that, and get advice about stuff, which is really cool. (A3)

For some participants at least, there was a perception that the coaches cared for them beyond the sport environment and their comments suggested that this helped nurture a stronger relationship connection between them both.

Promoting team culture and teamwork. Coaching behaviours, both implicit and explicit, towards promoting team culture were perceived by many participants as a valuable strategy for enhancing athletes' sense of relatedness. A number of the

participants referred to the coaches facilitating discussions throughout the season involving how the team should operate and that this had a positive impact on how they perceived the team environment:

[CX] tried to reinforce that [culture] at the start of the season by having chats and reinforcing what we've done previously... values chats, that kind of stuff. (A1)

It seemed that clarity around team values and what the team was trying to achieve contributed positively to the participants' sense of relatedness. Such clarity was at times, and particularly early in the season, promoted through the head coach facilitating discussions that stimulated a sense of collective identity. This was generally done during team meetings before or following training sessions and involved both coach- and athlete-led discussion.

Traditional team-building activities (e.g., social outings, team challenges) were identified by many participants as a strategy that had a positive impact on the development of relationships within the team and, as such, helped build a sense of relatedness:

The team bonding things... they really work. We did social activities... like the [specific activity]. That was awesome. Just team dinners while we were away really helps... [CX] encouraged those. (A10)

The researcher was also present in his observer role for many of these team-building sessions, which were largely athlete-led (although typically the coaches also attended), and noticed, overall, high levels of enjoyment as the team gathered outside of the immediate environment to socialise or share in casual activities (e.g., bowling; volunteering locally; team dinners).

Participants in the study reported preferences for working with coaches who engaged with them in complementary ways, held similar preferences for how they should interact and engage with one another, and, finally, created a supportive environment overall. was significant.

6.2.3 Behaviours Contributing to a Sense of Autonomy

Various coaching behaviours were identified by the participants as positively contributing to meeting their needs for a sense of autonomy. Such behaviours essentially involved nurturing a sense of freedom regarding (i) how the participants prepared for competition, and (ii) how they actually operated during competition. It was clear that various coaching behaviours helped cultivate a perception of ownership for the athletes with respect to their overall sport experience. Three superordinate behavioural themes were identified as being important in this regard (see Table 6). These were (i) optimal preparation, (ii) competition freedom, and (iii) athlete ownership.

Table 6

Coaching Behaviours Contributing to a Sense of Autonomy

<i>Superordinate behavioural themes</i>	<i>Subordinate behavioural themes</i>	<i>Illustrative quotes</i>
Optimal preparation	Individualised (coach-led) training	<i>[CZ] makes sure we're doing the same stuff, but doing our own 'work-ons'... [CZ] is fantastic. (A13)</i>
	Athlete-driven segments (within a structure)	<i>...being able to have a little more control in the latter half of the season to work on what you wanted to was really beneficial. I think most people left training thinking 'I got something out of that'. (A8)</i>
Competition freedom	Individualised pre-game preparation	<i>I feel like I can prepare for the game how I need to. (A2)</i>
	Freedom regarding individual strategies	<i>...during games, you kind of do what you want. (A1)</i>

Athlete ownership	Individual performance plans	...a lot of things will be with the aim of ticking those boxes. (A9)
	Seeking athlete input	...post-match reflections, we're able to express what we think went well or didn't go so well and then have a discussion about that. (A6)

Optimal Preparation

When the participants were asked questions concerning autonomy, many described a need to feel as though they could develop and prepare in ways that were perceived as being optimal for them. Two subordinate themes manifested within this main theme of optimal preparation; (i) individualised (coach-led) training, and (ii) athlete-driven segments (within a structure).

Individualised (coach-led) training. Largely, it appeared that the participants had a desire to be led to some degree by their coaches. Observations supported this notion as, from the researcher's perspective, the most effective training sessions appeared to be largely coach-led, with some provision for athlete input (e.g., athlete-led warm up activities). Whilst many reported a need to experience some measure of freedom and flexibility, there seemed to remain a preference to feel that the coaches were leading the team and providing a structured training environment:

In terms of training... to some degree I like being told what to do. Sometimes I can't think, with work and everything [laughter]. (A5)

At times, this notion of things being coach-led involved coaches managing the training process whilst individualising aspects of the session (e.g., focus areas) so that it would be of value for each member of the team:

[CZ] knows how different [named athlete] and myself are... so tailors the sessions to each of us. (A13)

Similarly, the following comment reflected an athlete's desire to, at times, arrive at training where everything had been set up ready so that the athletes felt that they were being exposed to organised training:

...a really well thought out training where there are a couple of key areas that need to be worked on... so the coach has come up with some scenarios or games or whatever and we'll focus on that for the session and then be done. (A12)

To highlight her point, A12 went on to describe her concerns that sometimes the coaches seemed to provide excessive freedom during training such that opportunities to improve were wasted. This was observed by the researcher at times, where what seemed like excessive amounts of freedom were provided during training, with levels of enthusiasm and intensity seeming to subside when that occurred.

A12 also seemed to be suggesting in this that autonomy-supportive training could in fact also be coach-led, so long as this leadership was endorsed by the athletes (i.e., athletes autonomously accepting/embracing being led). For some, at least, adequate structure appeared to be an important aspect of autonomy-supportive coaching. It appeared that so long as a sufficient level of trust in the coaches existed, providing structure was preferred to excessive freedom:

[CY] was like 'right, we're going to do this, (be)cause it's gonna help this, and then we'll do this to add on'... and you knew that [CY] knew [the stuff] and how it was going to benefit you. (A2)

Whilst it seemed important for the athletes to have the coaches provide adequate structure, a number of participants referred to the significance of the coaches being aware

of the athletes' needs and adapting when possible to ensure that such needs were being met:

I guess it comes back to respect and stuff... but understanding... and I know sometimes we have to do this, but [position athletes] don't always want to [work on specific area] all night... it's a big strain on the body and to do that can be quite tiring and mentally draining... and boring as well...but [CY] could tell without us saying it... [CY] seemed to know when it was enough. (A8)

Such comments suggested that the participants overall had the perception that they were being led by coaches who, whilst making decisions regarding the nature of training sessions and providing necessary structure, were aware of athletes' unique training needs. Such organisation also seemed to allow the coaches to adapt within the structure and offer a high level of autonomy-support to their athletes.

Athlete-driven segments (within a structure). The aforementioned 'individualised (coach-led) training' represented coaching behaviours that provided a training environment that, whilst structured, had scope to be meaningful to each individual's needs. However, a number of the participants expressed a desire to be able to make more decisions themselves regarding various aspects of training sessions, and that such opportunities, when they did occur, positively contributed to a sense of autonomy being satisfied:

In terms of training, they're structured in terms of the overall skills that people are doing, but then the session is kind of up to you in terms of what you actually want to work on, so that's a feeling of controlling what I'm going to be working on. Rather than being told 'you're going to work on [X]'... where I may actually want to be working on something else. (A9)

Such comments suggested that it worked best when the coaches provided overall structure, but at the same time allowed the athletes to complete drills and skill activities in ways that they felt would be relevant and specific to them.

Various others made similar comments and it seemed that the participants felt that their feelings of autonomy were supported when they were being provided with an adequate degree of flexibility that allowed them to make some decisions regarding how they went about training. At the same time, they accepted the need for structure that would also allow them to train effectively. This acceptance also seemed to carry with it a sense of autonomy that accompanied agreeing that the coaches should carry leadership functions that involved creating and managing structure. The key point seemed to be that coaches could support feelings of autonomy within athletes by providing a balance between sufficient structure and adequate flexibility.

Competition Freedom

In addition to being provided with a degree of freedom in regard to training and development, participants also indicated their desire to feel autonomous during competition itself and several coaching behaviours were identified that nurtured a sense of this. Two subordinate themes emerged that encapsulated how the coaches went about fostering a sense of autonomy during competition, with these being (i) individualised pre-game preparation, and (ii) freedom regarding individual strategies.

Individualised pre-game preparation. Many of the participants identified pre-game preparation as being a crucial space for them to be given freedom to choose how best to get ready to perform. When this freedom occurred, it allowed participants to go through their own specific routines that helped them feel prepared individually to compete. As was described in Chapter Five when athletes were exploring the importance of a sense of

autonomy, participants' comments suggested that being given space and opportunity to prepare in their own way was an important contributor to them experiencing a sense of control over their preparation leading into a degree of self-regulation during competition.

Some comments suggested that the coaches concerned were able to find a balance between facilitating structured team warm-up activities and allowing the athletes to engage in their own pre-game routines:

We usually have to be at a game [several] hours before. [CX] will sit us down and have a talk and then we can do whatever we want... so that's quite good, you have your own preparation time before [team] warm-up, and getting things done. So from that perspective, it's all down to whatever you need to do to prepare, which is quite cool. (A3)

It appeared that experiencing sufficient freedom during the hours leading up to competition and opportunities to make decisions concerning pre-game preparation helped athletes feel as though they could effectively prepare for the competition itself. Several participants described how they liked the combination of structure and freedom they were provided with:

It was good. I like the structure of our warm-ups, there was enough split between the team stuff and going away and doing your own thing and working on what you want. Everyone likes to warm up a different amount... I felt like the balance was good; had freedom to prepare in your own way. (A1)

It seemed that providing athletes with sufficient scope to operate in ways aligned to their own preferences supported their need to feel self-determined. On game days, the researcher observed athletes being engaged in team activities, but also progressing

through various routines that were unique to each and, accordingly, it aligned with their expressed desire to experience a degree of autonomy as they prepared to compete.

Freedom regarding individual strategies. In addition to being able to experience a degree of volition concerning matters relating to their pre-game preparation, a number of participants referred to experiencing a sense of autonomy regarding decisions that they might need to make during the competition itself. Most in-the-moment tactical and strategic decisions during a game need to be made by the athletes themselves and several reported that this recognition and support from the coaches in this regard led to greater feelings of autonomy and self-determination:

We had the flexibility to [play our own style] as long as we achieved the set outcome in the end. (A10)

A13 described how she felt that she had the coaches' trust and that it was not their job to make certain 'on-field' decisions:

When it came down to on-field decisions... that's not [a] coach's job... [CX] lets us make decisions in regard to how we [perform]... I think they trust us. If we want to change something, we can do that... and we trust [them] as well if [they] give us feedback. (A13)

The above comment represented athletes who experienced a degree of autonomy regarding on-field decisions. The coaches were often observed encouraging the athletes to reflect on and evaluate what was occurring during game-time, and participants explicitly emphasised that the coaches supported them in adapting and making strategic and tactical decisions in that regard. As such, the coaches' behaviours (i.e., allowing/encouraging decision-making) seemed to make a positive contribution to how athletes perceived efforts to satisfy their need for autonomy within the team environment.

Athlete Ownership

Several coaching behaviours were identified as contributing to athletes experiencing a degree of personal ownership in regard to their sporting experience. The coaches enacted various behaviours that nurtured athletes' perceptions that they could manage and influence the direction they were heading in and, as such, several participants reported feeling a sense of ownership over the journey that they were on. Two subordinate themes emerged within the superordinate theme of athlete ownership; (i) individual performance plans, and (ii) seeking athlete input.

Individual performance plans. At the beginning of the season, the head coach asked the athletes to complete individual performance plans (IPPs) that asked them to identify strengths and weakness, as well as plans regarding how they would go about addressing their weaknesses. The process of doing this was, largely, athlete-led, with the coaches contributing thoughts and suggestions where they felt it necessary.

The one-on-one chats we've had around our IPPs... you're taking ownership over all aspects of your game, and while [CX] is overlooking it, [they're] not telling you what to do. [CX] will suggest something and put ideas in my head. It can be such a useful tool... just kind of moulding your game to how you want to, with just a bit of guidance, without someone saying 'you need to do this'. (A2)

The researcher was present for some of the 'chats' associated with IPPs and it did appear that such conversations were collegial and collaborative. They were somewhat driven by the athletes (particularly in the case of the senior athletes; with the younger athletes needing a little more guidance), but were often guided by the coach by asking questions. The coaches seemed to be conveying to the athletes that they had a degree of autonomy through driving the direction of their growth and improvement, albeit with coach guidance. A1 described feeling more self-driven as a result of this process:

Focusing on our IPPs, that's pretty self-driven in regards to our strengths and weaknesses and giving us the opportunity to focus on those areas we want to improve the most... I think you'd feel kind of hopeless if you were being forced to work on something that you've got down-pat, and this weakness is staying a weakness. (A1)

Seeking athlete input. One of the ways that coaches were able to nurture a sense of ownership for athletes was through seeking their input regarding various matters in relation to the team. It seems logical that when coaches seek feedback and input on ideas from their athletes they would, to varying degrees, stimulate feelings of ownership over individual experiences, as well as, potentially, shared ownership over the team as a whole. One area that feedback was often sought from athletes was regarding performance matters:

We have the same post-game debrief... we split into groups and it's very much player-led in terms of what we want to do and we report back to the team and that's where it's quite player-led... so it's not just the coach(es) saying 'that was shit, this was good'. (A3)

A1 described how she felt that it was important to be able to contribute during such meetings and that the team was getting better at providing feedback to each other as a result of doing it regularly:

Team talks at the end of games are quite good. I'm very much kind of... just get on with it, just say it, don't sugar coat it, don't dance around the issue, and I think we're getting better at it, and I think we're getting better at talking about it. I guess if you had a coach that was like 'no this is what we're doing', you might not have the opportunity to say 'why don't we try this?' So if you have no control over anything, you almost go 'what's the point in having a team meeting if you're gonna tell me what to do anyway'. (A1)

Some participants indicated having been given official roles within the team (e.g., member of the senior leadership group; captaincy) and that this gave even greater scope and responsibility to contribute to decisions regarding team matters:

Having the leadership group this year... having six or seven involved in that decision-making has been good. Giving players a little more responsibility has made me step up... I can't just cruise through the season. (A2)

As some comments suggested, being given opportunities to contribute to decision-making concerning team matters led to participants feeling greater responsibility for their own journeys and that they had a voice concerning some team decisions. It was also reported that, at times, coaches (individually and as a unit) invited the athletes to provide them with feedback regarding their own behaviour and how they were operating, with this also being experienced by the athletes as reinforcing shared ownership:

[CX] is good with always asking for feedback... really open to positive or negative feedback about what they do at trainings and at games. So that's good... it gives you another layer. If you don't like something, you can tell them. (A1)

Furthermore, a number of participants highlighted that not only did the coaches seek feedback, but the feedback (when considered appropriate by the coaches) was actually taken on board, and they applied it to their coaching approach/behaviours:

I think after having feedback, [CX] has worked really hard to be more positive, I've noticed quite a difference. [CX] has always been really responsive to feedback, which is cool, and the girls really respect that. (A3)

Being provided with opportunities to express such feedback seems aligned with coach efforts to nurture a sense of autonomy, as feelings of influence over the environment were regarded as being strengthened through athletes seeing their

suggestions being taken on board and applied. As an example, A3's comments in the above quote related to an issue in the past about coach negativity, and a sense of autonomy was enhanced arising from an invitation to give feedback that resulted in the coach's behaviour being changed. Consequently, it led to the perception of the athletes having greater control and influence.

Whilst participants had somewhat unique preferences for exactly how they felt it was most effectively supported, autonomy, it seemed, was nurtured overall through a combination of seeking athlete input, providing an effective training environment and structure, and supporting athlete ownership. When this was achieved satisfactorily, the participants reported feeling a (desired) degree of ownership over their experience. Furthermore, when all three needs were supported, participants described feeling greater self-determination within both training and competition settings.

6.3 SUMMARY POINTS

This chapter presented the athletes' perceptions of various coaching attitudes, qualities, and behaviours that nurtured feelings of competence, relatedness and autonomy. All participants in the study reported that their coaches contributed to satisfying their basic psychological needs in some way. Naturally, athletes each had their own unique preferences for coaching attitudes, behaviours and interactions, and the presented results reinforce the complex and multidimensional nature of the coaching role. Moreover, the results revealed the various ways through which this particular group of high-performance athletes interpreted their coaches' contributions to their own basic psychological need satisfaction.

Overall, the coaches within the studied case were perceived by the athletes as engaging with them in many ways that were considered and experienced as being need-supportive,

either through their direct interactions with the athletes or more indirectly through the established team environment. Notwithstanding this, the following chapter explores and considers the coaching contributions that were perceived by the athletes as being neglecting of their need to feel a sense of competence, relatedness, and autonomy.

CHAPTER SEVEN

RESULTS: RESEARCH QUESTION THREE

7.1 INTRODUCTION

Changing focus from need-supportive coaching behaviours, this results chapter considers the coaching behaviours that were identified by the participants as neglecting (i.e., being indifferent to or undermining of) their basic psychological needs. Excerpts from participant interviews are provided that are indicative of how the athletes interpreted and responded to such coaching behaviours. They identified a wide range of behaviours that they considered, at certain points throughout the season, undermined their needs to feel a sense of competence, relatedness, and autonomy.

It is important to note that the behaviours focused on in both this chapter and the one that precedes it (Chapter 6: Coaching Need-supportive Behaviours), although distinctly separated out in the context of this presentation, in the context of team operations they were obviously not so separated. Inevitably they both formed part of the overall mix of communications, and, as might be expected, the coaches made both positive and negative contributions to the athletes' basic psychological needs. Although the locating of coaching behaviours into need-supporting or need-neglecting categories was largely driven by athletes' perceptions, the various behaviours highlighted often seemed to have qualities in themselves that would point them in one direction or the other. Situational variables to do with such matters as the nature of the activity involved, the time available, the setting circumstances, and coach/athlete personal and paired dynamics could also influence the enactment of coaching behaviours in one direction or the other, and affect how they might be perceived by the athlete concerned. With that recognition though, the

behaviours focused on in this chapter were those that were clearly perceived by the athletes as being neglecting of their basic psychological needs.

In the same manner as that outlined within the preceding chapter, interview transcripts were analysed to interpret the participants' experiences and perceptions of need-neglecting coaching behaviours. From this, distinctive superordinate themes were identified that grouped the various kinds of perceived need-neglecting behaviours, as well as subordinate behavioural themes relevant to each. In undertaking the analysis, the researcher's field experiences (including observations, informal discussions, notes and interpretations) were utilised to provide an additional dimension to the results.

7.2 ATHLETES' PERCEPTIONS OF COACHES' NEED-NEGLECTING BEHAVIOURS

7.2.1 Behaviours Neglecting of a Sense of Competence

Coaches are human and, as such, it is reasonable to assume that from time to time and from situation to situation they can unintentionally or intentionally be neglectful of or even thwart their athletes' desired feelings of competence as a result of the behaviours that they employ. As the researcher analysed the interview transcripts, it became clear that, at times, some participants had perceptions that one or other coach was, or the coaches collectively were, neglecting or negatively influencing their need to experience a sense of competence. Two superordinate behavioural themes emerged (see Table 7); (i) cultivating doubt, and (ii) being unsupportive.

Table 7*Coaching Behaviours Neglecting of a Sense of Competence*

<i>Superordinate behavioural themes</i>	<i>Subordinate behavioural themes</i>	<i>Illustrative quotes</i>
Cultivating doubt	Inadequate role clarification	<i>...when you're not too sure of your role... you're all over the place, your mind isn't clear, and then it's not going to go well. When [you have it], you go 'right I need to do this and that'... but when there isn't clarity around that, the team struggles and individuals struggle. (A2)</i>
	Lack of clarity regarding selection decisions	<i>I'd rather [CX] be honest and say 'you're not playing well enough to play. (A8)</i>
	Failing to provide opportunities	<i>...if you're performing but things don't change or you aren't given opportunities, that knocks your [sense of] competence. (A6)</i>
Being unsupportive	Limited interaction with athletes	<i>...just no interaction. There's just no interaction. You're just... I don't know... (A10)</i>
	Inadequate technical feedback	<i>...usually it's just something like '[generalised technical feedback]'... I already know that, it's pretty basic. (A12)</i>

Cultivating Doubt

When questioned around how their coaches impacted their perceived sense of competence, some participants described experiencing doubt in their ability as a result of how their coach(es) engaged with them and the behaviours that they employed in doing so. Cultivating doubt as a superordinate theme encompassed three specific subordinate themes leading to participants questioning their ability; (i) inadequate role clarification, (ii) lack of clarity regarding selection decisions, and (iii) failing to provide opportunities.

Inadequate role clarification. A number of participants recalled times throughout the season where they felt very unsure of their role within the team, and described how that made them question their sense of competence:

Yeah... I guess a lack of clarity regarding what [CX] wanted or [my] roles within the team. Just the overall position and lack of clarity around what to do... It might have you go into games and be like 'am I at the point of being dropped if I [don't execute]'?

(A6)

In addition to struggling with focusing on one's task, the above comment also suggested that the lack of communication and clarity around roles led to A6 questioning her place in the team. A3, on the other hand, described questioning herself as a result of poor communication regarding changes made to her role:

That [change] blindsided me a little bit... [CX] is lovely and is always really supportive of me, but sometimes [CX's] communication doesn't necessarily instil much confidence in you as a player... you're just left wondering why. It just makes me question myself. (A3)

The common theme with regard to this coaching behaviour appeared to be a lack of open communication concerning each athlete's particular role in the team and, as a result, participants at times questioned themselves (i.e., about their ability/place in the team) and whether they had the competency to deliver.

Lack of clarity regarding selection decisions. Although it is logical that non-selection itself could negatively affect a person's perceived competence, a number of the participants described experiencing a loss in perceived competence due more to the reasons given/or not given, by the coaches for the non-selection decision:

Yeah I guess the main thing was getting dropped for no [evident] real reason... that really knocked my confidence, and I don't think [CX] dealt with that as well as [CX] could've... I just would've liked a more honest reason... it kind of makes you think I wonder what the real reason is... and it knocks you back a bit. (A2)

A6 also considered that the messages given by the coaching staff were not always as clear or helpful as they could have been. There seemed to be limited insights given as to what they needed to do differently or more effectively to possibly get selected next time. This lack of clarity and confusion as to what they needed to do impacted their sense of competence:

Sometimes there is a lack of clarity around selections. You might be told [something vague] but not necessarily what you need to do to improve or push for a spot for selection. (A6)

Failing to provide opportunities. The nature of team sports and varied roles and competency levels does mean that there are bound to be athletes who get less opportunities than others regarding such things as selection, playing time, and opportunities to make a notable contribution to key moments. Although quite regularly named in the playing squad, a number of participants referred to receiving limited opportunities to make a notable impact:

I was a bit disappointed with [a change in position]... I don't think I'd necessarily been given that much opportunity at [my initial position]. (A3)

In addition to lacking opportunities within game situations, one participant referred to not being provided with sufficient opportunities within training sessions to develop necessary skills in certain areas:

Once we get into [part of the season], we don't actually get much chance to [work on X] and then we don't really get coached either so... it's a bit 'shit'. Like not getting the chance to get feedback, because you're not even getting the opportunity to [practise] it. (A4)

A4 also mentioned that when she did get a chance to work on key areas, the coaches were often supporting the other athletes who were established in her position, which was consistent with the researcher's observations that marginal athletes often had significant stretches of time without coach interaction and at times had limited opportunities to work on areas considered as weaknesses.

In reality, this is a balancing act for coaches, and it makes sense, in some ways, for a coach to spend time focusing on athletes who are more likely to be influential in contributing to team 'success'. With that said, however, this apparent lack of consideration from the coaches at times did mean that some athletes felt that they were often unsupported when working on the very skills that they needed to address to enhance their sense of competence.

Being Unsupportive

'Being unsupportive' emerged as a theme that captured a collection of coaching behaviours that often led to participants feeling as though they were being neglected by the coaches in their pursuit of heightened competence. Two particular coaching behaviours that were perceived by participants as negatively impacting on satisfying their need for competence were captured under the concept of being 'unsupportive'; (i) limited interaction with athletes, and (ii) inadequate technical feedback.

Researcher comment: It is important to note here that although the team in this study was performing within the high-performance domain, it was not as resourced in terms of support personnel as might be expected. With such limitations, the coaches clearly struggled to spend as much time as they might have ideally liked with each team member. In fact, two of the three coaches reported to the researcher (without prompting) that they regarded this as an issue and one that created a major challenge for them.

Limited interaction with athletes. A number of participants reported feeling that, at times, satisfying their need for a sense of competence was restricted by a limited amount of engagement from the coaches in general or from a particular specialist coach. These athletes clearly considered that the coaches had a central role in their competency development and that their progression was, at times, inhibited by a lack of coach involvement:

I didn't walk away [from sessions] thinking 'I feel so much better about my game', because [CX] was with the others or filming, or wasn't engaged. (A8)

Even though the coaches may have been providing space and freedom for the athletes for a reason, such as to enhance autonomy, A8, as one example, felt unsupported because of perceived indifference. Some also felt that they were often only supported to practise the skills they had already mastered, as opposed to being supported to learn new skills and strengthen areas they were struggling in.

A13 conveyed a desire for her coach to have provided more support at a particularly challenging time:

We were getting quite close to the [end of the season]... so that was in the back of your mind. It would've been good to have [CZ] pull you back and provide a bit of support. (A13)

Experiencing more interaction focused on skill development with the coaches would likely have nurtured the participants' needs for competence as it may have established a stronger perception of being supported rather than athletes feeling somewhat abandoned to figure out what was needed for themselves. The researcher's observations reflected this circumstance in that occasionally some athletes (particularly fringe players) appeared isolated and in need of more regular and engaged coaching interactions.

Inadequate technical feedback. Inadequate technical feedback was reported by some participants as undermining their sense of competence. Several participants stated that the technical feedback provided was often quite basic and lacking in detail. It appeared that this led to a perception for some that they were not improving as much as they could have been if they were exposed to a greater level of technical expertise:

It was definitely frustrating because I feel like I haven't really improved, I've just stayed at the same level and greater [technical] coaching would have helped me improve... After [the number of] seasons in the team, I should be better, but I haven't had much technical coaching. (A2)

Whilst some participants perceived the feedback they received as being too simplistic in nature, a number of individuals described feeling frustrated due to the feedback being too infrequent. Several participants reported questioning their ability as a result of their uncertainty about the effectiveness of the practices, as well as not being sure as to what they should be doing:

Sometimes they [training sessions] weren't that structured and left [you] to your own accord... for me, I don't find that productive. It's like 'go work on what you want to work on', but if I'm considered in the [lower ability group for that position] then we probably need the most coaching, yet we don't really get any. What if I'm [making

mistakes] for an hour and no one has [told] me? So that doesn't really give me much confidence. (A8)

The coaches, CX in particular, were regularly observed by the researcher reminding the athletes of the importance of reflecting on and refining what they were doing during training sessions. Whilst this could be regarded as a worthwhile coaching strategy, the researcher did wonder if the athletes always felt as though they had the sufficient level of expertise and knowledge for them to experience such an approach as being need-supportive. It appeared that the lack of growth in perceived competence was for some due to them questioning their ability and progress, as a result of uncertainty regarding the value of what they were doing. In contrast, those participants who did feel a heightened or satisfied sense of competence seemed to feel well-supported by the coaches, in the sense that they were able to self-reflect and refine, and they were being provided with adequate feedback.

Whilst the coaches in the current study seemed to operate consistently with good intentions, there were times when athletes' needs for a sense of competence were neglected for some. A number of need neglecting behaviours (or lack of supportive behaviours) contributed for some to feelings of doubt. The findings suggest that nurturing a sense of competence is much more multifaceted than simply providing physical training and, as well as the need-supportive coaching behaviours displayed, there was a notable presence of behaviours that neglected the satisfaction of the athletes' needs for a sense of competence.

7.2.2 Behaviours Neglecting of a Sense of Relatedness

Occupying, arguably, the most influential role in a team, it seems logical to assume that the coaches would play a key role in how the athletes experienced their sense of

relatedness in the team setting. During the interviews, some participants recounted scenarios from the season where coaches negatively impacted how they perceived themselves in terms of relationships. As seen in Table 8, two superordinate behavioural themes emerged that encompassed a number of subordinate behavioural themes that led to the athletes experiencing a reduced sense of relatedness; (i) neglecting/thwarting team identity, and (ii) ineffective coach-athlete interactions.

Table 8

Coaching Behaviours Neglecting of a Sense of Relatedness

<i>Superordinate behavioural themes</i>	<i>Subordinate behavioural themes</i>	<i>Illustrative quotes</i>
Neglecting/thwarting team identity	Failing to actively develop team culture	<i>[CX] didn't have as much emphasis on [culture], and maybe that's why it's slipped away. (A2)</i>
	Inconsistent standards	<i>...you have standards, but nothing happens when they're not reached. (A4)</i>
	Failing to hold athletes accountable	<i>Some standards were really let down... and that was never addressed. It should have been at the next training. (A12)</i>
Ineffective coach-athlete interactions	Unproductive training	<i>We felt we weren't getting enough out of trainings, we didn't feel like they were beneficial enough. (A4)</i>
	Negative focus	<i>There has been a lot of stuff that we need to work on, and not so much focus on the positives. (A2)</i>
	Inadequate communication	<i>...big time... lack of communication. (A12)</i>

Neglecting/Thwarting Team Identity

Behaviours affecting team identity emerged as an overarching theme that represented having a negative impact on participants' perceived relatedness. A number of the participants referred to coaching behaviours that appeared to trigger some negativity in the team environment and affected a sense of relatedness. Three subordinate coaching

behaviour themes were attached to this main theme; (i) failing to actively develop team culture, (ii) inconsistent standards, and (iii) failing to hold athletes accountable.

Failing to actively develop team culture. In regard to how coach behaviours negatively influenced a sense of relatedness, several participants referred to the coaches failing to actively foster a strong team culture (i.e., an environment based on collaboratively arrived at positive and shared values), and the lack of collective connection arising from that. A3 suggested to the researcher at one point that whilst the culture of the team was discussed at a “high” (i.e., conceptual) level from time to time, the coaches failed to unpack it further or address key behaviours and standards that would be important in determining how the team bonded and functioned as a group.

The researcher also noticed during his observations that quite regularly the coaches would refer to the culture of the group, but in quite ambiguous terms and, as such, it appeared to have little impact (i.e., on training intensity; communication). A8 held a similar perspective, commenting that the coaches’ impact on relationships within the team was limited and perhaps even led to a shift in the collective identity of the group:

[CX] didn't deliberately [work on culture], so it was left up to the players. The whole point of that [early team meeting] was to set standards from the start, but I don't think that was done particularly well this year... I think from the get-go, it was a slippery slope. It's kind of like you should know what the key behaviours are but when new players come in for instance, they don't know what those are... and sometimes you need to set them again. (A8)

The researcher’s interpretation from the above remarks was that failing to deliberately develop and promote a clear collective team culture led to uncertainty regarding what the team’s culture and identity was actually based on. Ultimately, this led

to athletes at times behaving in ways that were harmful to the development and maintenance of a positive shared identity and, therefore, reportedly had a negative effect on some individuals' sense of relatedness.

Inconsistent standards. Participants reported that there were occasions during the season where coaches did not treat all of the athletes the same, and that this had an adverse effect on how they experienced the group and felt about individuals' places within it. There was clearly a level of frustration for some regarding how other team members operated, and also the fact that coaches allowed some athletes to 'get away with' more than others:

I think it's about treating everyone equal. How can you justify someone who is working their arse off to get fit and then there are people who are doing absolutely nothing?... I think it's quite unfair, there are so many people who put in a lot of effort, but then others who don't, and they get away with it, and I think that does harm the team culture. Because you start asking 'what's the point in busting my arse for my teammates if they're not doing it for me'... but there's no consequence. (A4)

Participants expressing these kinds of views experienced frustration as a result of a perception that (1) some teammates were not exerting the same effort as others (including them), and (2) (with others not achieving expected standards) there were no consequences for this. A number of the participants referred explicitly to fitness standards where a broad criterion was set early in the season, but it was perceived that this was never followed through with and that some athletes seemed to be given excessive leniency in regard to fitness expectations:

I think that's where frustration can build as well... you kind of look around and see other people slacking off and that can bring selection issues into it as well. Those who were 100% safe and in the team could chill out, whereas I felt that if it looked

like I was doing nothing, it might be perceived that I wasn't contributing and that's a real reason that I could be dropped. (A6)

For A6, whether this occurred in reality or not, it is understandable that her perception of that possibility would lead to a reduction in relatedness due to feelings of being undervalued, insecure in her position, and differences in treatment among her peers.

Failing to hold athletes accountable. Similar to 'inconsistent standards', failing to hold athletes accountable was commonly referred to as participants described coaching behaviours that they perceived as being neglecting of their sense of relatedness. There was a common perception among participants that the coaches failed to hold athletes to account when they did not meet certain standards or when they behaved in ways that were inconsistent with agreed upon team values or guidelines:

Not [maintaining] standards [disrupted cohesion]... and if people don't meet set standards, then they can't play. I think when you see other people not doing things, f..king around... then you think 'what's the point?'. (A3)

Participants reported a desire to respect the coaches, and a number of them reported that they would have held greater respect for CX in the leadership role if individuals had been held to account when behaviours deviated from what was typically expected:

Personally, I would have gained some respect for [CX] if [accountability happened], but maybe [CX] didn't feel comfortable doing that... [A7] and [A9] can be pretty intimidating. (A2)

Ineffective Coach-Athlete Interactions

As the participants described various behaviours that they believed negatively impacted on their sense of relatedness, it became clear that several behaviours were associated with ineffective coach-athlete interactions. This was mainly in the sense that the athletes did

not perceive the relationship with a coach/or the coaches as being productive in regard to skill development and performance. Three specific subordinate behaviour themes were clustered together under this main theme; (i) unproductive training, (ii) negative focus, and (iii) inadequate communication.

Unproductive training. At various points throughout the season, participants felt discouraged as a result of a belief that trainings were not as productive as they could have been. For some, the frustration that surfaced negatively impacted on the connections that they had with the coaches. As has been previously highlighted, on a regular basis during the season the researcher observed notable, and perhaps even excessive, freedom being provided to athletes during training sessions and, despite the seemingly best intentions of the coaches, some participants reported that at times this affected their attitudes and relationships as a result:

[CX] needs to be aware when we need to get 'shit' done as a team, rather than 'go off and do your own thing'. It's good doing things individually but you still need to work hard as a team and that kind of brings everyone together. (A3)

Because of such an approach to training, athletes often spent significant time operating individually or within small groups with a fairly narrow focus (i.e., working on specific skills). Whilst, seemingly underpinned with good intentions (e.g., trust; ability to train independently), and being nurturing of relatedness for some, for others it led to a perception of missing opportunities to develop skills as a team, and potentially developing intensified relationship cliques involving others.

As previously highlighted, a number of participants reported that they received limited technical feedback (both in terms of frequency and complexity) during training sessions, and it appeared for them that this negatively affected coach-athlete relationships:

I think that's where my relationship with [CX] lacks a bit... I just don't have that confidence in [their] technical ability, and don't know if [CX] knows what is right for each individual. It kind of felt like [CX] would brief us, then we're on our own... and you'd come together to reflect. But I felt like I didn't get any technical feedback at trainings and that had quite a negative impact [on our relationship]. (A2)

Such remarks suggested to the researcher that it was difficult for the athletes to establish a positive connection with coaches when a perception existed for some that training sessions lacked productivity and heightened frustration. This emotional response and its relationship effects seems understandable, given that the coaches are the ones charged with providing an environment that promotes and nurtures growth.

Negative focus. Another aspect that several participants reported as being harmful to their sense of relatedness was negativity from a coach. Some participants, A4 for instance, described how mainly focusing on mistakes and associated limitations or reflecting excessively on poor performances impacted negatively on the relationships athletes had with the coaches.

I think it [focusing on negative aspects] impacts on the relationships between the players and coaches... I don't know... I think it sends a vibe from the coach(es), and it makes you switch off. Like you look to the coach(es) for positive reinforcement... you need to be able to look at them in pressure situations to get the 'you guys are fine, it's all good' [message]. You don't want to be in a pressure situation and be told 'don't [execute X]', because then you're thinking about it and that's what you do. (A4)

Whilst this was rarely witnessed by the researcher, it appeared that if the athletes had a preference for positivity and if they perceived their coaches to be focusing excessively on negative features, then they would likely withdraw and stop paying attention to the

coaches' feedback. Furthermore, in some cases, athletes appeared to feel that their relationship was adversely affected by a heavy focus on 'what not to do' rather than what would be best to do.

Inadequate communication. Several participants attributed a decline in their perceived relatedness to poor communication from a coach or coaches. Interview responses suggested that certain participants had, to varying degrees, a negative perception of their relationship with a coach due to various communication issues and the consequences that these had on their experiences throughout the season. Several participants identified communication concerning team selections as a specific issue that significantly affected their sense of connection with CX. It was reported that there seemed to be inconsistent protocols for selection; A2, for instance, pointed out a lack of consistency with how and when selection decisions were communicated:

Communication has been an issue with selection. There was no method as to how the team was going to be named... so one week you'd get a text message or a phone call, then you'd turn up to training and half the team knew if they were playing or not, and half didn't know. That added some real awkwardness... people didn't want to talk about it and didn't know who was playing... that caused some issues and people would go into little groups. That definitely caused some issues. (A2)

A5 suggested that the coaches needed to understand individuals better in regard to what they needed from the communication (e.g., short and simple messages or supportive discussions) and to convey messages accordingly:

It's really about relaying that information in a way that they'll understand. Every player is completely different and what you say to them is completely different and I think that's the learning curve for everyone; of how to communicate better so you don't have those instances where you have people crying [as has happened]. (A5)

In addition to how the coaches went about conveying messages, it was also suggested by some participants that it was critical that athletes were informed of the rationale behind the decisions made, as it created frustration and annoyance for team members when they did not know the reason why they had not been not selected:

Clarity around selection I guess would be one part that I'd question. Just in a sense that you're not really told why [you] were dropped or what you need to do, which can be frustrating at times, because then it's like... 'what do I need to work on?'. (A6)

Furthermore, and perhaps more importantly, it appeared that not receiving this information led to athletes questioning the sense of connection/relatedness that they had with the coach (or coaches), and even their place and relatedness within the team:

I got dropped so quickly, and then when I did play it was like 'am I meant to be here or am I just filling in for someone cause they're injured?'... I didn't really know. (A2)

What was most clear to the researcher was that participants accepted that non-selection was an inherent part of sport; however, clear communication regarding the rationale for selection decisions was essential so that the participants still felt that they were valued members of the team and that they could potentially make their way into or return into the playing squad. This was in contrast to being '*left in the dark*' (abandoned) so to speak, where individuals questioned their relationships with their coaches and, potentially, with their teammates.

The need for relatedness was most often neglected through creating a negative team identity or through ineffective coach-athlete interactions. A perception of a negative team identity developed when athletes felt that there was a degree of ambiguity surrounding the culture, including the team's values and standards, and when there was a perception

of inconsistent standards and lack of accountability. When this perception emerged, participants felt disconnected to the team. Furthermore, some participants reported reduced relatedness due to having ineffective and infrequent interactions with a particular coach.

7.2.3 Behaviours Neglecting of a Sense of Autonomy

Various perspectives emerged during the interviews regarding how the participants felt that the coaches should ideally go about nurturing their needs for a sense of autonomy. With that said, some common coaching behaviours were identified throughout such discussions that revealed ways that coaches negatively affected their sense of autonomy. As displayed in Table 9, two superordinate behavioural themes were established that encompassed the specific coaching behaviours that were believed to adversely affect perceived autonomy; (i) ineffective training environment, and (ii) failing to prepare athletes for competition.

Table 9

Coaching Behaviours Neglecting of a Sense of Autonomy

<i>Superordinate behavioural themes</i>	<i>Subordinate behavioural themes</i>	<i>Illustrative quotes</i>
Ineffective training environment	Excessive structure	<i>...I'm so sick of [activity]... I don't want to ever have to do that again. (A13)</i>
	Inadequate training opportunities	<i>I think at trainings there should be room for 'this is your time, go work on what you want'. (A3)</i>
	Excessive freedom	<i>...personally, I would've liked more structure. (A14)</i>
Failing to prepare athletes for competition	Insufficient technical coaching	<i>[CX] is not a [skill] coach, so if you have something to work on... who do you go to? (A8)</i>

Inadequate mental preparation and strategies

...early on, we needed to have conversations around [strategy], because the way we played [against X team] screwed us. (A12)

Ineffective Training Environment

As participants recounted times when they experienced a reduction in their sense of autonomy and how the coaches contributed to this, it became clear to the researcher that a number of the coaching behaviours involved operated mostly within the training environment. It appeared that, at times throughout the season, a number of participants experienced a reduced sense of autonomy due to the perception that the coaches were not providing an environment conducive to effectively improving their ability. By not being exposed to the kind of training and support that they believed they needed to feel adequately prepared for competition, their sense of likely autonomy and control in that context was being compromised. Three subordinate behaviour themes were captured within this overarching theme; (i) excessive structure, (ii) inadequate training opportunities, and (iii) excessive freedom.

Excessive structure. It is logical to infer that excessive structure from a coach could undermine athletes' feelings of autonomy. A number of participants referred to at points during the season feeling constrained by the high degree of structure that did not allow for sufficient freedom, as they perceived it, for them to focus on the areas/skills that they believed that they needed in their practice. These participants described how training sessions often involved a rigid structure that provided little scope for them to work on areas that they felt needed attention:

Early on in the season, it was more [working on a specific aspect], progressing through a series, even if you thought you had certain things that required more urgent focus. Those trainings ended up being something that you just got through to do what

you're told. I know from a [performance] perspective, I felt well underprepared [to perform with the necessary autonomy] throughout the entire season really. I think it was pretty neglected. (A6)

It was clear that these participants did not feel autonomous in what they were doing and that they experienced inadequate volition in regard to their training and development. The comment ‘...those trainings ended up being something that you just got through’ revealed an athlete who was simply following instructions, as opposed to one who felt free to make decisions or felt self-determined in the sense that they were being provided with an environment that would support their individual needs.

Inadequate training opportunities. Similar to coaching behaviours that were perceived to be neglecting the need for competence, a number of participants reported experiencing a reduced sense of autonomy as a result of inadequate training opportunities – in regard to available time – to develop their own game. These participants suggested that there were periods throughout the season where they would have liked to have worked on specific areas but, unfortunately, they were not provided with the opportunity for this:

There were times when I wanted to [work on X], but there was no time so [we] did [a shared drill] instead... it wasn't what I wanted to do, but it was better than nothing. During the season that can get quite tough... so there kind of needs to be that time to work on what you want to work on rather than doing team drills. Maybe I want to work on my [individual skill]. (A4)

Similarly, several participants referred to the coaches failing to provide an environment where all of the athletes had opportunities to work on their own game:

I did get a bit annoyed sometimes at the [team] drills... I thought they were [mostly focused on X roles]... I didn't feel like I got much out of them personally. (A5)

Such comments suggested that having limited opportunities to work on desired areas had a negative impact on their sense of control over their own experience. Accordingly, they felt a reduced sense of self-determination as feelings of both competence and autonomy appeared to be neglected.

Excessive freedom. Establishing something of a dichotomy in contrast to the theme of 'excessive structure', a number of participants reported coaching behaviours that they considered created a greater than desired degree of freedom. As a consequence they perceived that coach input into skill improvement needs was lacking through an absence of structure and direction. In this regard it seemed that the athletes having this perception wanted to have the opportunity to autonomously choose for the coaches to engage their expertise with them, rather than allowing things to wander aimlessly. It appeared that, at times, some athletes wanted greater structure and direct guidance (e.g., "*We're focusing on X tonight and it will help you with Y*"). When participants in their minds made an autonomously arrived at decision that they wanted to experience leadership based on coach expertise, but the coaches provided excessive freedom for people to do their own thing, this actually had an adverse effect on the athletes' sense of autonomy.

It is important to note here that when such participants referred to having '*too much*' freedom, trust in the coaches' expertise levels was identified as being the basis for the desire for greater structure (i.e., the athletes wanted and were very prepared to embrace a high degree of coach involvement). However, if there was a lack of trust in a particular coach's expertise, then greater freedom seemed to be preferred, as highlighted in the comment below:

It comes down to competency and knowing what the coach is talking about, and having trust in them. (A2)

As a case in point, during observations, the participants were often observed proactively seeking out CY and CZ for technical support when uncertain about something. On the other hand, the participants that worked more closely with CX often looked less engaged and enthusiastic, and were less prepared to proactively pursue interaction with CX.

Many participants referred to some trainings becoming unproductive due to everyone being given the opportunity to decide how they would go about working on specific skills and largely being left to figure things out on their own:

...Maybe you have an hour per week where you can decide what you want to work on, but other than that we're doing stuff as a team and making the most of the time that we have... sometimes I felt like we strolled through those sessions and f..ked around a bit when we were off by ourselves. (A3)

A4's remarks below suggested that while a degree of freedom was beneficial at times (i.e., immediately prior to competition), a greater degree of structure and support during general training was preferred:

I think the sessions [immediately prior to competition] and you, kind of, just do what you need to do are fine [based on some freedom from the coaches], but that's different because you're just about to play... you know what you need to do to be ready. So that's fine on certain days, but not every time. (A4)

A4 seemed to be suggesting that the athletes themselves knew best (autonomously) what they needed to do to prepare for competition; however, when it came to general training and development, they were looking to the coaches to provide their expertise and support

and at times this was not made available. Such a perspective was triangulated within the researcher's observational interpretations where it was perceived that the athletes enjoyed a high degree of freedom and decision-making during key training sessions in the day or two prior to competition; however, in a more general training environment, there seemed to be a desire for more engaged and involved 'coach-led' training.

Overall, it appeared to the researcher that the majority of the participants were looking to their coaches to provide expertise and guidance in order to help them to enhance their ability. When there was a perception (due to an abundance of freedom) that the coaches were failing to provide effective guidance, the participants' sense of control over their development was diminished as they felt that they were not being exposed to the resources and support that they desired.

Failing to Prepare Athletes for Competition

It appeared from engaging with the participants that a fundamental precursor to them experiencing autonomy as high-performance athletes was a perception that they would be sufficiently prepared and equipped with the necessary (mental and physical) abilities to compete effectively. If the elements that make up such a mindset were not provided, then the participants were unlikely to feel in control (i.e., autonomous) once they stepped into the domain of competition. Two specific subordinate behaviour themes were encapsulated within this overarching theme; (i) insufficient technical coaching, and (ii) inadequate mental preparation and strategies.

Insufficient technical coaching. Naturally, the participants looked to their coaches for technical expertise and guidance throughout the season. For some though, a perception emerged that for them they were not being provided with an adequate degree of technical

expertise and support, and that such circumstances undermined their feelings of autonomy and control over their development and their ultimate performance abilities:

I think if there was some more structure and [CY] was a little more present and could give more technical knowledge, then you'd learn a lot more. I think if we got really awesome feedback and development, then come game-time, you'd feel more in control and know what you're doing... what the plan is. (A2)

Such a remark conveyed the desire to feel a sense of progress and trust that improvements were such that they would be able to be in charge of delivering quality performance efforts when the time came. The following comment revealed this desire to have expertise and support such that it would facilitate and contribute to growth in abilities and greater control over performance:

With [particular skill area], I feel like [CX] is just there. Gives a bit of guidance but I need to know how to fix it. I know I need to [make adjustment], but how can I fix it? I think having a coach that knows a lot would give you more control in a game. [I] didn't feel like we got adequate technical coaching or [the chance to] walk away thinking I feel so much better about my game. (A8)

With an absence of such guidance from a coach or the coaches, it is understandable that an athlete would find it challenging to experience an adequate sense of control over their skill progression and performance delivery and, as a result, they would probably experience a reduced sense of autonomy overall.

Inadequate mental preparation and strategies. Closely aligned to the theme of insufficient technical coaching, a number of participants referred to experiencing a weakened sense of autonomy due to coaches failing to mentally prepare the athletes for competition:

I think we need more preparation in terms of plans [mind-management]... I think we lack that hugely. We need to be more proactive. (A4)

A number of the interview responses suggested that in order to feel adequately autonomous, individuals needed to have clear conceptual plans in place that would contribute to a sense of control over their performance and, thus, their success. When the coaches failed to discuss competition strategies with the athletes, doubt seemed to emerge for some participants, which led to a perceived weakened sense of control over emerging challenges.

In addition to competition strategies, A8 described feeling as though she did not have the skills to independently make necessary adjustments during competition:

I guess throughout the year we haven't had the support, a little bit from [CY], regarding how you [make adjustments]. The onus was on the individuals.... But I don't feel confident, or like I have the skills to be able to come up with thinking like that in the middle of a game. (A8)

Such comments suggested that it was important for the coaches to empower athletes with (1) the ability to effectively reflect and evaluate situations during competition and (2) plans that would allow them to maintain an adequate sense of self-determination. Without these tools, individuals were unlikely to experience a sense of autonomy during their performances.

7.3 SUMMARY POINTS

Whilst, overall, the participants in this study acknowledged and described many coaching behaviours that were perceived as being need-supportive, there were inevitably instances throughout the season where coaches had a negative impact on one or a combination of basic psychological needs. Similar as with need-supportive behaviours, such an impact

could occur from direct interactions with a coach (e.g., negative focus) or more indirectly through environmental dimensions (e.g., inconsistent standards) that led to participants questioning their sense of competence, relatedness and/or autonomy.

Within this case, at least, it appeared that on the whole any negative impacts from the coaches seemed largely unintentional. This perhaps provides an important point for consideration as it appeared that coaching behaviours that were experienced as need-neglecting could involve either employed behaviours (e.g., providing excessive freedom) or the absence of behaviours (e.g., having limited interaction). The challenge for coaches at times would seem to be finding the ‘sweet spot’ that provides the best-fit mix of behaviours to employ and those to hold back from. This is one of the aspects that makes coaching such a complex role.

CHAPTER EIGHT

DISCUSSION

8.1 INTRODUCTION

This chapter brings together the findings of the study to illuminate their significance and to situate the work overall within the existing body of literature. Similar to the various Results Chapters, the material here is presented in sections that independently address each of the research questions (with the addition of Section 8.3 that provides an important overview of coach contributions within the particular case). Each section highlights the key findings along with drawing links to the relevant literature, both acknowledging where the findings are supportive of previous research undertakings and identifying those that are contradictory and novel. These various outcomes are discussed, with attention given to implications for future research and for the development of coaching practice.

As noted, the study originated from various calls evident within the literature (e.g., Frøyen & Pensgaard, 2014; Lyons et al., 2012) to investigate more deeply how high-performance athletes perceive the importance to themselves of basic psychological need satisfaction, and to research the contributions of coaches in that context in support of satisfying such needs, or, indeed, resulting in their neglect. Semi-structured interviews, informal discussions and extended observations were utilised to undertake such investigations, resulting in data specific to athlete perceptions of the importance of basic psychological needs and of coaches' behaviours in regard to their satisfaction or lack thereof. To the best of the researcher's knowledge, with the exception of Frøyen and Pensgaard's (2014) study, no other investigation, up to the time this present research was undertaken, had qualitatively explored athletes' perceptions on such matters, and certainly not with such extensive involvement.

Being qualitative and interpretive in nature, the study was also novel in that it looked to engage in-depth with a single high-performance sporting team over a prolonged period. In this manner, the study sought to shed light on how the high-performance athletes within this particular bounded case interpreted the meaning and importance of the specific psychological needs to them as individuals and in regard to team functioning, and on the significance of particular coaching behaviours that played a part in their satisfaction or their neglect. The results presented within the previous three chapters have a high degree of relevance to the field of coaching, and to the related field of sport psychology, and contribute to an enhanced understanding of athletes' needs and coaches' associated behaviours in the context of high-performance sport, with this understanding being identified and discussed more fully within the following sections.

8.2 THE IMPORTANCE TO ATHLETES OF NEED SATISFACTION

A key research question was concerned with how the participants within the study experienced their basic psychological needs and the importance that they ascribed to such needs being satisfied within their high-performance team setting. Firstly, and considered overall, the findings of the study supported previous work (e.g., Adie et al., 2008; Curran, Hill & Niemiec, 2013; Deci & Ryan, 2000) that has suggested that the particular needs outlined in basic psychological needs theory have universal relevance, and, when satisfied, lead to a range of positive outcomes.

All participants in the case study reported that each need was important to them to experience satisfaction of, and comments confirmed that a perception of need support and the experience of sufficient need satisfaction benefited the participants in a myriad of ways. During the interviews, when describing their experiences and perceptions of their needs, participants referred to matters relevant to both general well-being (e.g., *"I felt completely at ease with everything"* [A13]) and to performance (e.g., *"When you've got*

it [competence], you don't overthink... you just play" [A8]). Such findings in relation to all three needs is noteworthy for researchers and, perhaps more importantly, for practitioners (i.e., coaches; sport psychologists; support personnel). It would appear that, for instance, the coaches dedicating time to nurturing strong relationships with the athletes led to some individuals experiencing not just a strong sense of belonging but, additionally, a mindset that allowed them to perform more freely, due to a reduction of negative thoughts regarding, for some at least, their place in the team.

The data-analysis process revealed the particular meanings that the participants attached to need satisfaction (e.g., "*When [feeling competent], you just play your natural game*" [A9]), which was an important aspect of the study. The conclusions drawn regarding the importance of each need underscores the value and significance of coaches attempting to support such needs within high-performance sport environments. When asked to describe the importance of each need, participants described natural desires that were consistent with the implicit definitions of the concepts (e.g., "*It's nice to feel that you belong*" [A3]; "*It feels good to be good at something*" [A15]). Also, the descriptions aligned with elements of the early self-determination work (e.g., Ryan, Connell, & Deci, 1985; Vallerand & Losier, 1999). For instance, participants described, in regard to their needs being satisfied, enjoying feeling confident in their ability, having positive perceptions of themselves as athletes, feeling more connected to and respected by those around them (i.e., teammates/coaches), and, to varying degrees, being more self-determined in their actions.

One of the study's main objectives was to explore more deeply the meaning of need satisfaction to high-performance athletes within the context of a team. The participants provided substantial insight on this during the interviews as they referred to nuanced concepts relevant to high-performance sport (e.g., self-belief; self-doubt; expectations;

self-expression; trust). Naturally, the ways in which each participant described the importance of their needs being satisfied for them as an athlete was unique; however, similar perspectives and themes emerged as the researcher sought to interpret the captured data.

The participants who described feeling competent typically referred to their performance as being, largely, a subconscious (intuitive) activity, where “*you just play*” – an inner state that coaches often strive to cultivate. This was in stark contrast to the participants who felt uncertain of their competence and, as such, described experiences during competition of overthinking things and being distracted or preoccupied with thoughts unhelpful to their performance (e.g., about doubt regarding their ability; about consciously trying to control their performance). For athletes at the highest levels, it has been suggested (e.g., Jackson, 1996; Orlick, 2008) that, generally, best performance happens when skill execution occurs primarily subconsciously, and that quality performance is most likely achieved when one is engaged in the moment and not distracted by doubts and uncertainties about future outcomes or what to do (Durand-Bush & Salmela, 2002).

It has been reported that need satisfaction can serve as the foundation to facilitate athlete engagement (e.g., Hodge et al., 2009) and flow (e.g., Kowal & Fortier, 1999), with the latter being described as a “persistent, positive, cognitive-affective experience in sport that is characterised by confidence, dedication and vigour” (Lonsdale, Hodge, & Jackson, 2007, p. 472). Additionally, it has been suggested (e.g., Hodge et al., 2009) that athlete engagement is a precursor to achieving a flow state. Such findings have practical implications as they emphasise the importance of coaches working with athletes to help them develop *perceptions* of competence, in relation to the physical skills/attributes required for quality performance in their sport. It seems clear that when an athlete

perceives a sense of competence about such skills and attributes in the build-up to and during competition, smooth and subconscious performance is more likely to be enacted (i.e., when the proverbial “lights come on”).

This is a noteworthy point as, typically, even at the high-performance level coaches seem to spend most of their time and energy focused on developing and refining their athletes’ physical skills, with little direct and concentrated attention being given to the psychological needs that are intertwined with such endeavours. It is as if there is believed to be a linear sequence in operation where attuned behavioural skills will automatically generate feelings of competence for the athlete. However, it seems clear that a more holistic dynamic operates where attuned skills and satisfaction of competency needs go hand-in-hand in relation to performance delivery when under pressure. Not recognising or deliberately addressing this interrelationship can default to an athlete experiencing psychological need-neglect from a coach and can undermine any psychological sense of competence, to the detriment of physical skill delivery in the stressful moments of performance.

When referring to matters regarding competence needs, in addition to the context of performance itself, participants also commented on how satisfaction of this need impacted them in a more general sense. When experiencing a sense of competence, participants saw themselves as trusting their preparation in the build-up to competition, as well as experiencing growth and having high levels of self-belief. Such a connection is consistent with a humanistic perspective (e.g., Deci & Ryan, 1985) that suggests that we all have innate drives and tendencies to seek opportunities to pursue growth. Some participants who acknowledged not feeling such competence revealed to the researcher an antagonistic view involving high levels of doubt regarding their ability to perform for their team, and for some a questioning of their overall self-worth. It appeared that these

more generalised positive or negative perspectives directly contributed to shaping the frame of mind individuals found themselves in during their more specific sporting performances, with this determining either a smooth subconscious execution of skills, or a tendency to overthink the tasks and/or being distracted and uncertain.

All participants referred to relatedness as being important for them in regard to meaningful experiences. As with the general population (e.g., Deci & Ryan, 1985, Vallerand, 1997), it appeared that feeling accepted and part of something worthwhile enhanced the participants' perceptions of themselves. When this was perceived to be occurring, individuals felt a sense of belonging and mentioned working hard to pursue a primary goal of helping the team achieve success. Kimball's (2007) study produced similar conclusions, suggesting that female (as well as male) athletes were more likely to work hard and make compromises for teammates when they experienced reciprocal care and trust.

Some participants also referred to feeling happier in general because of their perceptions of relatedness within the team and their place within it. This seems logical given the body of research positing that relatedness has a positive impact on well-being, through examining such outcomes as vitality (e.g., Adie et al., 2008; Ryan, 1995), self-esteem (e.g., Gagné et al., 2003; Reinboth & Duda, 2006) and motivation (e.g., Blanchard et al., 2007; Kowal & Fortier, 2000; Schneider & Kwan, 2013). Furthermore, participants who experienced a sense of relatedness indicated that it provided a generalised platform among the team (i.e., athlete-athlete; athlete-coach/es) for honesty, support, and cohesive engagement.

However, as with competence, not all individuals in the study felt a sufficient degree of relatedness, and some attributed this to a negative coach-athlete relationship

developing. These individuals highlighted feeling undervalued and/or lacking respect for a coach as a consequence of certain coaching behaviours or interactions and, for some, reduced motivation. Moreover, others referred to experiencing reduced feelings of relatedness due to the team lacking a shared identity and strong culture. Other sport studies (e.g., Amorose & Anderson-Butcher, 2007; Bartholomew et al., 2009; Frøyen & Pensgaard, 2014; Gearity & Murray, 2011; Stirling & Kerr, 2013; Stults-Kolehmainen et al., 2013) have drawn attention to similar dynamics, and highlight the importance of high-performance athletes experiencing a sense of relatedness and coaches fostering positive relationships with their athletes.

The clear importance of the need for relatedness being sufficiently satisfied in this context conflicts somewhat with other studies (e.g., Reinboth et al., 2004; Sarrazin et al., 2002) and perhaps with the key tenets of SDT (Deci & Ryan, 1985), that have suggested that relatedness was not as important as the other two psychological needs. Within the present study, it certainly seemed to be of considerable and of at least equal importance to the athletes, which is consistent with some previous work (e.g., Adie et al., 2008; Stults-Kolehmainen et al., 2013) exploring such elements also with female participants. Although a helpful finding in this regard, the relative importance of each psychological need to individuals of various demographics is an area requiring further research attention.

As with the other two basic needs, all participants referred to a sense of autonomy as being important to experience. Some connected feeling autonomous to experiencing a degree of ownership over their training and preparation (e.g., deciding on what to focus on for training; input into off-field decisions), whilst others made reference to experiencing autonomy especially in regard to competition (e.g., making some tactical decisions). Furthermore, as participants commented on their experiences of autonomy

when competing, a number described such feelings as combining with a sense of competence, allowing them to feel more in control during competition, with this being an important finding. Essentially, it appeared that a sense of competence interrelated with a feeling of autonomy and self-determination, as participants felt that they had the tools (i.e., knowledge and ability) to be self-governing of their own performances. This was seemingly a result of a heightened sense of freedom and flexibility being provided to them, along with a secure sense of competence based on their personally driven preparation and skillset, combined with such elements as knowledge of the opposition, role clarity, and effective game plans.

Responses of this kind reinforced the notion of a high degree of interplay among the basic psychological needs, which has also been found within other studies (e.g., Frøyen & Pensgaard, 2014) involving high-performance athletes. This awareness could perhaps extend the ways in which we interpret and understand the symbiotic links among the basic psychological needs and their overall effect on self-determination in sport. Such interpretations also highlighted the inevitable overlap in particular between autonomy and self-determination as functional concepts of importance to performance. This perspective is consistent with the likes of Deci et al. (1989) and Reeve (2002) who viewed autonomy as not only involving a sense of choice, but also as regulating an individual's actions, which, for these participants, included actions enacted in their performances.

Attention to feeling autonomous within actual competitive settings aligns with the small body of work (e.g., Mallet, 2005; van de Pol et al., 2015) that has considered this particular context. It seemed that autonomy had traditionally been understood by researchers and by coaches as a sense of volition with reference to decision-making, and had in most cases been examined as such within training contexts (e.g., Cheon et al., 2015; Gagné et al., 2003), with few studies exploring the experience within actual

competition settings (e.g., Brown et al., 2018; van de Pol et al., 2015). This focus resulted in a limited understanding of how coaches could in a practical sense contribute to athletes' feelings of autonomy and self-determination in regard to the actual dynamics of competition *in situ*, and, thus, the current findings make a valuable contribution in this regard and could be extended into future research undertakings.

Sport is an intense and highly competitive domain that involves many external demands and uncontrollable elements, and success is generally defined in regard to extrinsic and outcome measures (Vallerand & Losier, 1999). As such, and understandably, sport has often been perceived of as being an environment where autonomy is constrained (Kimball, 2007). Therefore, an enhanced understanding of how individuals' feelings of being in control can be cultivated would seem to have important practical implications. The likes of Gillet et al. (2010), Mallet (2005), and Krane et al. (1997) have suggested that due to the intensified pressure on elite- and high-performance level coaches to deliver on the outcome indicators of success (i.e., winning, podium, etc.) they are less likely to be autonomy-supportive in their coaching manner than might be lower-level coaches. With that said, the coaches in this study, whilst certainly revealing some indications of experiencing outcome pressures, demonstrated as high-performance coaches that there is potential still to pursue athlete psychological need satisfaction within both training and competition settings. The irony that coaches can sometimes lose sight of is that focusing attention on such need satisfactions can heighten the prospect of achieving the outcome indicators of success that they are typically measured by. Further research demonstrating ways through which such a coaching approach can be successfully implemented within high-performance environments would be beneficial.

As highlighted, there was consensus among all participants that a level of satisfaction in regard to all three needs was important to experience, and it appeared that the degree

to which individuals experienced satisfaction with respect to each need, in turn influenced their overall experience either positively or negatively. Whilst largely congruent with the extant literature, such that there is, this view to some degree contrasts with that from some previous reports (see Reinboth et al., 2004; Ryan & Deci, 2002; Sarrazin et al., 2002) that have suggested that the need for relatedness, in particular, does not play as proximal a role in influencing self-determination and intrinsic motivation as do the needs for competence and autonomy. Whilst the current study did not statistically measure or directly compare the impacts of each specific need, findings suggested that regardless of their comparative impact each of the needs, including relatedness, played a key role in this regard; a view that is in accordance with other studies (e.g., Hollembeak & Amorose, 2005; Keegan et al., 2014).

The current set of findings is supported by a number of previous studies and suggests that basic psychological need satisfaction and lack of satisfaction are influential elements of both sport motivation (e.g., Deci & Ryan, 2000; Isoard-Gauthier et al., 2012; Stenling et al., 2014) and performance (e.g., Chan & Mallet, 2011; Hodge et al., 2014; Mallet, 2005; Sheldon & Watson, 2011). It is clear that the athletes themselves in this study perceived their basic psychological needs as being important, and that their satisfaction or lack thereof was influential in their athletic endeavours. Given that awareness, it was important to give attention to the ways in which coaches, as arguably the most significant figures likely to have an effect on athlete basic psychological need satisfaction, contribute in that regard, and such results are discussed within the following sections.

8.3 OVERVIEW OF COACH CONTRIBUTIONS TO NEED SATISFACTION

Prior to discussing results relevant to the specific coaching behaviours that were considered as being need-supportive and need-neglecting in Sections 8.4 and 8.5 respectively, this particular section considers how these high-performance athletes

perceived their interactions in broader terms with their coaches and the resulting basic psychological need satisfaction or lack thereof. The material discussed here draws on the results overall and looks to consider seemingly meaningful pointers for coaches (e.g., value of building trust; timing of behaviours; coach-athlete alignment regarding interactions) striving to engage with athletes in ways likely to be perceived of as need-supportive.

Findings in this regard supported those from previous studies (e.g., Fenton et al., 2014; Gagné et al., 2003; Mageau & Vallerand, 2003; Occhino et al., 2014) indicating that coaches do play a central role in satisfying the basic psychological needs of athletes, but also recognising that they can and often do neglect the same (e.g., Balaguer et al., 2012; Bartholomew et al., 2009). Whilst some participants reported that they looked to the coaches to support a specific psychological need in particular, most saw the coaches as being central contributors to the satisfaction of all three of the identified needs. Interestingly, a very small number, mostly the more senior and experienced athletes, reported that their degree of relatedness and competence was not reliant on nor significantly impacted by their coach interactions or behaviours. Those individuals recounted looking to their coaches primarily to provide an environment that would support them by means of satisfying their autonomy; essentially, establishing an environment where they could effectively function in ways aligned to their own preferences.

Recently, a similar finding was reported by Amorose and Nolan-Sellers (2016), who found that the level of importance that the individuals in their study placed on their coaches determined the level of impact that coach feedback had on their sense of competence. In acknowledgement of the current findings as well as considering previous research undertakings on this issue (e.g., Frøyen & Pensgaard, 2014; Keegan et al., 2014),

it seems reasonable to conclude that high-performance coaches do impact quite considerably on the satisfaction of athletes' basic psychological needs, which prompts philosophical and practical considerations for individuals working in this space.

Previous studies (e.g., Bartholomew et al., 2009; Mageau & Vallerand, 2003) made significant contributions to the literature by highlighting certain coaching pedagogical approaches and behaviours as being need-supportive (e.g., providing decision-making opportunities), and others as controlling (e.g., emphasising tangible rewards). Whilst particular coaching behaviours are more likely than others to be experienced by athletes as need-supportive, the results here suggest that in reality much more than just coaching behaviours alone determine how athletes interpret and respond to coaching inputs, and therein lies the challenge to researchers of (i) analysing what is involved, and (ii) identifying a coherent framework for effective need-supportive coaching.

It has been suggested (e.g., Keegan et al., 2014) that the relationship between coaching behaviours and motivational outcomes is dependent on complex dynamics and interactions, with the impact being determined by various contextual elements, such as the degree of alignment between each of the athletes' personal needs and the coach behaviours that are employed (Cropley et al., 2020). The participants' comments in this study suggested that it was essentially their individual perceptions of what their coaches contributed that influenced how they responded to their coaches' behaviours. This particular finding is consistent with other studies' conclusions (e.g., Blanchard et al., 2009; Vallerand & Losier, 1999) indicating that it is not the coaching behaviours per se, but, rather, the athletes' interpretations of such behaviours (and their outcomes) that is most important in regard to need satisfaction.

Interpretations of the participants' reflections made it clear that they had a strong desire to trust the coaches that they worked with. Those who reported that they trusted a coach's levels of expertise and believed that the support being offered was genuine appeared to experience flow-on effects where such trust underpinned their subsequent feelings of competence, relatedness, and autonomy. This seems logical given that having access to someone deemed knowledgeable and trustworthy would likely serve to enhance (1) feelings of competency and readiness for competition, (2) a sense of connection and respect, and (3) a perception of having the resources necessary to improve and develop. Such findings are consistent with a robust body of work (e.g., Becker, 2009; Jowett & Cockerill, 2003; Keegan et al., 2014; Kimball, 2007; Poczwadowski et al., 2002) that has proposed that trust (in this case centred on perceived expertise) is a central component of effective coach-athlete relationships.

Unpacking this further, trust levels for coaches appeared to play a mediating role in how athletes interpreted coaching behaviours being employed. For instance, some participants described what was for them at times a coach-created environment that was overly structured and controlling, and, as such, it neglected their need for a sense of autonomy. However, by contrast, other athletes exposed to the same such coaching behaviours reported that they liked well-planned 'coach-led' training sessions and not necessarily having to make key decisions that created added stress. Comments suggested, however, that holding such a view was subject to a sufficient level of trust that the coaches had sound knowledge and a genuine desire to help the athletes improve, so needs for developing autonomy were not seen as being compromised.

When an appropriate blend of trust and structure was present, the athletes reported that their sense of autonomy was not undermined, due to them deciding that the environment that was provided and the support available were such that their skills would

be enhanced. Essentially, in these cases, it seemed that participants made volitional decisions to allow themselves to be led by their coaches (or at least to accept the coaching approach presented). Therefore, the athletes were able to maintain an overall sense of self-determination by having trust in those making the key decisions, which underscores an important distinction between the notions of autonomy and independence (Sheldon & Bettencourt, 2002). Goose and Winter's (2012) study made similar inferences, suggesting that some elite-level athletes are not overly concerned with having to be provided with initiative-taking opportunities, so long as there is sufficient trust in the coach's knowledge and expertise.

Similarly, Lyons et al. (2012) found that an autonomy-supportive coaching approach (as it is widely understood) can become problematic if it is inconsistent with athlete preferences (e.g., a desire for coaches to lead in a more traditional way). Further, Ryan and Deci (2002) proposed that to an extent, externally managed behaviour can in fact be interpreted as autonomous, so long as it is congruent with the recipients' own values and preferences. Such findings are also consistent with other studies (e.g., Frøyen & Pensgaard, 2014; Mageau & Vallerand, 2003) that have suggested that, with the 'right conditions', athlete self-determination and highly organised and structured environments can co-exist.

Autonomy being satisfied in this way contrasts with a common perception of autonomy-support as inherently providing athletes with a high degree of freedom and opportunities for decision-making. At the extreme end of such a stance, of course, that could be viewed as being excessively permissive or laissez-faire in approach (Mageau & Vallerand, 2003), in which the autonomy being offered can prove to be haphazard in nature. As indicated, the current findings suggest that, ultimately, it is the athletes' perceptions of coaching behaviours that will determine whether they are in fact truly

need-supportive. This has practical implications for coaches who are attempting to employ a need-supportive approach, in that they need to be cognisant of the athletes' fundamental preferences and personal needs as they strive to provide an appropriate balance of structure/direction and freedom/choice.

The timing and balance of coaching behaviours is also worth considering. For instance, providing opportunities for individual decision-making (e.g., choosing the final drill at a practice) following on from an efficient coach-led session that involved clear directions, relevant drills, and positive feedback, was often understandably viewed by participants in the current study as being need-supportive. However, when such opportunities for personal initiative were provided to an excessive degree and sessions were devoid of structured technical support and expertise, athletes reported feeling isolated and need-neglected, which is consistent with previously mentioned studies (e.g., Deci & Ryan, 1985; Mageau & Vallerand, 2003) that suggested that in addition to meaningful choices, sufficient structure is important for athlete-support and need satisfaction.

The above points emphasised the importance of coaches communicating effectively with athletes to enable a desired degree of clarity and alignment concerning both athlete and coach preferences to be identified and achieved. Jowett and Cockerill's (2002) coaching model that highlighted, among other concepts, complementarity (i.e., cooperative interactions) and, following the revision of the model in 2006, co-orientation (i.e., shared values) as important constructs of a strong coach-athlete relationship, reflects similar propositions. In this regard, even though freedom and choice are generally deemed to be need-supportive, if incongruent with athlete core preferences and/or are excessive, such an approach can often be experienced by athletes as need-neglecting.

In summarising, consistent with the extant literature (e.g., Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011; Frøyen & Pensgaard, 2014; Gagné et al., 2003; Mallet, 2005; Occhino et al., 2014), it appeared in this study that the coaches overall had a significant influence on the psychological needs of their athletes. Moreover, given that this study involved a female team, it is important to acknowledge that these findings are also consistent with work that has similarly explored such elements involving female participants (e.g., Ntoumanis 2001a; Ong, 2019; Stults-Kolehmainen et al., 2013). It was also clear that many of the participants expected and actively looked to their coaches to make positive contributions to their need satisfaction.

Armed with this knowledge, and the fact that need satisfaction or lack thereof appears to influence athletes in a number of personal and significant ways, high-performance coaches are encouraged to strive to make positive contributions in the direction of athletes' psychological need satisfaction. Whilst developing knowledge and understanding of matters fundamental to the dynamics involved, along with acquiring greater awareness of their own basic psychological needs and means for their satisfaction, there are a range of strategies and behaviours through which coaches can help with athletes' need satisfaction. Many of these were evident from perceptions conveyed within athlete interviews and through the observations undertaken, and they are discussed and considered alongside the literature in the following section.

8.4 COACHES' NEED-SUPPORTIVE BEHAVIOURS

A major aim of the study was to elicit and explore the participants' experiences and perceptions of the behaviours through which coaches made positive contributions to their psychological need satisfaction. Behaviours viewed as being need-supportive were largely congruent with the existing literature that has explored need-supportive coaching (e.g., Adie et al., 2008; Black & Deci, 2000; Mageau & Vallerand, 2003; Mallet, 2005).

However, the findings from the study have provided some potential new elements by revealing behaviours and fresh insights into high-performance athletes' experiences (e.g., feelings of self-determination during competition performances), and with particular emphasis on coaches' contributions to psychological need satisfaction. These elements have been arrived at through the somewhat different approach of pursuing insights through a longitudinal-type case study of a high-performance sports team.

Behaviours described by participants as important in regard to psychological need-support were inductively categorised into overarching themes and were detailed in the results chapters and are shown again in Table 10 below. This section discusses these behaviours towards making greater sense of their meaning in relation to established knowledge.

Table 10

Taxonomy of Need-supportive Coaching Behaviours

Need-supportive coaching behaviours		
Needs	Superordinate themes	Subordinate behavioural themes
Competence	<i>Facilitating effective preparation</i>	<ul style="list-style-type: none"> - Discussing game plans and mental preparation - Game-like and targeted training - Effective technical feedback
	<i>Providing emotional support</i>	<ul style="list-style-type: none"> - Genuine positive reinforcement - Getting to know athletes individually - Role communication
	<i>Promoting athlete ownership</i>	<ul style="list-style-type: none"> - Seeking athlete input regarding training focus - Supporting athlete preferences
Relatedness	<i>Complementarity</i>	<ul style="list-style-type: none"> - Collaborative discussions - Open and regular communication - Seeking and considering athlete input - Adaptability

	<i>Co-orientation</i>	<ul style="list-style-type: none"> - Meaningful instructional and technical feedback - Genuine positive reinforcement
	<i>Cultivating a supportive environment</i>	<ul style="list-style-type: none"> - Exhibiting care for athletes beyond the sporting environment - Promoting team culture and teamwork
Autonomy	<i>Optimal preparation</i>	<ul style="list-style-type: none"> - Individualised (coach-led) training - Athlete driven segments (within an evident structure)
	<i>Competition freedom</i>	<ul style="list-style-type: none"> - Individualised pre-game preparation - Freedom regarding individual strategies
	<i>Athlete Ownership</i>	<ul style="list-style-type: none"> - Individual performance plans - Seeking athlete input

Given the symbiotic nature of the basic psychological needs (Frøyen and Pensgaard, 2014), it was not surprising that there was also a significant degree of overlap between behaviours believed to be supportive of each need. For instance, many participants reported that positive reinforcement nurtured feelings of competence as well as a sense of relatedness. Accordingly, the researcher went through an inductive process of clustering the highlighted need-supportive behaviours, and herein presents and discusses the following five themes relevant to the coaching role that individually and collectively encapsulate the behaviours and qualities that the athletes within this studied case perceived as being need-supportive:

1. *Preparation*
2. *Support*
3. *Athlete ownership*
4. *Co-orientation and Complementarity*
5. *Competition freedom*

1. Preparation

Many of the behaviours that participants referred to as being need-supportive appeared to be involved in enhancing their preparation and feelings of readiness for competition. This seemed to manifest from a combination of (1) discussion and provision of mental strategies and game plans, (2) receiving effective technical feedback from coaches, and (3) engagement in ‘game-like’ targeted training that was individualised, but still largely coach-led. When adequate dimensions of these coach behaviours occurred, participants reported experiencing greater levels of need satisfaction.

Participants alluded to preparation that involved coaches providing clear and knowledgeable technical and tactical feedback, and that such support contributed positively to their sense of competence as they felt that they were gaining knowledge and improving skills. Such understanding is consistent with previous work (e.g., Amorose & Horn 2000; Amorose & Nolan-Sellers, 2016) that has explored competence through examining elements of coach feedback. The current findings support the notion that coaches *can* play an important role in building athletes’ sense of competence through the provision of effective preparation via quality technical feedback and positive encouragement.

Many of the participants referred to performance at their level of sport as it being mostly ‘mental’, and a number of individuals reported that the development of targeted mental skills and constructed game plans helped with their sense of preparation and to nurture their feelings of competence and readiness for competition. Such perspectives reinforced important similar findings from other studies; in particular, Côté and Gilbert (2009) and Côté and Sedgwick (2003), who highlighted the importance of coaches teaching and incorporating mental strategies into their preparation with athletes. Additionally, Paquette and Sullivan’s (2012) study found that coaches’ use of

psychological skills training could to an extent predict athlete beliefs in their ability. It appears then that there is a growing appreciation of the importance of coaches integrating a degree of deliberate mental skills training and attention to mental preparation, with this seeming to impact the nurturing of a sense of competence for athletes, as well as spreading across to influence satisfaction of the other basic needs.

A key finding and precursor to the participants feeling as though they had prepared effectively was them being able to make some fundamental decisions regarding such preparation work through their training (e.g., warm-up/cool down activities, inclusion of music, and choices regarding drills). When describing what allowed for need satisfaction to occur, many participants reported a desire to be exposed to adequate structure, but also being able to experience an environment that offered a degree of freedom and flexibility; such perspectives being consistent with a robust body of work (e.g., Gagné et al., 2003; Gillet et al., 2010; Mageau & Vallerand, 2003; Sheldon & Watson, 2011). Without adequate structure, some participants felt isolated and considered that training sessions were ineffective in preparing them for competition, and thereby need-neglecting. However, excessive structure risked conflicting with athletes' preferences by not allowing them freedom to work on what they believed was most important for them (e.g., specific skills).

2. Support

Support became another overall theme that was influential in regard to satisfying psychological needs. Participants (implicitly and explicitly) referred to their experiences of feeling supported by the coaches and how this perception contributed to their needs being satisfied. Effective communication that, amongst other things, nurtured role clarity was identified by participants as being a significant contributor to feeling supported and experiencing adequate need satisfaction, as it enhanced their understanding of their place

within the team and what was expected of them. This involved the allocation of roles, role clarification when needed (i.e., having more detailed discussions in that regard), and consistency with selections.

Consistent selection patterns proved to be an interesting but complex feature with regard to feeling supported as it seemed to provide team members most likely to be selected with a sense of security - a tenet identified within other studies (e.g., Becker, 2009; Frøyen and Pensgaard, 2014) - affecting in positive ways all three basic psychological needs to some degree. However, contrastingly, consistent selection patterns proved problematic for those individuals on the fringe, who felt that regardless of their efforts, commitment and performances, they were in doubt about being selected into the playing team. Inevitably this impacted to varying degrees their levels of satisfaction regarding all three psychological needs. It seemed to have implications for a sense of competence, for autonomy in regard to confusions about how to engage with the coaches, and also for relatedness in terms of them feeling isolated and unsupported.

Adie et al. (2008) defined relatedness as experiencing a secure connection with others; so, when experiencing such selection rejection it would be logical that such an experience would reduce feelings of support and relatedness. Whilst selection decisions will inevitably have an impact on all involved, coach (and teammates') awareness of the likely impacts and meaningful supportive behaviours in response seem particularly important in regard to mitigating any long-term harm in regard to psychological needs.

Jowett and Cockerill (2003) highlighted athletes' general preferences for role clarification and Keegan et al. (2014) more recently underscored such matters around role communication as potentially either supporting or lessening one's motivation. Moreover, Frøyen and Pensgaard (2014) found that a sense of security was a key antecedent of

relatedness, and, additionally, that such a perception of relatedness could consequently strengthen perceived competence. Such findings, as well as the results from the current study, further highlight the degree of interplay between the needs. This has interesting, significant, and broad implications for coaches as one could infer from the findings that supporting athletes emotionally is likely to nurture relatedness and, perhaps serendipitously, foster an improved sense of competence. This premise was supported by observational and interview data; with one athlete capturing the connection when stating that being supported with a healthy degree of coach interaction suggested to her that she was worthy of the coach's time and attention.

Continuing with the theme of support, a number of participants referred to a held belief that the coaches genuinely cared for them as individuals in ways that extended beyond them being just athletes. This sense of being cared about and its effects aligns with many cited studies (e.g., Antonini Philippe & Seiler, 2006; Becker, 2009; Bennie & O'Connor, 2010; Greenleaf, Gould, & Dieffenbach, 2001; Jowett & Cockerill, 2003; Jowett & Meek, 2000), several of which involved both male and female athletes.

In addition to perceiving genuine support from the coaches, some participants also suggested that the coaches were the main influencers regarding the overall team identity and culture. For them, the coaches (particularly the head coach) were viewed as the individuals who could most significantly shape the overall culture of the team through enacting a range of behaviours directed towards this. Other studies (e.g., Garcia-Calvo, Leo, Gonzalez-Ponce, Sánchez-Miguel, Mouratidis, & Ntoumanis, 2014; Hodge et al., 2014; Heuzé, Sarrazin, Masiero, Raimbault, & Thomas, 2006; Olympiou, Jowett, & Duda, 2008; Pensgaard & Roberts, 2002) have drawn similar conclusions about athletes feeling supported and the importance of climate, collective identity, and culture. However, the longitudinal-type design of the current study extended throughout the

season and allowed the opportunity for the researcher to notice tension building (also indicated within a number of interviews), which seemed to be, partly at least, a result of some inconsistencies in coach behaviour and ambiguity regarding culture and, as such, reduced feelings of need satisfaction.

3. Athlete Ownership

Every participant referred, in some way, to a need to experience a sense of ownership over their experiences. Many of the participants commented on having input into decisions regarding training focus or structure and identified this feeling of ownership as a positive contributor to their need satisfaction. This dynamic is widely accepted within the literature (e.g., Mageau & Vallerand, 2003; Mallet, 2005) as being an autonomy-supportive coaching behaviour and highlighted by some as being particularly useful when engaging with female athletes (e.g., Gagné et al., 2003; Reinboth & Duda, 2006). However, whilst seeking athlete input is likely to be regarded as being need-supportive, findings from the current study, as well as others (e.g., Frøyen & Pensgaard, 2014; Ryan & Deci, 2002), posited that seeking such input was only likely to be experienced as autonomy-supportive by athletes if perceived of as inviting ownership and that this intention aligned with personal preferences/needs. Accordingly, and particularly in a team environment made up of various personalities and preferences, promoting athlete ownership is a coaching strategy that should be employed sensitively and tactfully.

Consistent with suggestions from the literature (e.g., Lyons et al., 2012; Mageau & Vallerand, 2003), athletes' needs were experienced as being supported when the coaches inquired about athletes' perspectives and suggestions, and where possible employed behaviours that were aligned to such preferences. The reflections from the participants in this particular case study suggested that seeking *and* applying athlete input, in that regard encouraging ownership, helps in the satisfaction of all three psychological needs;

a view that aligned with findings from other studies (e.g., Adie et al., 2008; Adie et al., 2012; Amorose & Anderson-Butcher, 2015; Bartholomew et al., 2009).

4. Co-orientation and Complementarity

These two themes were labelled as such partly in line with Jowett's (2006) coaching model and associated body of work (e.g., Antonini Philippe & Seiler, 2006; Jowett & Meek, 2000; Jowett & Cockerill, 2003; Jowett & Ntoumanis, 2004; Keegan et al., 2014) that identified coaches and athletes working together in ways that could be captured by the concepts of co-orientation (e.g., shared/common views) and complementarity (e.g., cooperative interactions). Most participants reported a high degree of what could be regarded as co-orientation in relation to their own and the coaches' preferences (i.e., values; goals), along with establishing shared viewpoints and perspectives (Jowett & Cockerill, 2002).

Having such a co-orientation and then both parties interacting in ways that demonstrated complementarity was often evident, with this kind of engagement having been shown to be an important aspect of effective coach-athlete interactions (e.g., Jowett & Cockerill, 2003; Jowett & Meek, 2000). Many of the participants described appreciatively how the coaches maintained, for the most part, a positive and solution-focused coaching style and that such an approach was consistent with what the athletes felt was important (also see Becker, 2009). Some participants, however, described a preference for simple and direct feedback without the coach 'beating around the bush' (e.g., "*I don't need sugar-coating*" [A1]).

Many participants emphasised a need to enjoy the environment and their interactions with the coaches. This seems fair, given the amount of time that the athletes spent with the coaches and within the environment in general, and the coaches in this regard were

quite effective overall in aligning their behaviours with such a preference. Enjoyment has been identified in a number of studies (e.g., Goose & Winter, 2012; Lyons et al., 2012; Mallet & Hanrahan, 2004) as an important feature of high-performance sport settings, and one that can be significantly affected by coaching behaviours. Coach positivity (i.e., praise, body language, energy) appeared to be somewhat of a common need for the participants in this study, and one that would likely enhance enjoyment. A robust body of research exists (e.g., Antonini & Seiler, 2006; Hodge et al., 2014; Høigaard, Jones, & Peters, 2008; Hollembek & Amorose, 2005; Kidman, 2005; Potrac et al., 2002) that highlights the significance of coach positivity to athletes across a variety of domains.

It appeared that, overall, the participants had a desire to work in partnership with the coaches, as opposed to constantly being given direct instructions, and consequently a number of behaviours and interactions were linked in this regard and formed the theme of complementarity. In this context, complementarity was defined as coaches and athletes interacting in ways that were interpreted as being cooperative (Jowett & Cockerill, 2003). Such a finding was consistent with previous work (e.g., Weinberg & Gould, 2011; Witte, 2011) that has suggested that female athletes in particular enjoy working collaboratively with coaches involving democratic coaching styles. It was clear during the researcher's observations that the participants who experienced a high degree of satisfaction with the coaches engaged with them regularly in open and honest discussions; a finding consistent with previous studies (e.g., Lyons et al. 2012; Norman & French, 2013; Trzaskoma-Bicsérdy et al., 2007).

The theme of complementarity appeared to extend into the need for a sense of autonomy, as participants reported feeling autonomous due to regularly expressing their opinions to their coaches, and, from time to time, driving their own behaviour. It was

important to many of the participants that they felt that they were working with their coaches and that the coaches behaved in ways that created harmony and synergy between them. Most participants in the study described collaborative interactions with the coach(es) that involved problem-solving and the sharing of ideas – a notion consistent with the highly publicised [at least in New Zealand] All Blacks’ leadership model (Hodge et al., 2014), as well as Mallet’s (2005) approach in working with Olympic track and field athletes in Australia. The researcher noted during both training sessions and games that particular athletes and coaches were engaging in complementary and collegial-type discussions regarding a myriad of matters (e.g., tactics; technique; preparation). Such findings reinforced the overall need for coaches to move beyond a traditional coaching approach and to employ behaviours highlighted as being more need-supportive with greater constancy.

5. Competition Freedom

One of the more important findings of the study was that many participants suggested that they experienced a degree of self-determination whilst they prepared for competition, and some extended such an experience to what they felt during the competition itself. Given the nature of high-performance sport (i.e., competitive, hierarchical, officiated), achieving a sense of self-determination during competition specifically appeared to the researcher to be a significant accomplishment. Furthermore, as an area that to date has received little research attention, this would seem to be a notable finding. Although the elements of competition freedom could have been grouped within other themes, athlete ownership for instance, given their relevance to a high-performance sport context, the researcher decided that the principles captured by the theme of competition freedom warranted the establishment of its own category.

Consistent with studies (e.g., Black & Deci, 2000; Mageau & Vallerand, 2003) that have identified providing choice and opportunities for initiative as being autonomy-supportive, coaches CY and CZ in particular allowed significant flexibility in regard to game preparation and this was described by participants as coaching behaviour that was effective in supporting their feelings of autonomy. Individuals were able to get themselves physically and mentally ready for competition in their own unique ways, and a number of the participants commented on how such scope for choice enhanced their sense of competence and autonomy. Furthermore, such freedom helped to establish greater connection with the coaches due to a perception that their individual needs were being actively supported. Similar findings (e.g., Adie et al., 2008; Amorose & Anderson-Butcher, 2007; Amorose & Anderson-Butcher, 2015; Bartholomew et al., 2009) have concluded that such a coaching approach can nurture the satisfaction of one, and in all likelihood, all three basic psychological needs.

Whilst the likes of Frøyen and Pensgaard (2014) concluded that athletes have a desire to be in control of their lives and their training, the current findings extended this premise to also experiencing a degree of freedom regarding their competition performances. There is a small body of literature (e.g., Antonini & Seiler, 2006; Becker, 2009; Hodge et al., 2014; Høigaard et al., 2008) supporting the tenet that elite-level (and no doubt high-performance) athletes should experience a sense of responsibility and ownership over the delivery of their performances. Comments from Antonini and Seiler's (2006) investigation with Olympic athletes suggested that performance should belong fully to the athletes and that they should be in charge of their choices. Both the interview and observational data from the current study suggested that the participants took pleasure in expressing themselves and playing with a style that they personally valued.

Whilst these findings were consistent with several other case studies (e.g., Hodge et al., 2014; Mallet, 2005) that have inferred that high-performance athletes respond positively to experiencing a degree of influence over such aspects as preparation and tactics, other studies have suggested that this might not always be the case. Becker (2009) for instance, suggested that athletes may not desire participating in decision-making opportunities regarding important decisions (e.g., strategy/tactics) as it could be perceived of as threatening for them. Bennie and O'Connor (2012) suggested that while high-performance athletes can be involved in the decision-making process, coaches need to have the 'final say' and the participants (coaches and athletes) in their study highlighted the ability of coaches to make decisions as being one of the most important coaching skills. Such a dichotomy of perspectives throughout the literature portrays the complexity of decision-making within coach-athlete and team interactions, and highlights the importance of coaches addressing a number of considerations when deciding who should make specific decisions; namely, in regard to the needs of the athlete, the team, and the situation concerned.

In synthesising the coaching contributions (i.e. attitudes; behaviours) perceived by athletes as being need-supportive, it appeared from the data gathered throughout the study that being a need-supportive coach requires a complex balance of behaviours (e.g., providing adequate structure, an attuned degree of freedom, effective technical feedback) and personal attitudinal qualities identified as being important (e.g., caring, trustworthy). Employing coaching behaviours that have been identified as those that contribute to need satisfaction (e.g., Goose & Winter, 2012; Keegan et al. 2014; Mallet, 2005) can be constructive; however, it seems that it is much more than just the behaviours themselves that impact the athletes' satisfaction of all three of their psychological needs. In this respect, the interview and observational data suggested that it involved a complex

interplay of the coaches' attitudes and behaviours, combined with the meanings that the athletes attached to those, that ultimately determined (or significantly contributed to) athletes' sense of need satisfaction.

Given the significant degree of overlap between needs, a taxonomy of overarching themes was presented at the beginning of the current section (i.e., preparation, support, athlete ownership, co-orientation and complementarity, and competition freedom). These themes capture and highlight the elements that are believed to be important for coaches to consider when working with high-performance athletes, with each element likely, to some extent, to have a positive influence on all of the experienced psychological needs.

8.5 COACHES' NEED-NEGLECTING BEHAVIOURS

Attention now shifts within the discussion to the coaching behaviours that the participants perceived of and described as being neglecting or, in a few cases, thwarting of the satisfaction of their basic psychological needs. There is now a solid body of research (e.g., Adie et al., 2012; Bartholomew et al., 2009; Bartholomew Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011; Matosic et al., 2013) that has explored what is generally referred to as controlling coaching styles and that work has conveyed a picture of how coaches can, perhaps inadvertently, go about actively thwarting athletes' need satisfaction. However, as indicated earlier, it has been suggested (e.g., Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011; Costa et al., 2015) that providing low levels of need satisfaction input (i.e., need-neglecting) and need-thwarting are not necessarily one in the same.

Interestingly, it became evident during the study that the participants in general did not have a sense that their coaches were ever deliberately or actively thwarting their needs and that any reduced feelings of competence, relatedness and/or autonomy primarily

involved a perceived *lack of something*, as opposed to negative and/or controlling coaching behaviours. Such a perspective was triangulated by the researcher's observations where 'controlling' coaching behaviours (see Bartholomew et al., 2009) in this specific context were rarely witnessed. Therefore, the behaviours described herein are understood and referred to as being more need-neglecting, as opposed to need-thwarting.

Throughout the study, many coaching behaviours were highlighted as being supportive of athlete need satisfaction; however, with that said, there were inevitably instances throughout the season where certain participants felt that the coaches had negatively impacted on their need satisfaction because of something the coaches did or did not do. Ironically, some of the behaviours identified in this section may at times appear to contradict earlier reported positive effects (e.g., high amounts of structure were considered by some as being need-supportive and by others as need-neglecting). This potential duality of effects highlights again the complex and multidimensional nature of coaching and the reality that within a team environment contrasting athlete perceptions are likely to exist. The range of coaching behaviours identified in this study as neglecting of basic psychological needs are presented in Table 11.

Table 11

Taxonomy of Need-neglecting Coaching Behaviours

Need-neglecting coaching behaviours		
Needs	Superordinate themes	Subordinate behavioural themes
Competence	Cultivating doubt	<ul style="list-style-type: none"> - Inadequate role clarification - Lack of clarity regarding selection decisions - Failing to provide opportunities
	Being unsupportive	<ul style="list-style-type: none"> - Limited interaction with athletes

		- Inadequate technical feedback
Relatedness	Neglecting/Thwarting team identity	- Failing to actively develop team culture - Inconsistent standards - Failing to hold athletes accountable
	Ineffective coach-athlete interactions	- Unproductive training - Negative focus - Inadequate communication
Autonomy	Ineffective training environment	- Excessive structure - Inadequate training opportunities - Excessive freedom
	Failing to prepare athletes for competition	- Insufficient technical coaching - Inadequate mental preparation and strategies

The interpreted data provided insights into the athletes' experiences and provides potential new directions for understanding the impact that coaches can have on high-performance athletes. To summarise the findings, as well as to be consistent with how things are presented in the previous section exploring need-supportive behaviours, the elements presented in Table 11 were clustered into relevant themes to establish broader classifications contributing to athletes experiencing a lack of need satisfaction. These are:

1. Coach-athlete dissonance
2. Ineffective training environment
3. Ambiguous roles and culture

1. Coach-Athlete Dissonance

As participants described coaching behaviours that they perceived as having a negative effect on their need satisfaction, it was clear, from the perspective of some, that there was a degree of dissonance between what they felt that they needed individually and what a particular coach was providing for them. Essentially, those participants felt that there

was a fundamental difference between how they thought a coach should assist them in preparing for competition and the type of information and interaction that they were being exposed to. Within the study, coach-athlete dissonance encapsulated (i) experiencing limited one-on-one interaction with a coach or coaches, (ii) insufficient technical coaching and feedback, and (iii) inadequate mental preparation and strategies.

The theme reported most frequently by participants when describing negative experiences involved receiving insufficient technical coaching. Some attributed this to having limited interaction with the coach(es) and an overall lack of feedback (e.g., “*I just had no interaction with [CX]*” [A4]). Others, however, reported that feedback from a particular coach was just too basic or general, and that it did not contribute to their growth and development (e.g., “*...I should be better by now*” [A2]). The disconnect between what was wanted and what was received seemed to be as a result of some combination of (1) coaches’ attempts to be autonomy-supportive and empowering but providing excessive amounts of independent work time, (2) a perception that a particular coach had limited knowledge of certain necessary skills, (3) athletes desiring more ‘hands-on’ technical coaching, and/or (4) inadequate communication from either party regarding coaching philosophy or athlete preferences.

Such inferences are consistent with aspects of Gearity and Murray’s (2011) findings; in particular, their themes of poor teaching and of inhibiting mental skills. Greenleaf et al. (2001) found some elite-level athletes attributed poor performance mainly to coach matters; including, coach-athlete tension and lack of access to coaches. Other studies (e.g., Amorose & Horn, 2000; Black & Weiss, 1992; Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999) have also reinforced the importance of regular communication and feedback involving both coach(es) and athletes. Most recently, Stuntz and Boreyko (2018) found that a high degree of coach-athlete interaction is important for need

satisfaction, even if interactions involve mostly negative feedback (e.g., coach exasperations) as it can still portray and nurture feelings of connection and relatedness.

Whilst some participants identified the discussion of mental strategies with a coach (e.g., routines; switching on and off; planning) as a positive contributor to need satisfaction, others highlighted a lack of such emphasis as being neglecting of their need satisfaction. Although Gould et al. (1999) in their study did not directly explore basic psychological needs, they stressed that a difference between high-performance teams that met or those that failed to meet expectations was the attention given to mental skills, with participants from the former group indicating that they saw themselves as better equipped to deal with the heightened stress and to remain focused on a particular goal. As highlighted earlier in this chapter, the inclusion of mental skills work into training and performance has been shown within the literature, as within the current findings, to be an important aspect of athlete support and preparation at the high-performance level.

A small number of participants in the current study reported that their sense of relatedness was affected at times by negativity from a coach. It appeared that when a coach directed excessive attention towards what people were doing poorly, it led to the participants becoming frustrated and switching off. Blatant negativity was rarely witnessed during team observations, but some athletes indicated experiencing this and caused them to 'zone out' from time to time (e.g., during game debriefs), leading to disconnection with a coach. Such a disconnect through dissonance is likely to occur due to conflicting preferences and, as such, a reduced sense of co-orientation (e.g., Jowett & Cockerill, 2003), which highlights the importance of coaches being tactful with the manner of their feedback.

2. Ineffective Training Environment

As participants reflected on their experiences, there was some emphasis placed on the coach-established training environment. An ineffective training environment, when it occurred, involved limited and/or unproductive coach-athlete interactions, negativity, and training sessions that were perceived of as not being productive in enhancing ability (and, therefore, a sense of competence). Interestingly, participant responses indicated both excessive structure and excessive freedom as being unsupportive of their needs – highlighting something of a paradox for coaches. Resolving such a dilemma would seem to lie within the fundamental tenets of effective autonomy-supportive coaching (e.g., Mageau & Vallerand, 2003) that emphasise providing as much choice and opportunities for initiative as possible, but within the context of meaningful and appropriate levels of structure. It would appear that if a coach goes too far in either direction (i.e., involving a *laissez-faire* or an over-controlling coaching style), it will risk adversely affecting individuals' need satisfaction due to them feeling either unsupported or over-controlled respectively.

Similar to the current investigation, Frøyen and Pensgaard's (2014) study involved high-performance participants who reported a need to be in control of their trainings, and others who desired that a coach would tell them what to do; a contrast that raises questions regarding how a coach can most effectively go about supporting each athlete's unique needs within a team environment. Furthermore, their study reinforced the complexities involved when employing an autonomy-supportive coaching philosophy, particularly when working in a team environment involving as it does a mix of distinct and, at times, contrasting preferences regarding the means for facilitating need satisfaction. Lyons et al. (2012) highlighted that autonomy-supportive coaching behaviours (i.e., supporting of freedom and choice), generally deemed overall as being an effective coaching style, can

be very challenging in the face of the variations in what athletes might prefer as the means for satisfying their psychological needs.

Consequently, coaches are strongly encouraged to take the time to engage in ongoing dialogue with their athletes that involves discussing and clarifying their coaching approach, along with drawing out from athletes what their preferences are in regard to need satisfaction and how to arrive at a best collaborative fit. Given the nature of the team environment, this might inevitably involve some compromises on the part of both parties. Similarly, Pelletier et al. (2001) suggested that it is insufficient to focus just on coaches when employing an autonomy-supportive approach and that athletes should also be educated in taking advantage of opportunities for enhanced autonomy. From time to time, providing a rationale for particular coaching behaviours is also advised, as when differences of perspectives inevitably emerge, a degree of transparency and respect between coaches and athletes is important for sustained engagement.

Researcher comment: Interestingly, around the time of writing on this matter, the New Zealand Netball team's coach resigned after a review was conducted following the 2018 Commonwealth Games where the team achieved its worst ever result. The review identified that, amongst other things, the coach employed an athlete-centred approach that was not aligned to what the [fairly young] team seemed to need from the [coaching] leadership. Athletes reported in the review that more 'hands-on-coaching' was desired. This desire was evident in the apparent style of the successor coach who seemed to turn things around very quickly and led the team to World Championship victory within a year from taking over.

3. Ambiguous Roles and Culture

A range of coaching behaviours led to some participants feeling insecure in their roles within the team. Perceptions of competence and relatedness were negatively affected when participants felt that they could be dropped at any time and, furthermore, some felt that to be successful, they needed a better understanding of what their role in the team was. In addition to role clarity and security, several participants highlighted that they did not receive sufficient explanation for selection decisions; in particular, when they were not selected for a match (e.g., *“I guess the main thing was getting dropped for no [evident] real reason... that really knocked my confidence... I would’ve liked a more honest reason”* [A2]). The relevant participants suggested that this negatively affected their relationship with the coach(es). Furthermore, some fringe members reported that such uncertainty regarding (1) their individual roles, and (2) selection rationale, adversely impacted their self-determination, as they felt unsure of what was required to either maintain their position in the playing team or get an opportunity to be selected.

Additionally, it seemed that a number of participants became disillusioned with the team culture due to a degree of ambiguity and uncertainty regarding team values, standards, and athlete accountability. The researcher noted during observations that the coaches often referred to “maintaining high standards”, a point that was also highlighted by the participants during interviews; however, identifying and solidifying what those standards were was never effectively addressed as a team, or actively promoted throughout the season. As such, it seemed that the desired outcomes (i.e., increases in effort, focus, and communication) of reminding athletes of the stated high standards were diluted due to vagueness surrounding what this actually meant. Moreover, there was a perception by some in the team that the head coach at times revealed double standards in that [they] did not always treat each member of the team equally (i.e., fitness testing

expectations; missing training sessions). Again, this became a catalyst for some athletes questioning their own value and place in the team.

As indicated earlier in the chapter, important matters such as role clarity (e.g., Jowett & Cockerill, 2003; Keegan et al., 2014) and role security (e.g., Becker, 2009; Frøyen & Pensgaard, 2014) have been explored within the literature. The present findings supported the notion that athletes desired clarity of their roles, and, additionally, to feel an adequate degree of security regarding their place in the team. Furthermore, athletes have often highlighted in studies (e.g., Côté & Sedgwick, 2003; Pensgaard & Roberts, 2002) that establishing a positive team environment was an important aspect of coaching, and participants in the current study reinforced such a view. As such, coaches are encouraged to allocate time and energy into ensuring that athletes are aware of their own role so that they have clarity regarding expectations as well as how they can contribute to the success of the team. Furthermore, identifying as a group the values and standards that are important to the culture, and promoting and abiding by such values, appears to play a key role in satisfying athlete needs within a high-performance sport environment.

In summary, concerning this section on need-neglecting behaviours, whilst the coaches in this case study made many positive contributions towards meeting their athletes' psychological needs, there were instances where their behaviours, or lack thereof, did have a negative impact in regard to that objective. This was reflected in a number of behaviours that either neglected, or on rare occasions thwarted, the psychological needs of individual athletes or the collective. The range of such coaching behaviours was summarised into three themes; namely, coach-athlete dissonance, ineffective training environment, and ambiguous role and culture. It appeared that a lack of need satisfaction was highly likely when there was a perceived disharmony between what the athletes felt they needed from their coaches and their interpretations of what the

coaches actually provided. Furthermore, similar impacts were likely if athletes felt that they were being exposed to ineffective training, were unclear of their roles, and/or felt that the culture lacked strong and agreed on qualities, and there was a lack of accountability to its particular values and standards.

It was again evident that the three basic psychological needs seem to have a symbiotic relationship, where impacting one appeared to have a flow-on effect to others. This meant that supporting and, ideally, satisfying a particular need had positive impacts on the others; but, with that said, it also meant that a lack of satisfaction regarding a particular need could also spread to a lack of satisfaction of others. For instance, athletes who had negative perceptions of their relationships with a coach and referred to experiencing reduced feelings of relatedness, were likely to also experience a challenged sense of competence, and a reduction in self-determination (autonomy) due to feeling disconnected and also controlled by circumstances impacting on them.

CHAPTER NINE

SUMMARY AND CONCLUSIONS

9.1 INTRODUCTION

This chapter provides an overall reflection of the study. It includes a summary of contributions and findings, challenges experienced by the researcher, discussion of limitations of the study, and, lastly, suggestions for future research and applied undertakings.

Increasingly it appears to be recognised throughout the literature (e.g., Cheon et al., 2015; Goose & Winter, 2012; Hodge et al., 2014; Matosic et al., 2013) that coaches have a significant impact on the athletes that they are involved with. Notwithstanding the existing research landscape, there have been calls (e.g., Keegan et al., 2014; van de Pol et al., 2015) for continuing attention to be focused on exploring athletes' perceptions and interpretations of coaching behaviours, with the assumption being that such studies would cultivate a deeper understanding of the various ways through which coaches influence their athletes. Accordingly, the current study sought to explore and illuminate athletes' perceptions of coaching behaviours, with an emphasis on the interplay between such behaviours and athletes' basic psychological needs and their satisfaction. Following a substantive literature review focused on such elements, and driven by a belief that findings on the topic would make important and meaningful contributions, both to the literature and to applied knowledge, the following research questions were determined:

1. What perceptions do high-performance athletes have of basic psychological needs (for competence, relatedness, and autonomy) and of the importance of these needs being satisfied within the context of high-performance sport?

2. What coaching behaviours do high-performance athletes perceive as contributing to satisfying their needs to experience feelings of competence, relatedness, and autonomy?
3. What coaching behaviours do high-performance athletes perceive as being neglecting of their needs to experience a sense of competence, relatedness, and autonomy?

Over the course of approximately seven months, the researcher embarked on a journey that involved identifying and securing engagement with a relevant case (i.e., a high-performance sports team), conducting extended interviews with each participant, and attending formal team gatherings (i.e., team meetings, practices, games) to record observations of the team environment. Interview data were analysed through an interpretative phenomenological framework, which led to the identification of themes that encapsulated coaching attitudes and behaviours and their potential to either support or neglect the satisfaction of the athletes' basic psychological needs. The researcher's observation interpretations of how things operated in relation to such matters within the team context added an additional layer and richness to the findings overall.

9.2 SUMMARY OF FINDINGS AND CONTRIBUTIONS

The study has the potential to contribute to the literature in several ways. Firstly, no previous study has pursued local high-performance athletes' perceptions of basic psychological needs and the importance to them of the satisfaction of such needs, as well as their perceptions of their coaches' contributions in that direction. The findings have provided informed insights likely to be of benefit to coaches (and other leadership personnel) operating within similar high-performance settings. Furthermore, the context within which the selected case operated encompassed many challenges that are common to similar sporting environments (such as limited funding; a semi-professional

environment; a wide range in ages/abilities) and such commonality enhances the likely transferability of the findings.

Contribution to Method. It has been suggested (Ridder, 2017) that case studies as a research method are generally identified as being exploratory in nature. The current study, however, extended into pursuing findings from the case context through an interpretive dimension. A somewhat novel approach was employed that utilised a case study design with interpretative phenomenological analysis (IPA) as the framework through which data-analysis was executed. Tracy (2010) highlighted that new approaches to, for instance, data-analysis and presentation, can provide methodological significance to the literature. The employed approach may provide a platform for future studies pursuing an understanding of a specific case while simultaneously interpreting individual lived experiences. Moreover, presenting case study results in a way that combines IPA data-analysis with observational interpretations may be a useful approach for providing a rich understanding of phenomena and could be used in future studies pursuing such understandings.

Contribution to Theory. Although this study involved a case study with a relatively small number of participants, the depth of the study undertaken provides what are believed to be meaningful findings with a focus on basic psychological needs. The results support previous work that suggests that the identified basic psychological needs may have universal significance, and this view certainly seems evident through the apparent relevance to a female high-performance sporting team located here in New Zealand. Furthermore, as has been highlighted within earlier chapters, there have been conflicting findings in the past regarding the relative importance of each psychological need (e.g., relatedness playing a more distal role in influencing psychological outcomes than competence and autonomy). Whilst the current study did not pursue measured

conclusions in that regard, findings highlighted that, in actuality, all three needs appeared to play similarly important roles in influencing the participants' experiences, and that coaches' behaviours were key influencers in that respect.

Findings also revealed further insights into the symbiotic nature of the distinctive psychological needs; for instance, when a coach neglected an athlete's sense of relatedness, there seemed also to be effects on their self-perceived competence and autonomy. However, when needs were individually and collectively nurtured, it appeared that athletes experienced feelings of competence, connection with others (relatedness), and a degree of autonomy within their team environment that enabled them to operate and compete with a sense of overall self-determination. As such, and made possible by the observation and interview data, the study provides behavioural, thematic, and practical considerations concerning the importance of striving to nurture all three of athletes' basic psychological needs.

Ultimately, these findings are offered, and readers are encouraged to strongly consider their applicability to their own sport environments and work with high-performance athletes. For quick reference and simplicity, listed below are a concise summary of the key findings of the research study that have a high degree of relevance to both researchers as well as individuals working in applied roles within high-performance sport environments:

Athlete's Perceptions of the Importance of Basic Psychological Need Satisfaction:

1. There was total consensus amongst the participants that satisfaction of all three needs was important to experience within their high-performance sporting context, reinforcing the suggested universal nature of the needs outlined in basic psychological needs theory.

2. It appeared that need satisfaction had a positive impact on the overall experience of the participants (e.g., enjoyment, worthwhileness) as well as on their performance.
3. An interesting and somewhat novel finding was that the participants had a strong desire to feel autonomous/self-determined in particular during competition, and many in fact conveyed that they did. Accordingly, similar-level coaches are encouraged to employ strategies that support their athletes feeling self-determined during actual competition, in addition to within training settings.

Overall Perceptions of Coaches' Contributions to Basic Psychological Need Satisfaction:

4. Athletes' perceptions of coaches' personal qualities (i.e., abilities, attitudes, caring, trust) were important in regard to determining the need-satisfying effectiveness of demonstrated behaviours.
5. Athletes' interpretations of the coaching behaviours were more important than the behaviours themselves, with this captured clearly when an athlete stated: *"Is the coach providing me with freedom because it's good for me, because they don't like me, or because they don't know what they're talking about?"*
6. Whilst, within the literature, particular coaching behaviours have often been labelled as need-supportive or controlling, it is an athlete's interpretation of coach attitudes and behaviours that will ultimately determine the nature of the contributions and their effects. For instance, providing an athlete with a degree of freedom was only perceived of as autonomy-supportive if that athlete preferred such freedom, otherwise there is risk that it might be perceived of as neglect or indifference. Similarly, a coach providing direct instructions was still viewed by some as being autonomy-supportive if the athlete held adequate trust in the coach.

Therefore, truly satisfying an athlete's needs appeared to be much more complex than merely enacting behaviours typically identified and labelled as being need-supportive.

Athletes' Perceptions of Coaches' Need-supportive Behaviours:

7. Consistent with previous findings, it appeared that employed coaching behaviours would inevitably impact on more than one psychological need. For instance, a behaviour that supported one's sense of autonomy was also likely to nurture feelings of relatedness.
8. The identified coaching behaviours were consolidated into the following themes that coaches are encouraged to be cognisant of and devote time and energy to developing a sense of for their athletes: Preparation; Support; Athlete ownership; Co-orientation and complementarity; Competition freedom.

Athletes' Perceptions of Coaches' Need-neglecting Behaviours

9. Similarly, as with need-supportive behaviours, participants' comments suggested that as a general rule the need-neglecting behaviours employed by coaches had an impact on more than one psychological need. As a case in point, when a coaching behaviour led to a challenged sense of competence, it was also likely to negatively affect an athlete's sense of connection with the respective coach and their sense of security in the team.
10. The myriad of identified coaching behaviours likely to be perceived of as need-neglecting were clustered together into three themes: Coach-athlete dissonance; Ineffective training environment; Ambiguous role and culture.

Observational Insights:

11. In the study, when considered overall, it appeared that two of the coaches (CY and CZ) typically nurtured the athletes' psychological needs through need-supportive coaching behaviours that were underpinned by a positive coach-athlete relationship and athletes' trust in their knowledge and motivations (i.e., genuine care).
12. In reality, the third and more senior coach (CX), seemed to employ very similar coaching behaviours yet, due to some athletes' doubts about technical capabilities and frustrations about providing excessive freedom (even if offered with the best of intentions), athletes often experienced this as being need-neglecting (i.e., feeling isolated and underprepared).
13. During observations, interactions and relationships between coaches and athletes appeared more collegial than hierarchical (a perception that was confirmed in a number of participant interviews). Such a view was a result of regular opportunities for athlete decision-making, coaches making suggestions rather than providing instructions, and discussions being problem-solving in nature.
14. In addition to providing structure, the coaches worked at creating a setting that offered a high degree of freedom with regard to *how* the athletes went about their training (i.e., specific focus areas, warm-up activities, scope for trial and error) and competing (i.e., game preparation, style of play). They also provided support regarding tactics and techniques, and, for many athletes, although not all, this nurtured a strong sense of autonomy and self-determination.

9.3 CHALLENGES OF THE RESEARCH

As with all studies, the researcher was confronted with various challenges that needed to be navigated effectively to maintain a sense of optimism, the study's progression, and, above all else, academic rigour. Perhaps the most significant challenge proved to be the qualitative and interpretivist nature of the study that was even more time consuming and scope spanning than had been initially anticipated. As a researcher, considering one's *a priori* knowledge is important. A level of prior knowledge is what actually allows meaningful research to be conducted; however, it is important that one does not allow such knowledge to inaptly skew the research. From time to time, the researcher called upon the participants to reflect on records and interpretations, and this became an important part of reflexivity and maintaining trustworthiness and credibility. Also, the research involved intermittently asking athletes informally as to how they interpreted a specific coaching behaviour and this often substantiated, or unsubstantiated an initial interpretation. The research aim throughout was to elicit participants' interpretations of how things played out within the case environment rather than assuming any researcher objectivity in that regard.

In a similar manner to the researcher engaging with participants, the research supervisors were also an important element of the study, acting as critical colleagues by way of asking insightful questions and providing many astute and thought-provoking comments throughout. For instance, from time to time, a supervisor would challenge an interpretation of a particular coaching behaviour that was reported as being need-supportive or need-neglecting, which encouraged further reflection of the grounds in which the researcher had made the interpretation.

The researcher was vigilant about resisting being drawn in to the 'team' and moving outside of his role as 'observer'. The researcher's own varied background and roles in the

sport domain, if not suitably managed could have influenced the environment and undermined his role as a researcher. A boundary shift from being an observer/researcher towards becoming like a participant was a potential risk throughout that needed to be managed.

Another significant challenge was capturing relevant data during observation periods. Given the nature of the sport in which the study was carried out, training sessions often involved significant time being allocated to small-group drills/activities that made the capturing of data difficult. The study design also required an extensive time commitment extending over approximately seven months. The types of data-collection employed also meant many long days completing regular work demands, attending team sessions, and meeting commitments with a young family at home. There were times when this became complicated and very demanding, but overall it was accomplished (assisted by the support of others) such that nothing was seriously compromised.

9.4 LIMITATIONS OF THE STUDY

All methods of research have inherent strengths and weaknesses. With that said, given the nature of the study's objectives it was decided that an in-depth exploration of a single case was an appropriate approach to employ. It was considered that such a method would potentially contribute more meaningful findings than a cross-sectional quantitative approach that would lack the depth deemed as desirable for meeting the particular research objectives. The logistics of conducting the study also prevented being able to work with a comparative group; however, this could become an initiative for subsequent collegial research undertakings.

Being a single case study, the investigation inevitably lacks ready transferability of the findings. It is important to acknowledge also that the case concerned involved

particular characteristics, with these being high-performance athletes, in a specific sport, in a team context, and encompassing a single gender. To some extent such constraints could be countered somewhat by the notion that the central variables of attention, basic psychological needs, are regarded as being universal in nature (Mageau & Vallerand, 2003). That said, however, the ways through which such needs might be satisfied or not can depend on certain characteristics, such as sport level and gender (Ryan & Deci, 2000b). Considered overall, therefore, the findings may have less direct relevance to coaches who operate within contexts other than that of a high-performance female sports team. However, that said, it is believed that the current findings have sufficient generalisability to help deepen the understanding of how athletes are likely to interpret and respond to various coaching behaviours with respect to satisfying basic psychological needs. Beyond that, there is scope for research initiatives that might address variations of the particular characteristics that defined the case studied here, with gender and sport levels being of particular significance.

Another distinctive characteristic of the case was that it involved a team sport. However, many aspects of the sport concerned involved independent contributions by the athletes, and this influenced to some degree how the coaches structured the environment and interacted with the athletes, both individually and collectively. That being the case, there is a chance that some of the findings will have greater relevance to team sports that have a high degree of individual and independent skill execution (like baseball) rather than those that have a more collective orientation (like football). However, the uniform dynamics of athlete basic psychological needs and the impact of coaching attitudes and behaviours in regard to their satisfaction seem likely to neutralise to a degree such distinctions and thereby enable the findings to have some relevance across the board.

The study relied on qualitative methods and as such prevented establishing causal relationships and, therefore, findings should be interpreted with that recognition. As such, there are particular questions that could be asked of the findings determined. For instance, were some participants' interpretations of coaching behaviours influenced by their, at the time, existing level of need-satisfaction? Perhaps, for some, a satisfied sense of competence might have acted as a buffer to coaching behaviours that could otherwise have been perceived as need-neglecting, or, for others a deprived sense of relatedness may have affected how intended need-supportive coaching behaviours were interpreted. As was reported within the dissertation, it appears that there were flow-on effects of elements (e.g., perceptions of a coach's expertise influencing interpretations of their coaching behaviours). Whilst there would inevitably be causal factors operating in regard to perceptions concerning the needs/behaviours equation, determining exact causal links was not possible within the study design.

Self-determination theory was selected as the framework for the study. It was chosen due to (1) general acceptance of the theory as being a valid and effective lens through which we can consider sport involvement and motivation, (2) the relevance of basic psychological needs theory to understanding individual experience, including within a sport context, and (3) the researcher's own interest in what is regarded as a theory of note. Whilst it was believed that such a theory would provide an appropriate and meaningful framework within which to conduct the study and analyse the data, it is equally likely that other theories, for instance Jowett's (2006) 3+1 C's model, could have also been a meaningful framework within which to conduct the research. Inevitably the theoretical framework selected would result in its distinctive slant on both what was attended to and determined, but that is a feature of research that is theory channelled. It is the synthesis

of various theoretical perspectives that helps to build a more accurate picture of the elements that make up a case like the one studied here.

Finally, it has been argued (e.g., Smith & Osborn, 2003; Winter & Collins, 2015) that conducting interpretative research is, somewhat ironically, dependent on but made complicated by researchers' *a priori* knowledge. For instance, in all likelihood, here the researcher's understandings of the literature and the theories drawn on for the research design and operations, his experience of his own basic psychological needs and their satisfaction or lack thereof, and his exposure over time to need-supportive and need-neglecting coaching behaviours, had an influence on how he might have interpreted and made sense of (1) the participants' accounts, and (2) what occurred within the team environment. As is required, however, attempts were made to minimise the effects of such potential influencers. As highlighted earlier, member reflections of their data and its analysis were utilised to enhance the likelihood that the material was representative of the participants' realities. Furthermore, periodic supervisor queries in regard to data and its interpretation were discussed and reflected on in an attempt to maintain objectivity and to heighten the prospect that the interpretations being made were data drawn rather than being from the researcher's personal views.

9.5 RECOMMENDATIONS FOR FUTURE RESEARCH

Studies exploring variations in gender, age and performance levels in regard to how coaching behaviours are valued, experienced and perceived concerning satisfying basic psychological needs would be helpful in extending our understanding of such matters. Additionally, exploring cultural variance may also reveal unique interpretations of coaching behaviours that could be helpful, particularly for individuals operating within teams incorporating such diversity (often the case within New Zealand sports). Whilst research involving comparative designs would be desirable, the field could also look to

further pursue particular cases in depth as they could provide a fuller understanding of varied cases that can then be compared with others (Hodge & Smith, 2014).

An additional area for the field to consider is targeting the identification of conditions that most likely allow for an autonomy-supportive coaching approach to be successful. Individuals have unique preferences in regard to how they experience coaching behaviours, and also interpret such behaviours in individualised ways based on complex variables. Therefore, understanding the antecedents of an autonomy-supportive coaching approach that is uniformly satisfying and successful would be enlightening. Whilst the current study has identified some likely components of this (e.g., trust in a coach's expertise, coach attitudes underlying behaviours, and a balance of structure and independence), continuing to explore such elements will be important.

9.6 FINAL COMMENTS

The current study, whilst challenging to undertake, was extremely satisfying to conduct and the researcher hopes that it will contribute to the quality research being conducted in the fields of coaching and sport psychology, and, ultimately, enhance applied coaching practices. Sport provides its participants with unique opportunities to, amongst other things, grow and develop, connect with others, and be self-expressive. By its very nature, sport can challenge feelings of competence, connection and self-determination, and, therefore, it is important to continue to improve our understanding of how individuals' basic psychological needs can be supported and satisfied within that intense environment.

This increase in understanding is particularly pertinent within high-performance environments where the pressures on delivering quality performances are intense and can only be handled reliably and consistently through experiencing satisfactory levels of competence, relatedness and autonomy, with this relating to both athletes and coaches

alike. Given the role of the coach and the significance of the potential impact that this role has on athletes' experiences and actions, arming such individuals with enhanced knowledge, awareness and sensitivity to athletes' psychological needs and their preferences concerning coaching behaviours will have a meaningful impact on the lives and performances of athletes. As well it will likely have a similar impact on the sense of satisfaction experienced by coaches as they too will have their basic psychological needs met through such endeavours.

Once again, the researcher would like to thank his family for their love, patience and support during the research, his supervisors for their knowledge and guidance, and the participants of the study for their kindness, openness, and the notable contribution they have made to enhance knowledge in the fields of sport coaching and sport psychology.

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APPENDICES

APPENDIX 1

ETHICS APPROVAL



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA

27 July 2015

Mr Warrick Wood
School of Sport & Exercise
ALBANY

Dear Warrick

Re: HEC: Southern A Application – 15/33
Perceptions of coaching behaviour: An investigation of athlete needs satisfaction

Thank you for your letter dated 27 July 2015.

On behalf of the Massey University Human Ethics Committee: Southern A I am pleased to advise you that the ethics of your application are now approved. Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

Mr Jeremy Hubbard, Chair
Massey University Human Ethics Committee: Southern A

cc Prof Gary Hermansson
School of Sport & Exercise
PN621

Dr Andrew Foskett
School of Sport & Exercise
PN621

APPENDIX 2

STUDY INFORMATION SHEET

The research team would like to invite you to take part in this study that examines athletes' and coaches' perceptions of coaching behaviours that support or undermine important athlete needs. Please read this Information Sheet carefully prior to deciding whether or not to take part in the study.

Introduction

My name is Warrick Wood and I am a Lecturer in the field of sport psychology at Massey University (Albany campus) within the School of Sport and Exercise. I am conducting research towards my PhD, and I am working with two Massey University supervisors, namely; Professor Gary Hermansson (Palmerston North) and Senior Lecturer Dr Andrew Foskett (Albany).

Why is this research important?

Elite sport is a complex environment that places considerable stress and pressure on athletes to perform. A critical factor determining the quality of athletes' development and performance is the behaviour of the coach, and coaching staff, and the evolving relationship between the coach(es) and athletes. This study will look to gain an understanding of athletes' perceptions of coaching behaviours in relation to important athlete needs for competence, relatedness, and autonomy. Prior research suggests that the satisfaction of these needs has a significant influence on athlete motivation, well-being, and performance, and this research seeks to examine the coach(es) contributions to such need satisfaction.

What the research will involve

As researcher, I will be involved to some degree with your team environment. The role will be to discretely observe and reflect on the behaviours of the coaching staff throughout a campaign involving training sessions, team meetings and competition. Data will be collected during the observations and also by conducting interviews with both coaching staff and athletes to gain an understanding of perceptions of the various coaching behaviours, and also insight into the coaching staff's rationale for employing such behaviours. Data collection, analysis and conclusions drawn will be handled with utmost respect, will be shared as appropriate and will follow ethical principles of confidentiality and the maintenance of personal integrity.

What are the likely benefits of being involved?

The organisation and coaching staff will acquire a detailed understanding of the effects of various coaching behaviours and how athletes perceive such behaviour in promoting or undermining the satisfaction of needs. Such insight will foster a greater understanding of the coach-athlete dynamic and, subsequently, provide scope for adapting coaching approaches as necessary to ensure that relevant athlete needs are being sufficiently met. As well, it is anticipated that the study will help advance knowledge in the domain of coaching and thereby add to the quality of coaching in various sports at all levels.

What is going to happen?

Taking part in this study will involve undertaking two interviews (one early in the season, and one towards the end of the season) of around 30-90mins duration. You will be asked open-ended questions regarding your perceptions of coaching behaviours and how your coach supports specific needs. Participation will also involve being observed over a determined period (involving trainings, games, team meetings, etc.). The majority of the attention within the observations will be directed towards coaching behaviours; however, at times athlete behaviour/interactions will also be observed. Additionally, photos/video may be recorded from time to time to add depth to descriptions of the team environment; however, if published, any identifiable features (e.g., names, faces, numbers, etc.) in photos will be blurred to maintain confidentiality. Any video recorded will be solely used for collecting and verifying observational data and will not be made available to anyone outside of the research team.

Risks/Discomfort

Although you will not be identified by name at any stage in the research, there may be potential for you to be identified by readers of the research with a close connection to your sport. There is also the potential that you may experience some tension during the interview process, given that you will be asked to express your personal opinions. If that becomes overly uncomfortable, you may withdraw from participating in the interview(s) at any time.

If, at any point, you would like to speak to someone outside the research regarding your experiences then you would have access to the following: Auckland Therapy – Counselling & Psychotherapy (0800 611 116), and Auckland Counselling Network (09 630 3030).

Confidentiality

All data collected will be used solely for this study, but has the possibility of being presented in scholarly publications and at conferences. All personal information will be kept confidential by assigning numbers to each participant (e.g., A1). No names will be visible on any papers on which you provide information and, as mentioned above, identifiable features in photos will be blurred. All data/information will be dealt with confidentially and will be stored in a secure location for five years on the Massey University Albany Campus. After this time it will be disposed of by an appropriate staff member from the School of Sport and Exercise.

Participant's Rights

You are under no obligation to accept this invitation. The decision to participate in this study will not in any way affect your current or future relationship with any of the researchers or the team/club to which you represent. Should you choose to participate, you have the right to:

- Withdraw from the study at any time up until your approval of the transcript following the data collection,
- Ask any questions about the study at any time during your participation,
- Request that the researcher withdraws from any team meeting or activity at any time and/or cease audio/video recording.
- Have your identity remain unconnected to all interview responses and researcher observations throughout the entire project, including in the documentation of the report,

- Review the results of the study (which the researcher will provide to you in summary form via email at the conclusion of the study).

Project Contacts

If you have any questions regarding this study, please do not hesitate to contact any of the following people for assistance:

Researcher: **Mr. Warrick Wood**, School of Sport and Exercise, Massey University
(09) 213 6663
w.wood@massey.ac.nz

Supervisor: **Professor Gary Hermansson**, School of Sport and Exercise, Massey University
0212466689
g.l.hermansson@massey.ac.nz

Supervisor: **Dr Andrew Foskett**, School of Sport and Exercise, Massey University
(09) 414-0800 ext. 41104
a.foskett@massey.ac.nz

Committee Approval Statement

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern A, Application 15/33. If you have any concerns about the conduct of this research, please contact Mr Jeremy Hubbard, Acting Chair, Massey University Human Ethics Committee: Southern A, telephone 04 801 5799 x 63487, email humanethicsoutha@massey.ac.nz.

APPENDIX 3

CONSENT FORM - ATHLETE

*Perceptions of Coaching Behaviour: An Investigation of Athlete Needs Satisfaction
Research Project*

This signed consent form, as required, will be held for a minimum of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I understand that I have the right to withdraw from having a direct presence in the study or withhold my individual contributions at any time, up until I approve the interview transcript following data collection, and/or to refuse to answer any questions if I experience discomfort in any way.

I agree to participate in the research on the understanding that my name will not be used without my permission (the information will be used only for this research project and publications/presentations arising from it). However, I understand that there is some potential that I may be identified by readers of the research who may have close involvement with the Sport/Team.

I agree to participate in the following activities, under the conditions set out in the Information Sheet: (Note: recordings/photos will only be used for purposes of reviewing, analysing and presenting the research findings, unless express permission is requested of and provided by me, and any identifiable features will be blurred).

I agree for the researcher, as appropriate within the research process, to:

YES NO

 Observe and audio/video/photographically record me

 Undertake periodic interviews with me

Signature: _____ **Date:** _____

Full Name (printed): _____

Email address (so that the researcher can send you a summary of the project's findings):

APPENDIX 4

CONSENT FORM - COACH

*Perceptions of Coaching Behaviour: An Investigation of Athlete Needs Satisfaction
Research Project*

This signed consent form, as required, will be held for a minimum of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I understand that I have the right to withdraw from having a direct presence in the study or withhold my individual contributions at any time, up until I approve the interview transcript following data collection, and/or to refuse to answer any questions if I experience discomfort in any way.

I agree to participate in the research on the understanding that my name will not be used without my permission (the information will be used only for this research project and publications/presentations arising from it). However, I understand that there is some potential that I may be identified by readers of the research who may have close involvement with the Sport/Team.

I agree to participate in the following activities, under the conditions set out in the Information Sheet: (Note: recordings/photos will only be used for purposes of reviewing, analysing and presenting the research findings, unless express permission is requested of and provided by me, and any identifiable features will be blurred)

I agree for the researcher, as appropriate within the research process, to:

YES NO

 Observe and audio/video/photographically record me

 Undertake periodic interviews with me

Signature: _____

Date: _____

Full Name (printed):

Email address (so that the researcher can send you a summary of the project's findings):

APPENDIX 5

INTERVIEW SCRIPT ONE

1. Firstly, tell me about your position on this team and the key elements that make up your role (e.g., position, seasons in team, etc.).
 - a. How long have you been part of this team?
 - b. What makes up your role in the team?

In the next few questions I am going to ask you about the roles your coaches play in your sense of competence – (i.e., the belief that you have the necessary ability and can perform successfully for the team)

2. How important is it to you that you feel a sense of competence?
 - a. Why is this important to you?
3. In what ways do your coaches engage with you to make you feel such competence?
4. Do your coaches' behaviours ever make you question your competence?
 - a. What are some examples of such behaviours?

The next couple of questions deal with relationships, both between you and your coaches, and you and your teammates (with this focussing on feelings of connectedness)

5. Is it important that you have a close relationship with your coaches?
 - a. Why is a close relationship with your coaches important to you?
6. What do your coaches do to help you feel closely connected with her/him?
7. Do your coaches ever behave in a way that undermines that connection?
 - a. What are some examples of such behaviours?
8. Is it important to you that you feel positively connected with your teammates?
 - a. Why is it important that you have a positive connection with your teammates?

9. Do your coaches have any influence on your sense of connectedness with your teammates?
 - a. What coaching behaviours do they engage in that help you feel a sense of connectedness with your teammates?
 - b. What coaching behaviours do they engage in that detract from that sense of connectedness with your teammates?
-

The final questions will relate to the degree of self-regulation and decision-making you experience and the influence you are allowed to have within the team (this being captured here by the term autonomy)

10. Do you feel that experiencing such autonomy is important?
 - a. Why is experiencing autonomy important to you?
 - b. Do you feel you experience a sufficient degree of autonomy in the team?
 11. What do your coaches do that encourages such autonomy in the team?
 12. Do the coaches ever restrict you from experiencing a sufficient level of autonomy in this team?
 - a. What are some examples of behaviours that lead to a lack of autonomy being experienced?
-

13. Is there anything else you would like to add related to what we have talked about today?

APPENDIX 6

INTERVIEW SCRIPT TWO

1. Looking back on the season, tell me about the level of satisfaction you experienced.

In the next few questions I am going to ask you about the roles your coaches play in your competence levels – (i.e., the belief that you have the necessary ability and can perform successfully for the team)

2. Compared to early in the season, how do you rate your competence levels?
3. Throughout the season, did your coaches have any influence on your perceived competence (and how it evolved)?
 - a. Can you tell me about any coaching behaviours that helped maintain, or enhanced, your levels of competence?
 - b. Were there any instances throughout the season where your coaches negatively impacted your perceived competence?
 - If so, which coaching behaviours had such an effect?

The next couple of questions deal with relationships, both between you and your coaches, and you and your teammates (with this focussing on feelings of connectedness)

4. Can you describe the relationships that you had with your coaches this year?
 - a. How did those relationships change/evolve throughout the season?
 - b. How have your relationships with your coaches affected you?
 - c. If applicable, describe how the coaches made you feel closely connected with them?
 - d. Did your coaches ever behave in ways that made you question that connection?
 - If so, what are examples of such behaviours?
5. Describe the team culture within the team this season, particularly amongst the athletes.
 - a. Do you believe your coaches contributed to this in any way (i.e., positively or negatively)?

- Which coaching behaviours do you believe supported a positive connection amongst teammates?
- b. Were there any times that the coaches disrupted the level of cohesion?
- What are examples of such behaviour?

The final questions will relate to the degree of self-regulation and decision-making you experience and the influence you are allowed to have within the team (this being captured here by the term autonomy)

6. Tell me about the various decisions that you were able to make this season during trainings
7. Describe the autonomy that you experienced during competition
8. Were there any other ways that the coaches provided flexibility in regard to practice, competition, and any off-field matters, throughout the season.
9. Overall, would you liked to have experienced more or less freedom throughout the season?
 - a. If you would have liked to have experienced more, in what areas do you think the coaches could have provided opportunities for a greater sense of choice/freedom?
 - b. If less, why is that?
10. Were there any particular instances throughout the season where coaching behaviours provided you with a degree of autonomy that you did not appreciate or enjoy?
 - a. If so, describe such behaviours.
11. Even if, ideally, you would have liked to have experienced less freedom overall, were there any areas where you wish you had more input?

-
12. Is there anything else you would like to add related to what we have talked about today?

APPENDIX 7

INTERVIEW DATA ANALYSIS SAMPLE

Please note: Terminology or excerpts that could potentially identify the sport and/or team have been removed and replaced with more generic terms or (****).

Initial Notes	Interview Script	Potential Themes
	<p>1. Looking back on the season, tell me about the level of satisfaction you experienced.</p>	
Happy Disappointed Improvement Demons	<p><i>Ahhh... I was happy but disappointed at my own performance. Obviously the team performance was what we expected, not the (****) but the (*****) we excelled at. I obviously got better during the year which was cool... I had a few demons to contend with inside of sport, but that's like a whole other issue. But no, as a team we did okay... and when we finally got ourselves sorted, especially after the team meeting we had, I think everyone said at the beginning "we should have done this earlier" because people have their own opinions and talk to some people about it, but they don't realise that others are saying the same thing, so it was good to get everything out and have your say and have their own views and you can talk it out but not take things personally. That's the biggest thing I think sometimes, especially women ... because we're sensitive or something [laughter] will take things to heart where sometimes you just need to be like "this is it" and then let it go. I think it's something to keep in the back of our minds like before the season starts, you know, like "what are we going to do?" because that way people can say "last season it was like this, this season I like this", and go from there rather than leaving it up to [senior athletes] or whoever is coaching or whoever it is to make something up or just go with it and everybody feels like they've had their say.</i></p> <p>a. Okay and you mentioned that you were happy and disappointed?</p> <p><i>Yeah... so I didn't get as many [stats] as I wanted... I was very frustrated with that, and had a big dilemma with myself because sometimes I go searching for (****) and that's obviously when I [perform] erratically because I'm trying too hard. So had to really force myself not to do that, but also settle for [not getting the statistics], like I had a lot of chances missed... and that's fine, it's the nature of the game, but then it was hard to hear "well you didn't get enough [stats], so you can't be considered a [position]", because it's like... well it's not my fault if people don't [execute]. If they had watched the games like they said they did, they would've seen that. But, hindsight is great. That's why for the last rounds I really just</i></p>	Satisfied
Transparency		Growth
Sensitive		Honesty
Direction		
Input		Contribution
Dilemma Searching		Frustration
		Frustration Identity
Not my fault		Prove oneself

<p>Satisfy Challenge</p>	<p>wanted to prove, not just to (National body), but also to myself that I was at that level, and I am ready, and have done all the work and it was to satisfy myself and to say I've put all this work in and this is the reward for yourself, rather than making it for something else... very hard.</p>	
	<p><i>In the next few questions I am going to ask you about the role your coach plays in your competence levels – (i.e., the belief that you have the necessary ability and can perform successfully for the team)</i></p>	
	<p>2. Compared to early in the season, describe your competence levels?</p>	
<p>Searching Latching on</p>	<p><i>Ummm... I think at the beginning I was searching a bit in terms of finding out what I wanted to do, ummm... whereas now it's... I don't know how to explain it... at the beginning I was kind of latching on to everything and anything to help me feel like I was under control and I could do this or that...</i></p>	<p>Lost</p>
	<p><i>whereas near the end of the season I tried to keep it really simple, which I guess that's where I'm going with that... I don't really know. At the beginning of the season I felt competent because of what drills we were doing, like we were doing (activity), and I felt like I could comfortably do it, but when we got to playing it turned out that it wasn't what I needed to do... but because we'd been doing it, I felt like I needed to keep doing it, and maybe that's why I didn't get as many [stats] or whatever the reason was, but through the season I was like "what worked in the past? And that was just</i></p>	<p>Control Out of control</p>
<p>Unsure Reflection</p>	<p><i>(****) it up and letting (****) do the work and so obviously over time I managed to do that and then just a slight alteration to [action] which I was told in (city) and that brought it all together. Then at the end of the season it all just came together.</i></p>	<p>Competent</p>
<p>Simple Success</p>		<p>Adaptable</p>
	<p>a. So how did the season finish?</p>	
<p>Awareness Reflection</p>	<p><i>Better, yeah... definitely I feel like I should keep playing. Everything clicked and I just felt like I knew my game so much better, and in the final I (changed things) so brought it back again and just that little change, then everything started to happen, and I guess that was purely because of that competence... you know... I was like "oh I just need to bring it (****)", and there we go. [captain] was really good with it as well, she was like "just do (technical advice) so that was cool... that was good, and it felt like I could just do it.</i></p>	<p>Control</p>
<p>Support</p>		<p>Competent Control</p>
	<p>3. Throughout the season, did your coach(s) have any influence on your perceived competence (and how it evolved)?</p>	<p>Self-belief</p>
<p>Support</p>	<p><i>[coach] was really good. I don't know if he worked me out pretty quickly or just understood where I was coming from but I felt like I could talk to him about something and he understood exactly what I was saying... you know I didn't</i></p>	<p>Felt understood</p>

<p>Guidance Coach cared Prepared</p>	<p><i>have to explain myself or go any further into it... I'd just say "this is what's happening" and he'd go "right, this is what you do", and when I first started, the best thing he said was "we're going to get you back into the New Zealand team", and from there I just felt like he cared. We've had coaches before who've just breezed in and breezed out, whereas he was coming to trainings and he had things we were going to work on and if you had problems I'd be like "I can't get (****), I don't know what's going on", and he'd just be like "keep it simple, keep focusing on (technique)", and everyone says that to you, but he's been there, done that... and that has a bit more bearing on it...</i></p>	<p>Felt supported Trust in coach</p>
<p>Reinforcement Grounded</p>	<p>a. So because you know he'd been through it himself?</p> <p><i>Yeah and I think he worked out pretty quickly that I'm too hard on myself first and foremost... he said "(****) are going to come", and he told me that I can't beat myself up over that and I guess he was really good at keeping me at a grounded level just saying "keep doing what you're doing, keep it simple"... and we went from there.</i></p>	<p>Felt understood Stable</p>
<p>Grounded Reinforcement Coach expertise</p>	<p>b. And so what was that like?</p> <p><i>Well I think it made me... how do I word it... it kept me grounded... there weren't any highs or any lows, he kept saying "just keep doing what you're doing" and it built that trust and towards the end of the season I started achieving (***) and he told me "I told you that you were going to (****), it just takes time", and in terms of my competency, I guess I just trusted that he knew what he was talking about and that if I just did what he said, it'd all work out.</i></p>	<p>Stable Trust Trust</p>
<p>Improvement Mental challenge</p>	<p>c. Okay how else would you describe your competence?</p> <p><i>Ummm, my (****) was a lot better this year... [coach] didn't work a hell-of-a-lot, maybe I was meant to. It was actually my club coach who worked with me most on my batting. He kind of just simplified it all for me really and made it really positive. (****) is all mental for me. I can play do the skills... basically... so it's about converting it into games. A couple of good (****) at club level meant that the first national game that I played in, made it feel so much easier, because I know what to do with this.</i></p>	<p>Growth Positive Trust in self</p>
<p>Coach awareness</p>	<p>d. Can you tell me about any coaching behaviours that helped maintain, or enhanced, your levels of competence?</p> <p><i>Not really, like I said, [coach] kind of worked out how to talk to me early on and I think that meant that I had that buy-in from day one where he didn't really need to earn my trust or whatever, it was like I knew what he was saying... and felt so much better knowing I had someone who had my back.</i></p>	<p>Felt understood Trust Felt supported</p>

<p>“Don’t let much affect me”</p>	<p>e. Were there any instances throughout the season where your coach(s) negatively impacted your perceived competence?</p> <p><i>No, I mean I don’t know if they said anything and I didn’t hear it but I don’t really let much affect me, and if someone says something it’s like “okay, that’s your opinion”, so if there was anything I can’t remember it... ummm... I guess there were a few things that I think could have been done differently, but it didn’t really affect me. Like in terms of selection... didn’t question my competency, but I was brought into it just to talk to someone... but nothing that affected me.</i></p> <p>The next couple of questions deal with relationships, both between you and your coach(s), and you and your teammates (with this focussing on feelings of connectedness)</p> <p>4. Can you describe the relationship(s) that you had with your coach(s) this year?</p>	<p>Stable</p>
<p>Satisfied More support Unaware Should’ve asked</p>	<p><i>[coach] was awesome obviously... [coach] was good, she left me to my own devices which was kind of good... well good in a way, but early on in the season when [coach] wasn’t there I wanted some direction, but I guess that was up to me to say it, but I didn’t really know it at the time... looking back it’s like I should’ve asked or whatever.</i></p>	<p>Freedom Lack direction</p>
<p>“Not doing my job” Reinforcement</p>	<p>a. Can you tell me more about that?</p> <p><i>Well it was a case of... like not [having success] really does my head in as a (position), so when I don’t get wickets I don’t feel like I’m doing my job, and although [coach] says to me “you’re doing awesome”, I’m like “yeah, but I’m not getting (***)” and I probably should have asked for other things to focus on so I wasn’t just focusing on an outcome, but like I said it’s things you don’t realise until after the fact.</i></p>	<p>Frustration Unaware</p>
<p>Disconnect Decision-making Decision-making</p>	<p>b. And can you describe the relationship that you had with that coach?</p> <p><i>Yep, it was good. [coach] and I have an understanding and we’re good. We... I think she understands me, I go to training to train, and I have specific things that I want to work on... sometimes it’s hard when she has an outcome but for me I know what I need... so I think it was really good towards the end of the season she brought in the whole “what do you want to do at trainings?” kind of thing, because for me all I want to do is (***) , I don’t want to do (***) , I don’t want to have to work on others areas, I just want to practice these skills and I got that opportunity to say “this is what I want to do”... because for me, all it is, is (***) and (***)... and that’s just from repetition... so that was really cool that that was brought in, and I think that helped with understanding each other. She knew what I wanted to do and then we could have a conversation as to why or whatever.</i></p>	<p>Felt understood Aware of own needs Freedom Collaboration</p>

<p>Positive relationship</p>	<p>c. And what impact did that have on your relationship?</p> <p><i>Well it meant that we weren't butting heads... if she wanted me to do this, but I didn't really want to do that... you know</i></p>	<p>Alignment</p>
<p>Playful Having a laugh</p>	<p>d. Yeah sure, how did those relationships change/evolve throughout the season?</p> <p><i>Well [coach] and I started taking the piss out of each other [laughter] which was funny... cause he would get involved and I'd be like "ohhhh that's no good" and I like being able to have a laugh with people, and I think [coach] got to that point as well...</i></p>	<p>Trust in coach</p>
<p>Relaxed coach Comfortable environment</p>	<p>e. So is that a reflection of something?</p> <p><i>Ummm, yeah I guess, also maybe her relaxing a bit... it would be stressful coaching us. We're quite strong minded people so it's probably quite daunting and I think once she relaxed people broke down their walls, so it got a little bit better.</i></p>	<p>Authentic</p>
<p>Player input</p>	<p>f. Anything else change?</p> <p><i>Well the players meeting helped... there was stuff said that isn't always nice, but at the same time it's like, well, it needed to be said, because it wasn't just a couple of people thinking it... so I guess that was pretty good allowing people to vent.</i></p>	<p>Honesty</p>
<p>Venting Transparency</p>	<p><i>And I think that meant people had the understanding and everybody kind of relaxed a bit.</i></p>	<p>Awareness</p>
<p>Coach awareness Lack of interaction</p>	<p>5. How have your relationships with your coach(s) affected you?</p> <p><i>Ummm, [coach] knew when to talk to me and when not to talk to me... but I think just being able to ask him questions if I wanted to, and if I didn't he didn't bother me a hell-of-a-lot which was cool... he did challenge me in the drills, telling me "I want you to (***)" and that was cool because sometimes you don't really think about it... and I didn't really have a lot to do with [coach] this year. In terms of tactics and strategy I probably spoke more with [captain], which is probably the way it should be anyway... but if I did have a question I could go ask her and no worries, and that was cool.</i></p>	<p>Challenged me Felt supported</p>
<p>Awareness of team needs</p>	<p>a. So in hindsight when you look back on the season, when you say you didn't have much to do with [coach]... is that a positive or a negative thing?</p> <p><i>I think positive... she's got 15 athletes to look after, so if you've got a few that don't need as much support, then something else is going well.</i></p> <p>b. So you were happy with what you got from that relationship?</p>	<p>Self-reliance</p>

<p>Discussions</p> <p>Technical feedback</p>	<p><i>Yeah, in terms of (****) I had [coach] and in terms of (skill)... I mean she would talk to me about my (****) and just about keeping it simple and if we were in the drills she might let me know if my head was coming up or whatever, but I don't think... I think it was good I didn't have to go to her because it meant that everything was going well and I'm not being a little pansy [laughter].</i></p>	<p>Support</p> <p>Self-reliance</p>
<p>Improvement</p> <p>Questioning Sounding board Coach suggestions</p>	<p>c. Alright and your relationship with [coach] was good to – you talked about him challenging you in the nets?</p> <p><i>I think, most importantly, he understood what I was trying to do and that made me feel like he had my back... I'd ask him something and he'd either go "what are you doing that for?" but it would also be "why have you done that?" so he was almost like a sounding board as well, like I'd suggest something and he'd ask questions about why I was doing it and give his opinion, but it never felt like I was wrong, it was just more along the lines of "this is what you should do" or "this is what I'd do", but then leave it up to you whether you did it or not... he was never like "this is what you have to do", it was more "this is what I'd do", or make a recommendation, he didn't force things on you. It was more collaborative. I don't really like being talked down to [laughter].</i></p>	<p>Felt understood</p> <p>Felt supported</p> <p>Ownership</p> <p>Collaboration</p>
<p>Instruction Disagreement</p> <p>No choice Negative frame of mind</p> <p>Undermined own training</p>	<p>d. Did your coach(s) ever behave in ways that made you question that connection?</p> <p><i>I guess the only thing that really ticked me off was a session where I asked not do a certain drill... I'd been doing it a lot with the conditions, and my (****) changes when I have to adapt to that... obviously into the (****) you've gotta push off a little harder, so I'd been doing a lot of it and our first game against [opposition] was coming up and I was a little worried about my positioning, so I was like "I need to stop (****), and do some (****) so I can get [more comfortable] and feeling good", but then [coach] was like "no, I need you to (****) as the (****) need to [practice that skill]", but I was like "I can't, I really don't want to", and she said "it could work better for you" but I replied with "I really can't, it's just not going to help me at all", and I kind of didn't feel like I had a choice as I was the only [position player] there at that stage, so I had to, which put me in a really negative frame of mind and I don't like that... so I guess that would be the only thing that actually annoyed me during the season cause it felt like I was there, just to give the [others] someone to [practice with] and it's like "hold on a second, you need me to [achieve] in the weekend, I need to do my own things too", so that was pretty much the only thing, but I got over it pretty quickly.</i></p> <p>6. Describe the team culture within the team this season, particularly amongst the athletes.</p> <p><i>Ummm... it was really good this year actually. There are always going to be the little groups that hang out with each</i></p>	<p>Frustration</p> <p>Doubt</p> <p>Disconnect</p> <p>Forced</p> <p>Undervalued</p>

<p>Came together</p> <p>Individual contribution</p>	<p><i>other more than others, and that's always going to happen, but I really felt that the team was... we kind of came together more than we have in the past. The last couple of years we've been really good but I thought this year, in terms of all the people coming in, like you know [athlete] got her nickname [laughter] and [athlete] and [athlete]... they all added so much to the team, it was never a case of us and them, it was just us... everybody had jokes and off the field it was awesome.</i></p>	<p>Sense of team</p>
<p>Slow evolution</p> <p>Transition Athlete driven</p>	<p>a. Did your coaches play roles in contributing to this in any way (i.e., positively or negatively)?</p> <p><i>Not really to be fair... I think the team itself, like our culture started three or four years ago, and I think it's kind of built from that. [manager] is kind of like the little heart and soul and rock, and that's why we're all so happy she's coming back, but I think because we've all stuck together and we've had so many different coaches, we've had to create this culture ourselves and not let anyone else influence it... obviously they can add to it, or help it, but I really think that our team as a whole creates the culture ourselves and others are just brought into it.</i></p>	<p>Sense of belonging</p> <p>Ownership</p>
<p>Lost our way</p> <p>Player contribution</p>	<p>b. Okay so the core group almost has its own culture that drives it?</p> <p><i>Yeah, and that the coach can add to and feed off, but in all honesty, I think that's the reason for the success of the team... we don't have a coach influencing us. At the beginning of the year, I think we lost our way a little bit, we were good, but on the field we were struggling a little. And that's probably where you'd assume a coach would step in, but, again, we had the players meeting, which should have happened earlier, but anyway, then everyone is like "oh, we're on the same page again, we're good". We're such good... we've got people like [athlete] and [athlete] and [athlete] that want to keep it the way it is, so they're always going to do something to try and maintain it.</i></p>	<p>Ownership of culture</p> <p>Sense of direction</p>
<p>Difficult decisions</p>	<p>c. Okay, so can you think of any instances where any of the coaches did influence the culture or team relationships in any way?</p> <p><i>Hmmm... I think some of the team selection was interesting... to be fair they're such hard decisions to make anyway. I think some people felt a little bit out of it, which is fair enough. It's really easy for me to say "just keep hanging in there" because I'm always going to play kind of thing. But I've been in their shoes and know what that feels like, but when you're in that frame of mind, you just see red really... and it didn't help. Poor [athlete] came up to me crying after not being selected and was like "what have I done wrong? I've done everything you want me to do", but I was just like "sometimes that's just [sport], you know?" It doesn't matter if you're playing well,</i></p>	<p>Strong sense of place in team</p>

<p>Clear and honest feedback</p>	<p><i>you can still be stood down and it's shit, but what are you gonna do about it, you know? It's really just about relaying that information to the players in a way that they'll understand. Every player is completely different, and what you need to say to them is completely different and I think that's the learning curve for everyone, of how to communicate better so you don't have those instances where you have people crying.</i></p>	<p>Individual (unique) needs</p>
<p>Inconsistent messages Need for clarity</p>	<p>d. So are you referring more to the coaches or the athletes giving feedback?</p> <p><i>Coaches, in regards to how the information is conveyed... which is what we talked about in that meeting. Ummm, but I guess it's about consistency, one week it might be one thing, and then the next week it's something different... and as the player you're thinking "how is that consistent?", but the people who are selecting the team are looking at what exactly they want and how it's all gonna fit together... obviously it's always going to be different but I think it's about how that message is relayed. I think some of the girls... like [athlete] didn't get a game, at all, until she got injured... and she should've played in [location] or [location]... you know. Get her on the field even if it's just for a (****) to get that first game out of the way. You're either gonna be nervous and play awesome, or completely ruin... and think you're shit... but it's out of the way and onwards and upwards. I think that's something we need to work on. That affected the team I think because [athlete] and [athlete] felt like they were [not valued], which is unfair, because that's not what they are, but I think that did create a little bit of animosity towards the coach, and then people in the team knew about that. But, again, in the team meeting, it was touched on, so... and it is a crap feeling, I've done it before and you feel like you're there as the token, which was why I was like "she needs to play", even if just a [unimportant game], just to get her on the field. Those are little things, and that's just my view.</i></p>	<p>Undervalued</p>
<p>Need to improve</p> <p>Disconnect in team</p>	<p>e. Okay, anything else?</p>	<p>Ownership</p>
<p>Decision-making</p>	<p><i>Well, obviously bringing in the whole "what do you want to work on?" was cool towards the end of the season, but what I think would've been cool at the beginning of the season would've been to tell us what we were going to do prior to training so we can ask "can I swap with this person as I want to work on this area" then everyone gets what they want" but we're also aware of what we're doing so we're not showing up to training like "what are we doing today?"... ummm... I guess in the winter, Tuesday was (****), Thursday was (****), or whatever, which was cool, you knew what you were doing, you could create goals, and I think if by doing that we can create a better culture by saying "why don't we pair up?" or knowing you want a rest day and doing some [skill] work with someone else who wants that, and communicating more so we all know what each other is doing. All of a sudden</i></p>	<p>Lack of clarity Clarity of purpose Ownership</p>
<p>Teamwork</p> <p>Communicate Awareness</p>	<p><i>Well, obviously bringing in the whole "what do you want to work on?" was cool towards the end of the season, but what I think would've been cool at the beginning of the season would've been to tell us what we were going to do prior to training so we can ask "can I swap with this person as I want to work on this area" then everyone gets what they want" but we're also aware of what we're doing so we're not showing up to training like "what are we doing today?"... ummm... I guess in the winter, Tuesday was (****), Thursday was (****), or whatever, which was cool, you knew what you were doing, you could create goals, and I think if by doing that we can create a better culture by saying "why don't we pair up?" or knowing you want a rest day and doing some [skill] work with someone else who wants that, and communicating more so we all know what each other is doing. All of a sudden</i></p>	<p>Working together</p>

	<p><i>you've got these lines of communication open... because I don't know what it's like now, but when I was in the [national team], we were told that on this day it would be a (****) session and be asked what we're working on and at the end we'd have debriefs about how it went. So the coaches know what you're working on and can check on things, you know, ask if you need help. And if they want me to take a more senior role with the (****) unit, then I'd know what they are working on... yeah, just my view.</i></p> <p>f. Alright, so greater communication beforehand which could make trainings, and coaching, more effective?</p> <p><i>Yeah, yeah.</i></p> <p><i>The final questions will relate to the degree of self-regulation and decision-making you experience and the influence you are allowed to have within the team (this being captured here by the term autonomy)</i></p> <p>7. Tell me about the various decisions that you were able to make this season during trainings</p> <p><i>Ummm... didn't really make too many until the end of the season to be honest... kind of turned up and did what I was told in terms of [focus]... I always knew what I was going to focus on, I guess that was always my own thing, but it was hard to know what to plan for the session because I didn't know what we were going to be doing... I didn't know if we were going to do target bowling or bowling at batters or whatever. So obviously depending on that, would depend on what you're focusing on, so I almost had to get there and have a few things in my head, and then go "okay, we're doing this, so I'll focus on that". Ummm... but in terms of training, to some degree I like being told what to do... sometimes I can't think, and with work, and everything [laughter]...</i></p> <p>a. Okay any other areas you experienced freedom or flexibility?</p> <p><i>I guess with [skill], [captain] was very open to ideas. And she had her own ideas too. Especially in the game, we would try stuff, or she would suggest something and we'd give it a go. I guess it was good to be able to say no at the same time. In one of the games, she wanted to try something and I'd already been [unsuccessful] cause I was trying a [something different], and it just wasn't getting up, or they weren't [responding] where I thought they were going to, so they were getting a few (****), and I was like "no, no, I need to keep it simple", and she said "you could try this" and I said "no, I'm just going to keep it simple and go from there", obviously it's my figures that are going to look bad... so it was cool that she respected me enough, and that was it... there was no animosity, it was just "alright, it was just an idea", and spoke</i></p>	
<p>Followed instructions</p>		<p>Clear of purpose</p>
<p>Had to be flexible</p>		<p>Desire for guidance</p>
<p>Input</p>		<p>Collaborative Competition freedom</p>

<p>Said 'no' Control Cocky Control</p>	<p><i>to her afterwards and conveyed that I just wanted to (****) and get in a rhythm and she was fine with that. And that was cool, because I'd never really done that... I was able to say "no", which is pretty cool to have that control to be able to say it... and with my [tactical] positions. In the final I was like "let's just have one on the off-side", which is pretty cocky, and to be fair I was kind of joking... and then I was like "you know what, stuff it", so it was pretty cool that she trusted me to do that. You know, and I had the control when I was bowling to go, "no I'm not going to bowl it there and if you want to hit it there, you're gonna have to do something that's risky"... so that was cool.</i></p>	<p>Ownership Belief Felt trusted Self-determined</p>
<p>Reinforcement</p>	<p>b. Yeah okay, so you felt like you had the freedom to make those decisions?</p> <p><i>Yeah, and you know, [captain] backing me up on that just reinforced it. She didn't question me, she was just like "alright, if that's what you wanna do, let's do it", so I was a wee bit surprised [laughter].</i></p>	<p>Felt supported</p>
<p>Reinforcement</p>	<p>c. Okay and in terms of the coaching, can you think of any ways that the coaches worked with you that made you feel that you had control over what you were doing during the game?</p>	
<p>Reinforcement</p>	<p><i>I had a talk with [coach] about my (****) and what I could do with them, and what I'm trying to do. I was like "I keep getting [taken advantage of]" and he said "that's good, that's where you want to get (****)", but they were getting (****) and I don't like (****) against me... but he reinforced "that's where you're going to get your [stats], you want them to be [responding there]", and I was thinking of [tweaking strategy], and (****) a little bit [different] to try to tease them into [responding], and he said "yeah do it". Because as soon as you make [that change], the [opposition respond], then it's just a patience game... the fact that he just went "yeah do it" made me feel like he had my back, and made me feel that I had the control to make it happen, you know?... like I've got nothing holding me back, and if it doesn't work... oh well.</i></p>	
<p>Reinforcement Control Positive reinforcement</p>	<p><i>And [coach] always backs me when I (****). She always tells me I'm doing a good job, even when I tell her I'm not. She's always saying "just keep doing what you're doing, you're [doing] awesome", and even though I don't always believe her, it does help to hear it, and that support made me feel like I could do what I wanted to and not have anyone question it.</i></p>	<p>Felt supported Self-belief</p>
<p>Not being judged</p>	<p><i>And if they did question it, it was generally just because they were curious and wanted to know for a better understanding, rather than being judged.</i></p> <p>8. Overall, would you liked to have experienced more or less freedom throughout the season?</p> <p><i>I guess I'm lucky that I've been around for a while and a) I've been playing a long time and had the chance to play at a high</i></p>	<p>Felt supported Play freely</p>

Coaches understand individual needs	<p><i>level that they kind of trust that I understand what I'm doing and that if I need help, I'll ask... so in that regard it was cool that they feel that. Sometimes I do need a little bit of guidance and that's up to me to say it... because they'll just go and let me do what I want to do, and that's cool... I like that, and I'll do what I need to do. But I guess when I have a lot of self-doubt I need to then ask for help... so I guess it's not up to them to do that, it's up to me. But the thing is I didn't feel like I couldn't. [coaches] and [captain] are really approachable and I question why I don't do this, but I think it's maybe them knowing... I don't know if it's them needing to know me more, I guess it's that open line of communication and me feeling like I can say what's on my mind and not feel judged, even though I don't think I will... I think it's like, if I don't voice it, it's not real [laughter]. It terms of support throughout the season, [captain] was awesome, we would sought my [strategy] out in five seconds really, because we know each so well... and [coach] would just be like "keep doing what you're doing, keep it simple, it'll come" and [coach] does what he does. At the beginning of the season there is always going to be a lot of structure and sometimes I get annoyed with it, but at the same time, it's probably good for me... like I always like to do what I want to do. But with [coach's] [skill] sessions, he just simplified it, and sometimes you get so caught up in these little things that you probably don't need to even worry about, and he's just like "no, bring it back, go through the basics again", so in that way, structure is really good for me... and I think he did it in a way that wasn't threatening... it was just like "this is what we're doing". Structure is good, and the freedom was good... maybe a little more freedom in regards to trainings before the games, but I think we got there in the end, so if we continue to do that, then I won't need anything else. The structure at the beginning is awesome, and then a little more freedom towards the end... I think that's where our team is moving, and that's awesome. And I'll talk to [coach] in our review about how I can best communicate that, or get it across that I'm struggling without necessarily having to say it... I'm not sure if it's a time thing, but it's something that I have to be able to say when my head is all over the place, and I don't know what I'm doing wrong.</i></p> <p>9. Is there anything else you would like to add related to what we have talked about today?</p> <p>Nope.</p>	Freedom Desire for guidance My responsibility
Doubt		Questioning self
Approachable		Denial
Fear of judgement		Understand each other
Reinforcement Structure Annoyed		Trust in coach
Desire for balance of structure and freedom		
Optimistic		
Need to communicate		

APPENDIX 8

FIELD NOTES SAMPLE

Tonight's session started with an invisible touch game that is used regularly as a warm-up game and led by several of the more senior girls (deciding on teams/rules/etc.) which seemed to promote a degree of autonomy. The players seem to enjoy it and it is only played for 5mins or so prior to stretching. It is a game of progressive intensity and is used to warm the muscles to get the most out of stretching, which takes place immediately afterwards. It always involves a lot of laughter and chatting and is completely athlete-led. Again, this seems to be an effective way to start training that would likely nurture autonomy for some, and also perhaps feelings of relatedness due to the apparent enjoyment.

Whilst stretching, one of the senior athletes asked "*what's the plan of attack CX?*". CX answered "*stretch, bands, and [specific skills work]*". The athletes stretched in a circle for 10mins and chatted about a myriad of topics, whilst the coaching staff chatted about various issues, including equipment and athlete injuries.

Also, whilst the athletes were stretching, CX asked the group who has been doing [specific skills work] – only a couple of players raised their hands. Coach added "*we're not going to get injured this year because we weren't ready*" emphasising the importance of slowly building load. It was quiet following this challenge and some of the athletes were seen nodding as if to suggest that they felt that they could do better in that regard.

As CX gave instructions about a drill and reminded the athletes to "*focus on your technique,*". The team then proceeded to practise a particular drill for around 10mins, which involved teamwork and there was a considerable amount of communication amongst the athletes.

Prior to breaking up into position groups, which would be the norm for these specialist sessions, the team had a quick chat led by the head coach. *“Specialist training will be led by [specialist coaches]... expectations are that we will be pretty much leaving you to your own devices, but you’re doing this for your own benefit, so you’re doing the basics right, and if you’ve got any questions about what those basics are, come and ask me, but I will be keeping an eye on you but I will be expecting you to maintain the quality of what you’re doing... okay? Lots of laughs, I’m happy with that as long as you’re concentrating on the skill that you’re practicing... alright? Um... from here on in.. I’ll split us up. Have a good training, any questions, come and see me.* Such an approach seemed to be enacted with the intent to promote feelings of autonomy and work on self-reflection. The coach explicitly conveyed that they would be “left to it”, but that support was available.

As the players dispersed to their respective specialist coaches, CY greeted one of the athletes and asked her how her injury was and how rehab and [skill work] is going. The athlete seemed to appreciate the question and they quickly chatted about what the athlete could/could not (physically) do, and the coach informed her that she should involve herself as much as she can within the session. The coach taking the time to make that clear would likely have helped to strengthen connection with the athlete and the athlete smiled and thanked CY before joining her teammates.

As normal, CY told the athletes what they would be working on and outlined the basic session plan and how they will build on from last week; *“We’re going to do similar tonight, just towards the end we might extend it, but from next week we’ll look to start [building on specific skill], but tonight I want you to continue to work on [skill]... similar to last week just looking at your technique, any questions? All good? Have you been practicing? Does it feel strange?”* One of the players responded that it did feel strange

and CY reiterated that *“it should feel strange because it’s only August, we’ve still got a while”*. CY seemed to make an effort to provide rationale for what the athletes were doing and it seemed as though the athletes valued this and were engaged as they would be seen smiling and nodding their heads and often asking questions, in a positive way, for more information.

During a break, CY spoke with the athletes about getting to know each other and that the first couple of weeks would really be about developing an understanding of their strengths and weaknesses and keeping it really simple. CY is personable and seems to make the athletes feel comfortable. CY also reiterated that the objective was to get reps in, at this point, and not be too concerned with the outcome. With that said, it was emphasised that any technical issues should be worked out early.

In a different area, CZ worked with a small group of athletes, and similarly to CY, seems to have quickly developed a rapport with the athletes. CZ’s session was a little more technical where the skill being worked on was broken down in a drill that isolated several features. One drill involved some fairly technical discussion and physical activities/movements. The athletes appeared to respond positively to this, although often had puzzled faces! However, similar to the group working with CY, these particular athletes seemed engaged and enthusiastic and seemed to ask CZ questions without hesitation.

CX worked, predominantly, with the [position group]; during one break a player retrieved her phone and showed CX some footage of her recently practising and asked for feedback. They had a quick chat and CX then took over facilitating the drill and providing some technical feedback and positive reinforcement. CX seemed to do a good job of providing aspects of feedback directly, but also questioning the athlete to encourage

reflection, and, perhaps, a sense of ownership. The interaction was positive and collegial in nature.

Two of the most senior athletes worked together, without direct coach input, for most of the session, with CX moving over to watch them periodically, to support and give feedback, however, their session was largely player-led. They would setup a drill and work hard for 5 minutes or so, before swapping positions/roles and having short discussions. These athletes were fairly adept at giving each other positive and, at times, technical feedback, and maintained a sense of intensity and focus whilst working together, but largely independently from the coaches.

Following a drill, CY called their particular group together; *“The reason you’re all here, is because you’re all good athletes, there are only minor tweaks that need to happen, so I’m going to have a look at the videos and will make a couple of notes and have a chat to you next week... next week I want to do more with what we talk about regarding some technical aspects, for example keeping that [form]. Also, ensuring that everything that we do, has some intent... cool? The other thing I wanted to discuss next week was [skill], we need something consistent from all of you, there’s a couple of things I used to do myself that I’ll share. The [technique] is something you’ve actually got to work on... There’s got to be purpose and intent to it. Done? Have a jog around and a bit of a stretch.* At this point, the players thanked the coach. It seemed that such a message would have been need-supportive in several ways. There was positive reinforcement that may have nurtured competence and relatedness, and, also, indicating that CY would share strategies that they themselves used might have strengthened connection between the coach and athletes.

CX called everyone together to finish. *“Alright, good session? Happy? I thought it was a good session... I think the second half was better, more focus than the beginning, so just take that on board, make the most of the opportunity, this is the training ground, if things are getting tough, this is the opportunity to test yourself and how do you get back in that good headspace, so you can focus and get the most out of your training. When that happens in the game, how are you going to get yourself back into a way you can perform for the team? This is the time that when you can get frustrated as hell so learn what that trigger is to get yourself back into that good headspace... also please make sure you’re here with a goal, to make the most of this opportunity and take advantage of the skills around us, so ask questions, learn and apply, lets pack up ... and I’ll see you on Tuesday”.*

Such a message seemed to have several intentions to it. Firstly, CX provided some positive feedback regarding the session ending well but made it clear that focus was lacking initially. It was also emphasised that there is a finite amount of opportunities to train and that it is important to make the most of them. Finally, being mindful of how one is mentally engaged and training was reinforced – testing oneself and being aware of triggers. The researcher felt that CX did a good job of challenging the athletes in this regard, but also coming across in a fairly positive way, which would likely have a positive impact on their individual basic psychological needs.

APPENDIX 9

NEED-SUPPORTIVE COACHING OBSERVATIONAL INTERPRETATIONS

Observation Reflections in Regard to Satisfying Competence Needs

Facilitating effective preparation. The researcher witnessed the coaches engaging with athletes regularly in ways that would be expected to enhance feelings of competence and readiness for competition. During interactions, all three coaches were observed questioning the athletes concerning their mindsets and focus areas (e.g., “*What are you working on?*”), as well as providing varying degrees of instructional feedback in attempt to enhance the quality of training and preparation overall. CX generally facilitated group discussions of a similar nature (e.g., “*How was that guys?*”; “*Did we get better tonight?*”) to finish training sessions as the athletes were packing up their gear and collecting belongings, and, when balanced with an adequate provision of technical feedback, seemed to be an effective reflection exercise to enhance awareness of skill development.

During breaks in training, the coaches often approached the athletes to ask about their mental preparation; including how they were feeling, and how they would approach specific aspects of upcoming games (e.g., “*What do you think you’ll do about [opponent]?*”). The athletes seemed to appreciate these discussions that were largely collaborative in nature, and involved coaches providing suggestions (e.g., “*What I would do is focus on [behaviour]*”). Such discussions appeared to be meaningful as a result of the collaborative approach generally taken that involved high-order questions that stimulated a degree of critical thinking and learning.

During one session, A5 was working on a specific technique and focusing intently on a physical action as CX oversaw the activity. As the athlete was starting to have some success in regard to this particular skill execution, CX asked “*Can you feel the*

difference?”. CX and A5 went on to have a discussion regarding what it felt like when the skill was performed correctly. The next time A5 made a mistake, CX asked “*What was wrong with that?*” to which A5 gave a descriptive response. CX confirmed A5’s interpretation was accurate and, subsequently, gave some further technique-related feedback. Such reflections and responses from the athlete indicated a growing sense of self-awareness in regard to her skill development and execution.

Whilst all three coaches generally provided an overview of the structure to training sessions, CX, as a general rule, followed this up by high levels of freedom and independent or small group work, and indicated to the researcher that this was to enhance the athletes’ abilities to self-regulate. CY and CZ on the other hand were often observed striking a closer balance between allowing some decision-making and providing more ongoing direct instructions and information; including outlining the rationale that underpinned what they were working on (“*Tonight we are going to work on [technique] as it will help with [execution]*”). The athletes working with CY and CZ, in particular, generally appeared engaged and were seen nodding their heads and verbally responding as the coaches described the objectives of activities/drills. As was suggested in a number of interviews, being provided with this information appeared to enhance the athletes’ feelings of competence and readiness as they understood the potential connections between what they were doing and future performances.

A major aspect of training sessions often involved context-specific training activities that put athletes in scenarios and positions that they would likely face during competition (e.g., up or down on scoreboard/point in game/players involved/positions, etc.). Given the nature of the relevant team and their training sessions (i.e., limited time, various position groups, part-time specialist coaches), it appeared challenging to always provide equal opportunities for athletes; however, within the constraints, the coaches largely did

a reasonable job of facilitating game-like drills that, for most, provided necessary repetition and enhanced competence of relevant skill areas.

Providing emotional support. The coaches appeared to be genuine in the ways that they engaged and interacted with athletes as they provided positive reinforcement and instructional feedback; this included maintaining eye contact and open body language (i.e., high fives, gesturing, arms around each other, etc.) and enthusiasm. Many of the athletes highlighted during interviews that they believed that their coaches were genuine in the feedback that they provided and some suggested that the coaches had an intrinsic desire to be there; such a premise was consistent with the researcher's interpretations of all three coaches' behaviours and perhaps it was this underpinning drive that allowed the coaches to provide a high ratio of positive to negative feedback. CX provided ongoing positive hustles (e.g., "Nice", "That's it") to individuals as well as the group overall, whilst CY and CZ delivered more detailed instructional feedback to individuals and small position groups.

All three coaches were observed throughout the data-gathering period attempting to connect with the athletes and learn about, amongst other things, their individual experiences, tendencies, and training preferences. Early in the season as the athletes were preparing for a particular training, CZ was observed asking a small group of national representative players how their recent campaign had gone and appeared to engage and empathise effectively with one athlete in particular who had not had an enjoyable experience. Such a conversation would be expected to nurture feelings of competence and relatedness as such a positive and supportive discussion may have reinforced the particular athletes' abilities but also strengthened the athlete's feelings of connection with the particular coach.

The coaches also regularly reinforced the various roles that athletes played and how they contributed to the collective success of the group in one-on-one discussions during breaks at training sessions (e.g., “*You’re an important part of our [style of play]*” [CY]; “*You’re a senior member of the group, so keep voicing your opinion*” [CX]). A number of athletes reported such conversations as strengthening their perceived competence levels by reinforcing the premise that their contributions to the group were valued. Furthermore, CX often reminded the team that success was dependent on everyone contributing to the group (e.g., “*It’s going to take all of us this year*”).

Promoting athlete ownership. As an observer, it appeared throughout the season that the athletes experienced a high degree of ownership over their experiences (a perspective that was confirmed during a number of interviews). All three coaches employed behaviours widely considered as being autonomy-supportive with high degrees of incidence; for instance, during training sessions early on in the season, CY was often observed asking the athletes how they liked to structure training sessions and encouraged them to share the kinds of activities that they enjoyed and found valuable. Regarding the overall organisation of training sessions, following pleasantries and any pertinent administrative discussion, the team generally then moved into athlete-led warm up activities (e.g., “*Alright, let’s get started, A6 and A13, you’re in charge!*” [CX]), which usually involved fun team games, which provided the athletes with scope to warm-up in ways that they enjoyed.

Importantly, the observer noticed that athlete feedback, when appropriate, was applied by the coaches into training and/or competition settings (e.g., changing warm-up protocol, more time spent on specific activities, music being played, etc.), which meant that the athletes actually saw their feedback and comments having a meaningful impact on the environment. When questioning athletes on this, a number suggested that such an

approach from the coaches conveyed belief and trust in them and, therefore, enhanced their sense of overall competence.

Athletes were provided with a high degree of independence regarding how much physical work they did during and outside of formal training sessions, which seemed to be in attempt to avoid overloading the athletes, nurture feelings of satisfaction regarding their preparation, and, accordingly, enhance feelings of competence. However, with that said, all three coaches consistently reminded (and challenged) the athletes to ensure that they were doing sufficient individual work; during one training session, for instance, CX asked the team who had been doing their prescribed pre-season [skill] work, to which only a few hands were raised. CX reinforced the importance of completing such work and highlighted *“We’re not going to get injured this year because we weren’t ready!”*.

Regarding competition preparation, the athletes were significantly involved in establishing the team’s game warm-up protocol that included a combination of individual freedom and team activities. During the two hours prior to competition, outside of team activities, athletes were seen engaging in various behaviours; ranging from joking around in small groups to performing quiet imagery and mindfulness activities. Most of the athletes engaged in fairly consistent behaviours during these times, and seemed to appreciate having the freedom to go through a process that was aligned to their own preferences; a number of participants described how such scope meant that they were more likely to achieve a positive mindset going into competition, and, therefore, such a coaching approach seemed to enhance the athletes’ feelings of readiness and competence.

The coaches in this study contributed to feelings of competence through a combination of facilitating effective preparation, providing emotional support, and/or employing behaviours that promoted and involved a degree of athlete ownership. When

perceptions of such existed, there seemed to be a flow-on effect that also strengthened feelings of relatedness and autonomy. Attention now shifts to the behaviours that were perceived by participants to support their needs for relatedness.

Observation Reflections in Regard to Satisfying Relatedness Needs

Complementarity. There were many instances throughout the completed observations where the researcher noticed athletes and coaches interacting in complementary ways, as opposed to hierarchical exchanges involved in more traditional coach-athlete relationships. Perhaps the most obvious aspect of this was the ways through which the coaches generally approached and discussed matters with their athletes. The discussions mostly seemed to be problem-solving in nature with neither of the individuals, seemingly, holding significant concern over who an idea came from, so long as there was a sense that the discussion was productive. For instance, the researcher witnessed many tactical discussions within both training and competition settings between coaches and athletes that concluded with a coach acknowledging a sound idea/decision from an athlete and encouraging them to proceed, and this seemed to strengthen connections. Likewise, the athlete participants appeared (e.g., body language, acknowledging the feedback, etc.) to appreciate effective and relevant feedback from the coaches.

It became clear that a central aspect of experiencing relatedness by the athletes was engaging with the coaches regularly and openly. Without such communication, it would be easy to start doubting one's place in the team or their connection with the coach(es), which are both important elements of relatedness – as will be discussed shortly. CY did a fantastic job of facilitating small group activities and pulling athletes to the side intermittently to provide small pieces of instructional feedback. This was often seen during drills where CY would call an athlete over at a time that allowed particular drills

to continue for others and also provide the coach with a chance to provide feedback relevant to a specific athlete.

Coaches pursued and considered athlete input regularly within both training and competition settings. Whilst, naturally, some of the more senior athletes in the team contributed to decisions regarding important overall team matters (e.g., training locations, training focus, travel times, team strategies) during discussions before/during/after training sessions, younger athletes were also provided with scope to make or at least contribute to decisions (e.g., own focus areas, warm-up activities). The researcher expected that these opportunities would enhance connection with the coach, and perhaps group overall, through potentially experiencing a sense of ownership or, at least, contribution.

As an observer, it was fascinating watching the coaches engage with athletes in various ways. The ability for coaches to adapt was highlighted by a number of the participants as being an important aspect of effective coach-athlete relationships. CX, for instance, who had worked with some of the athletes for a number of seasons seemed to know what particular athletes needed; for instance, they would provide some athletes with high degrees of freedom, but approach others more frequently and with high rates of positive feedback, which for many appeared to be need-supportive.

Co-orientation. Not only did it seem important that the coaches and athletes engaged in ways that were complementary of each other, it was also clear that it helped if there were common goals and values. For instance, the focus areas of feedback, the ways through which feedback was delivered, and the overall team climate was important. In general, the participants reported preferences for positivity and mostly had strong desires for positive/solution-based coaching. The coaches in the case study were all fairly

positive in their respective approaches and, particularly for CY and CZ who were new to the team, this seemed to help establish strong connections with athletes quickly.

A positive team climate initially seemed to have an enhancing effect on the connections between coaches and athletes. Early in a season it is likely easier to maintain positivity due to lower levels of pressure and expectation; notwithstanding, the coaches did a good job of establishing a positive environment early on through exhibiting care, providing positive feedback and language, and balancing challenge (i.e., activities with elements of pressure) with space (i.e., individual skills work and encouraging pushing boundaries).

One could feel the enthusiasm and energy lift during training sessions when the coaches addressed the group with positive and affirming messages – there was noticeably more laughter, body contact, and communication. Furthermore, in competition settings, the coaches focused largely on the team’s own performance and very rarely addressed the outcome or elements that would be considered as uncontrollable. Naturally, this has a high degree of relevance to the needs for competence and autonomy, but it also seemed to strengthen connection between coaches and athletes.

Cultivating a supportive environment. It is logical to suggest that regularly engaging with one’s coach would enhance feelings of value and connection, and all three coaches did a good job of interacting with athletes before and after training sessions. Such discussions typically followed a sequence of non-sport-related (e.g., “*How’s study going?*”; “*Tell me about the new job*”) topics that often involved joking around followed by more sport-related discussions (e.g., “*How are you feeling after the weekend [game]?*”; “*How’s your ankle?*”). As highlighted earlier, many of the participants

reported a perception that their coaches cared for them as people, and a key aspect of this seemed to be showing an interest in the athletes' lives beyond the sporting environment.

The first team meeting of the season involved significant discussion concerning matters relevant to the environment and, during the session, there were various behaviours and dimensions that were observed that would be expected to have nurtured a sense of connection and feelings of being in a supportive environment. As the researcher entered the room (and the team environment for the first time), it felt a little like a family gathering where individuals had not seen each other for an extended period of time. Immediately, the researcher noticed coaches who were approachable and jovial with the athletes as well as with each other. The members of the team (i.e., athletes, coaches, and support staff) were, largely, overtly welcoming and the researcher quickly became *reasonably* comfortable himself in what was potentially an awkward position/setting for himself – at the time the researcher wondered whether this was representative of an inclusive team where individuals were, as a general rule, welcoming of new members.

Observing early interactions (i.e., athlete-athlete/athlete-coach/coach-coach), there did not appear to be any strict or clear hierarchy within the team and right from the beginning, the coaches appeared to be attempting to establish a culture based on joint ownership. On several occasions, CX and CY discussed the importance of the athletes leading their own development and highlighted that the coaches' roles were of a support nature. Additionally, the meeting room was set up, either intentionally or unintentionally, in a way that seemed to promote collaboration; for instance, the chairs were arranged in a circle where everyone was sitting and faced each other as opposed to the coaches standing and addressing the group.

Early in the season, the coaches facilitated a team discussion regarding the overall team culture that involved, amongst other things, discussing what it meant (traditionally) to be part of the team, collective values, and what the team would be looking to accomplish that season (i.e., “*What is success for us?*”). The session involved a mixture of small and overall group discussions and the athletes were given significant scope to contribute to discussions and determining key features of the team culture; including, key goals and values. After around 90 minutes, CX astutely noticed that they had reached a point where it was becoming difficult to narrow things down and finalise what had been discussed. It was mentioned that the team would come back to it and that it did not need to be finished in one evening; unfortunately, the team never did revisit and finish off the session, and, therefore, did not go through the process of agreeing on key values and behaviours. It seemed that this missed opportunity created a degree of ambiguity concerning central elements that would be important to the group and that would keep all members moving in the same direction. With that said, however, the night was positive overall, and the team had an opportunity as a group to practise, among other qualities, honesty, communication, and trust.

Following one of the final training sessions prior to the first game of the season, the athletes and coaching staff moved through to the team clubroom where friends and family of the athletes and staff had been socialising. Several speeches (from an ex-team captain, current high performance manager and head coach) were given that acknowledged the hard work being put in by the athletes as well as the sacrifice that they (as well as their families) made in pursuit of their sporting goals. The high performance manager spoke of the tradition of the organisation and what it meant to be part of it. Each athlete was introduced and received an item of team regalia, which had a number embroidered on it that represented what number athlete they were in the history of team members over time

(e.g., #200). It was a touching gesture and seemed well received by the athletes and their families; the group then continued socialising and, of course, took a casual team photo for social media purposes. Overall, it was a great evening, and the researcher felt that such an event would be highly likely to have fostered feelings of connection and relatedness for all involved.

CX and CY used language (e.g., “*We need to be better*”; “*As a group, a key focus area has to be*”) that would have likely reinforced a sense of togetherness and collective identity. In addition to the collective language used, the team also frequently did things together outside of the sport environment, which was encouraged by the coaching staff. Such activities included fitness sessions, going out for meals, and volunteering in the community and, again, would likely have, for many, nurtured feelings of relatedness.

Observation Reflections in Regard to Satisfying Autonomy Needs

Optimal preparation. The researcher would describe all three coaches as operating towards the autonomy-supportive end of the coaching continuum. Perhaps the most challenging aspect of being autonomy-supportive is balancing support and instruction with freedom and choice. All three coaches approached their roles in similar ways that empowered (or at least encouraged) the athletes to assume ownership over their development and performances; although, with that said, the ways in which they went about their roles did differ somewhat. CX, as a general rule, provided an overall structure to training sessions and then promoted self-reflection through questioning (e.g., “*How’s the intensity guys?*”; “*Think about our communication*”) and managing (or limiting) interactions with athletes; essentially providing significant space for them to train and reflect, and then they interjected and provided feedback from time to time.

Although underpinned by similar philosophies, CY and CZ assumed more ‘hands-on’ approaches that involved providing similar structures and instructions, but remaining more closely connected in regard to offering advice and feedback, while still encouraging the athletes to reflect and think about different ways of doing things. In interpreting body language, enthusiasm, and engagement (and considering the data from participant interviews), most participants responded better to the style of coaching that CY and CZ employed. It should be noted that most athletes did appear to enjoy some independent work; however, when this was excessive, energy and engagement often seemed to diminish.

It was a clear coaching objective to establish a training environment that provided individuals with opportunities to work on areas that they believed required attention. For instance, athletes were often broken up into position groups for segments of training to work on particular overall skills, and, within such a structure, they had scope to narrow their focus to specific areas. This seemed to be autonomy-supportive for many of the athletes as it gave them opportunities to identify and work on skills that needed improving. With that said, coaches need to be cognisant of the needs of the athletes and effectively navigate between providing freedom and isolating athletes; the researcher did wonder from time to time if all the athletes were receiving the attention that they desired and/or needed.

Early in the season, during pre-season trainings for instance, the coaches made most of the decisions regarding what individuals would be working on, while providing some freedom within that structure. This was to ensure that key individual skills and team elements were developed. During game weeks, however, training sessions became increasingly athlete-led, as a way to support optimal physical and mental preparation. The season overall followed a similar pattern, which saw the coaches seeking and

incorporating increasing amounts of athlete input in regard to workload and focus areas. For instance, the coaches generally provided an overall structure, but then had very little technical input during the final training session before a game. Rather, during these times, the coaches would float and engage in one-on-one discussions with individuals or small groups regarding, amongst other things, individual tactics, mindset, injury rehabilitation and recovery. Such an approach from the coaches was believed to have been autonomy-supportive as it seemed to strengthen athletes' feelings of readiness and a sense of trust in their preparation.

It is interesting to note that the athletes generally responded well when a training session involved a blending of structure and decision-making opportunities, and, in reality (confirmed in participant interviews), the best sessions seemed to be the ones that involved a high degree of structure and were run with clear purpose and intent, as opposed to the sessions that involved excessive levels of independent work and/or decision-making. This seemed particularly true for the younger and less experienced athletes in the team who appeared to lose enthusiasm when provided with disproportionate amounts of independent work.

Competition freedom. Interestingly, a significant part of supporting the athletes' needs for autonomy was accomplished within competition settings. Although in preparing for competition, as well as in competition itself, there are situations that could logically reduce/thwart feelings of autonomy, the coaches deliberately structured the environment in ways that would, as much as possible, support feelings of control and volition. Concerning competition preparation (as has been highlighted), coaches provided the athletes with a degree of space, within an overall structure, to prepare in ways that suited them. The overall protocol consisted of:

- Arriving at the game venue two hours prior to competition and the head coach addressing the team briefly in the locker-room.
- 30 minutes of free time that saw athletes prepare their gear, nutrition, walk around and familiarise themselves with the venue, listen to music, etc.
- 30 minutes of team warm-up activities (game, stretching, skill work).
- 20 minutes of free time to continue preparing, warming up, speak with coaches, quiet time.
- Assemble in the locker-room for final team discussion followed by competition formalities.

As reported earlier, experiencing a degree of freedom over their preparation seemed to nurture feelings of competence as individuals were able to go through their own processes; furthermore, naturally it also seemed to cultivate feelings of control during what is a critical time for athletes.

In addition to supporting individual needs for autonomy in the build-up to competition, the coaches also attempted to engage with the athletes in ways that would enhance feelings of autonomy during competition. Both in the lead-up to competition as well as during the competition itself, athletes were encouraged to analyse, reflect, adapt, play their own styles, and, perhaps most importantly, express themselves (which athletes confirmed as being important) within an overall team approach. The athletes appeared to appreciate this style of coaching and it became clear that athletes seemed to perform best when they were playing with a style that was personal to them. Some performed well when they were calm and steady, whilst others relished more of an assertive or '*guns blazing*' approach. Being a qualitative case study, it was not possible to identify causal relationships, but it was the researcher's belief that (with all other things being equal) when athletes achieved a mindset that was authentic and expressed their own

personalities, they played with a sense of freedom that perhaps provided the foundations for greater performances.

Moreover, athletes were given varying degrees of scope to make decisions during competition. Such an approach provided athletes with a level (appropriate to their position/experience) of decision-making concerning their own individual tactics/strategies as well as those of the team. The more experienced athletes and those individuals fulfilling leadership roles were provided with the most latitude and were empowered to make significant decisions, whilst the younger and less experienced athletes had a high degree of control layered over their own tactics and were, only at times, consulted regarding team matters. Such a coaching approach appeared to nurture feelings of autonomy and, ultimately, self-determination for team members.

Athlete ownership. The coaches deliberately attempted to strengthen feelings of ownership for the athletes. This was strived for implicitly through a number of behaviours that, amongst other things, promoted decision-making and critical thinking, and explicitly by directly encouraging athletes to assume ownership over their development and performances (e.g., “*I want you to take ownership*” [CX]; “*You’re accountable for your own behaviour*” [CY]; “*At the end of the day, it’s your call*” [CZ]). A notable tool that was used to support autonomy was the completion of individual performance plans (IPPs), which identified strengths and weaknesses and established plans for improvement. The athletes completed these plans themselves at certain points of the season and met with the coaches to receive feedback and support regarding the plan. Ultimately, it was these plans that provided the direction for individual skills work, engagement with specialist coaches, emphasis of fitness programmes, etc., so naturally they had a significant influence over how each individual’s season played out.

Finally, consistent with behaviours widely considered as being autonomy-supportive, the coaches regularly sought athlete input regarding a range of both individual and team matters. As indicated, athletes who were given leadership roles (captain/co-captain/member of leadership group) had significant input into team matters throughout the season. Decisions such as scheduling of training sessions, social events, uniform requirements/styles, and travel logistics and meals were often made by these athletes, which would be expected to strengthen feelings of autonomy for the individuals involved. As an example, quite late in a session, CX approached two athletes to obtain their thoughts regarding a possible tactical change that was being considered for the next game that would potentially impact on them:

...I'm tossing up between [option A] and [option B]... it's about being flexible, we're pretty experienced and it's about countering whatever the opposition throw at us... but I also don't want to make a decision and it's a bit too far out of your comfort zone... so I need to know if that challenge excites you or not... I don't want to put you in a position that frightens you, that's not going to help you perform.

CX and the two athletes engaged in a collegial discussion – one athlete suggesting, “*It probably comes down to what you [CX] are looking for in regards to approach*”. Such a comment suggested (1) a level of respect for the coach (i.e., it was ultimately their decision) and (2) awareness that the two athletes brought different skillsets to the team. The nature of the discussion also seemed to be characteristic of the two athletes who felt secure and comfortable with their positions in the team; rather than instinctively seizing a personal opportunity, they engaged in a discussion about the advantages and disadvantages to the team of making the proposed change. The discussion carried on for a few minutes with each individual sharing their perspective before CX thanked them for their input and suggested that the decision would not be made until closer to the game.

This was a great example of need-supportive coaching through seeking athlete input into a decision that would directly affect them as individuals as well as the team overall.

The team generally followed the same post-game reflection protocol each time. This involved the coaches briefly addressing the team in quite a general sense before athletes would gather within their positional groups and identify aspects that went well and areas for improvement. When the head coach felt that focused discussion was dying down, each group would take turns feeding back to the team. Again, this provided the athletes with opportunities to have a significant voice as opposed to more traditional coaching practices that generally involve more direct coach feedback. Following athlete discussion, the coaches then also provided their own feedback (e.g., “...*I agree with you guys, and there were moments of good stuff, and we kept fighting until the end, so there’s no doubt about that... it’s just those basics. I think we’ll definitely be back a different team... today’s done*” [CX]), which the researcher felt was an important part of autonomy-support. Essentially, it appeared that feeling autonomous was reliant on having a degree of influence but also having the necessary support/knowledge/information to be self-governing.

APPENDIX 10

NEED-NEGLECTING COACHING OBSERVATIONAL INTERPRETATIONS

Observation Reflections in Regard to Neglecting Competence Needs

Cultivating doubt. Whilst there were many instances throughout the season where the coaches appeared to nurture feelings of competence for the athletes, there were also times when some participants reported doubting their abilities due to particular interactions (or lack thereof) with the coaches or ways that they interpreted the environment. A number of participants reported feeling unsure of their personal roles on the team and the researcher's observations highlighted a lack of emphasis in this regard from the coaches. The coaches all attempted to employ autonomy-supportive coaching styles (i.e., providing significant freedom; seeking athlete input) and, whilst helpful in some ways, the researcher noticed that, as a general rule, limited instruction and feedback regarding individual roles and expectations were provided from the head coach in particular that outlined exactly what was needed from a tactical/technical standpoint. Most of the time, discussion from coaches involved operating with 'intent' and reminding athletes to 'enjoy challenges' and 'play their own style', but little in the way of explicitly reinforcing what individual contributions to the team might involve.

An inherent challenge for coaches appears to be balancing individual needs with the collective needs of their teams during training sessions. Naturally, the athletes that were likely to be selected to the playing team and make significant contributions during competition were provided with the most opportunities within training sessions to work on various elements. Drills/activities were designed that placed athletes in situations that they would likely face during competition. Whilst such an approach was likely to nurture feelings of competence for those individuals heavily involved, the opposite effect likely

occurred for athletes who received limited exposure and opportunities to work on key areas. During a particular training session the day before a game, the researcher overheard one athlete quietly asking another “*Are we going to get a [turn]?*”, suggesting some frustration with the lack of opportunity to prepare during a critical training session; and would have likely impacted on feelings of readiness, and, therefore, potentially feelings of competence. The researcher also noted that when this occurred repeatedly, the affected individuals seemed to lose enthusiasm (i.e., decreased communication; closed body language; reduced effort).

In addition to training session opportunities, there were also times where it appeared that athletes experienced limited opportunities during competition. The nature of coaching involves constantly making adjustments; however, the researcher noticed times when coaches made a number of quick decisions to change tactics and, therefore, impacted on how individuals were contributing (or not) to the team. This was reinforced during interviews where a number of participants reported being given opportunities but changes being quickly made that led to individuals then questioning their ability to contribute effectively. A more extreme example of this was when participants were selected to the ‘playing team’, saw limited opportunities within the relevant game to make meaningful contributions, and then were not selected for the following game.

Being unsupportive. One of the more noteworthy features of the coaching style of CX in particular was limited interaction with the athletes. Many of the participants reported feeling unsupported during training sessions, and this was clear to the researcher quite early on in the season. The degree of independent skill-work that CX encouraged was consistent with her self-reported coaching philosophy; however, overall it seemed excessive, and, as the season went on, a number of athletes appeared to become

increasingly frustrated with the lack of technical support and, for some, limited interaction that they had shared with CX.

As highlighted earlier, CX would generally outline a session plan at the beginning and then set up activities that involved high amounts of skill work, but, also, lengthy periods with limited coach interaction that saw CX float between drills/activities and provide broad encouragement and manage the session overall. Whilst some athletes, namely the more experienced ones, seemed to function somewhat adequately within such a training environment, others appeared isolated and, sometimes, lacking in focus. With that said, some of the most experienced athletes reported to the researcher a desire for (1) more frequent feedback and interaction, and (2) more specific performance-related feedback, and saw these as critical and necessary aspects for their improvement.

CY and CZ often provided the athletes with what seemed to be excellent technical instruction and feedback concerning their specialist areas. However, CX's feedback generally consisted of positive hustles (e.g., "*Great job*"; "*Keep it up*"; "*Keep talking*") and what appeared to be quite simple feedback regarding such elements as technique and tactical decisions. The younger and less-experienced athletes appeared to respond positively to CX's feedback as it seemed more closely aligned to their level of understanding/ability at the time; however, the more experienced athletes did not appear to be as satisfied with the limited technical support that they were receiving regarding CX's area of involvement. As the season went on, the frequency in which athletes approached CX for support reduced noticeably, which seemed to be due to a growing sense by the athletes that CX had relatively limited technical knowledge. In contrast, athletes were regularly seen voluntarily engaging CY and CZ to seek technical feedback.

Observation Reflections in Regard to Neglecting Relatedness Needs

Creating a negative team identity. Over the course of the season, the overall atmosphere within the team, which started out fairly positively, seemed to change and became somewhat tense. There remained a degree of amicability throughout; however, the overt enthusiasm that was witnessed early on became scarcer. A number of coaching behaviours (or absence of behaviours) appeared to cultivate an environment that was somewhat ambiguous and, for some, became negative and need-neglecting.

Whilst, as highlighted earlier, there were a number of deliberate attempts made by the coaching staff throughout the season to nurture a strong team culture, these were rare and often lengthy periods passed by without referring to or addressing such matters. From time to time, CX would make reference to maintaining the team's 'standards', but it always appeared that this was met with confusion as to what exactly that involved. This seemed to hinder the development/maintenance of a culture based on known/agreed upon values, and provided greater scope for undesired behaviours (e.g., limited commitment/adherence to fitness training; infrequent communication, lack of responses to questions) to emerge.

The inability or lack of commitment to holding athletes accountable for issues throughout the season, perhaps due to a desire to keep things moving in a, largely, positive direction, seemed to adversely influence the athletes' perceptions of the culture. From time to time, CX would ask the team during breaks in training sessions questions concerning aspects such as focus and intensity (seemingly when such were lacking), and, unfortunately, these questions (initially aimed at the group overall) were normally not responded to overly enthusiastically, and were sometimes met with silence. CX quite tactfully started addressing such questions to particular athletes and sometimes would ask

them to rate such dimensions, for instance, on a scale of one to five. At times, the researcher noticed a lift in engagement, effort, and/or communication following such discussions; however, often it was short lived. The researcher did wonder if the athletes would have responded better to more direct feedback and challenge when there was a perception from the coach that a lift in aspects such as energy or engagement were needed.

Throughout the season, fitness standards were referred to from time to time and various forms of physical testing were periodically conducted. Unfortunately, there were no repercussions for the athletes who failed to meet the set standards. The researcher considered how such inaction would impact on the culture and athletes' perceptions of and levels of respect for the coaching staff. It seemed that CX did not want to 'rock the boat'; however, this reluctance may have contributed to, for some, a growing frustration with CX's contributions and the team's overall culture, and, therefore, ironically, given the intent, a sense of neglecting feelings of relatedness.

Ineffective coach-athlete interactions. As highlighted above, it became clear throughout a number of the participant interviews that perceptions of ineffective coach-athlete interactions emerged and the researcher's observations supported this. In a similar way to how feelings of competence were neglected for some by training sessions that involved high amounts of independent or small group work with limited coach interaction and technical support, such an approach also seemed to impact on how particular athletes perceived their relationship with CX in particular, and, therefore, their feelings of relatedness.

As a general rule, CY and CZ seemed to provide support that involved balancing a degree of freedom with effective technical feedback that was adequate in meeting the needs of the athletes. Although fairly similar in philosophy, the approach employed by

CX involved a high degree of athlete decision-making and responsibility for development and, ultimately, seemed to be incongruent with what some athletes needed. The most striking difference was that during their interactions with athletes, CY and CZ often provided more technical input and suggestions, and from the researcher's perspective, this appeared to enhance the connections and sense of trust that CY and CZ established with the athletes.

Extending on from the above point regarding limited technical support from CX, it also appeared that often athletes would experience very little purposeful interaction with CX in general. It never seemed that this was carried out with negative intent; however, the responsibility of managing the team environment overall as well as the attempted autonomy-supportive coaching approach seemed to often lead to the more inexperienced athletes being unsure of what exactly they were doing and, for the more experienced athletes, frustration with the quality and frequency of feedback that they were receiving, and, as such, impacted on their sense of connection with CX.

Observation Reflections in Regard to Neglecting Autonomy Needs

Ineffective training environment. As indicated, the perception of some athletes was that training sessions often involved either excessive freedom or excessive structure and this was supported by the researcher's observations. A small degree of freedom (e.g., choosing warm-up activities) was received well by athletes; however, when this was followed by excessive levels of decision-making throughout a training session, it appeared to undermine athletes' feelings of autonomy as there seemed to be a lack of direction and satisfaction with what was (or was not) being accomplished. Logically, it seemed that a critical aspect of training sessions was that the athletes experienced feelings of improvement and satisfaction. For many, coaches played a central role in achieving

this, so when sessions involved either disproportionate freedom or structure, it appeared to undermine athletes' feelings of autonomy and being in control of their development.

It is important to note that participants' experiences seemed to be affected by a combination of the coaching approach (i.e., behaviours; interactions) as well as the athletes' perceptions of each coach and what they offered (i.e., experience; tactical/technical knowledge). It was noted in the researcher's diary early on that when CY and CZ, both highly respected and valued members of the team for their skills expertise, provided a high degree of structure, it was generally responded to positively, whereas when CX employed similar behaviours, it seemed to be viewed as more controlling. Likewise, when CY and CZ provided technical instruction/feedback followed by a provision of space to explore and practise the relevant skills, this was seen as being needs-supportive. CX, on the other hand, generally provided little technical support and so, as a result, it was often seen as ineffective when athletes were instructed to *"go work on those areas that you have identified as weaknesses"*.

Athletes often spent the majority of training sessions working on skills/areas that they would likely make significant contributions to during competition. Whilst, from a performance perspective, there is sound rationale underpinning such an approach, it did appear that athletes mostly practised skills that were already strengths and perhaps were not getting adequate opportunities to work on areas that they felt needed attention to enhance their ability overall, or, for some, gain selection into the playing squad, and this seemed to neglect feelings of autonomy. Of course, in reality, balancing individual and team needs is challenging (as highlighted earlier when discussing the need for competence); however, consideration as to how neglecting individual needs can inhibit feelings of autonomy, and, self-determination overall, is warranted.

Failing to prepare athletes for competition. As highlighted earlier, during observations the researcher often wondered if all athletes were getting the support that they needed from the coaches to experience self-determination, and, in this regard, there seemed to be a high degree of flow-on from what was neglecting participants' competence needs and their subsequent lack of feeling able to regulate their own performances. Whilst participants highlighted a desire to feel competent and in control during competition, the employed coaching style of CX, in particular, emphasised self-reflection, which while useful, did not adequately address technical needs, and, as a result, appeared to neglect athletes' needs for a sense of control. A number of participants regularly appeared somewhat frustrated and/or unsatisfied with training as a result (i.e., limited communication, reduced effort and intensity).

In the build up to games, the team occasionally engaged in group discussions regarding team tactics; however, it often seemed that there was limited emphasis on this overall as well as immediately prior to competition. All three coaches kept things fairly simple on game days and operated in ways that were consistent with their behaviours in training sessions. With that said, the researcher felt that slightly more emphasis on individual and team strategies could have been helpful in reinforcing game plans and individual contributions, as opposed to the more generic "*keep things simple*" or "*enjoy the moment*" messages that (whilst helpful in some ways) were usually provided. This seemed to be particularly relevant for the younger and less experienced members of the team who (naturally) often looked a little unsure of things and may have felt a greater sense of self-determination had they received more guidance regarding, say, aspects to focus on or individual tactics.

It seemed that to avoid neglecting athletes' needs for autonomy overall, it was important that coaches did not establish training environments that involved either

excessive levels of freedom or of structure, but, rather, provide a high level of expertise within an environment that balanced overall organisation with a degree of individual flexibility, so that participants felt supported within an environment that allowed for some autonomy. It was also imperative that the coaches provided their athletes with sufficient technical and mental support so that they felt that they (1) were making improvements and (2) were able to regulate their own performances.