Chapter 9
Coaching High Performance Athletes

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Abstract This chapter provides a review of the recent research examining coaching high performance athletes. We first explore who are the athletes and coaches and what are the contexts that comprise this coaching domain. Recognising the diversity within this domain and diversity of approaches researchers have adopted our review attempts to span disciplinary boundaries and develop themes that represent commonalities in the process and practices of coaching high performance athletes. The research findings are discussed under five themes: vision, philosophy, quality relationships, high performing culture and coaching strategies. We offer our views on these findings and areas for further development through research. The chapter then turns to the implications for coaches and researchers. Here we offer an integrated framework that may provide some structure through which to navigate the complex and dynamic process and practices of coaching high performance athletes and connect disciplinary-based theory and concepts to understand the realities of coaching in this domain.

Keywords Coaching domain · Vision · Philosophy · Quality relationships · Coaching strategies

Research interest in coaching is increasing (Griffo, Jensen, Anthony, Baghurst, & Kulinna, 2019) and particularly in the context of coaching high performance athletes. This focus on high performance is perhaps driven by the notion that 'the best coaches work with the best athletes' and therefore, examining coaching in high performance sport will provide insights about coaching that are applicable to others. However, it is important to note that "successful coaches adjust their approach to the

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athletes, settings and circumstances, because they know the most effective coaching is context specific" (United States Olympic Committee [USOC], 2017, p. 27). Reflective of such consideration, researchers have proposed the use of coaching domains to conceptualise the more or less coherent aggregation of practices and behaviours resulting from the demands and needs of the coaching context and participants (Lyle & Cushion, 2017; North, 2009). This chapter focuses on the coaching domain of high performance athletes and the processes and practices of coaching in this domain. Beyond the scope of this chapter was exploration of the coach as performer and coach as learner (for a review see Rynne, Mallett, & Rabjohns, 2017).

We begin the chapter by exploring the *conceptualisation of high performance athletes, contexts, and coaches*. Next, we *examine the research that seeks to provide insight into coaching high performance athletes*. It is important to note two features of this research: (1) there is a relative lack of empirical research in this coaching domain upon which to base this review; (2) coaching research has been largely informed and guided by the application of concepts and theories from specific disciplines such as psychology, sociology, and pedagogy. Dependent on the disciplinary lens adopted, coaching is portrayed as ordered, regulated, controllable, planned, purposeful and structured *or* dynamic, complex, uncertain, innovative, flexible, improvised, uncontrollable and imbued with unattainable goals (Lyle & Cushion, 2017; Muir, 2018; North, 2017). Although, the resulting behavioural, cognitive and social approaches provide valuable insight into parts of coaching they seldom provide more comprehensive accounts that consider the layered ecology of coaching (Muir, 2018; North, 2017). Leading some researchers to argue for a move beyond disciplines to develop a "more inclusive, 'and/or' rather than 'either/or' conception of coaching practice, reflecting the more interdisciplinary nature of problems that coaches navigate in their day-to-day reality" (Muir, 2018, p. 69). Through our review we have attempted to explore across disciplinary boundaries organising the research findings under key emerging themes. We then consider the *implications for coaches* and to do so adopt *a conceptual framework for coaching* which offers a structure to make sense of the 'reality' of coaching high performance athletes and locate the findings of research more broadly. Finally, we offer several *key points for researchers.*

Review of Literature

High Performance Athletes, Contexts, and Coaches

In order to advance our understanding of coaching high performance athletes, it is important to first consider what constitutes high performance sport and who are high performance athletes. The International Sport Coaching Framework 1.2 (International Council for Coaching Excellence [ICCE], Association of Summer Olympic International Federations [ASOIF], & Leeds Metropolitan University [LMU], 2013),

similar frameworks (e.g., USOC Coaching Framework, 2017; European Coaching Framework (Lara-Bercial et al., 2017) and researchers (e.g. Lyle & Cushion, 2017; North, 2009) distinguish between forms of sport engagement (e.g., participation, development, performance). Participation sport emphasises involvement and enjoyment, while performance sport accentuates competition and achievement (ICCE et al., 2013). Within performance sport athletes are further categorised as emerging, performance, and high performance. High performance athletes are a small group of "world-class athletes competing in world championships and major events and high level leagues" (ICCE & ASOIF, 2012, p. 16) with a long term commitment to excellence. The USOC Coaching Framework (2017) describes this sport engagement as comprising "highly competitive sport experiences limited to a select few who are highly committed to achieving the highest possible level of expertise" (p. 12). Therefore, high performance athletes are those engaged in contexts where emphasis is on preparation for and performance in competitive sport for achievement of performances that are, comparatively speaking, of the highest level.

An exploration of the research on coaching high performance athletes indicates that researchers have examined a range of sporting contexts such as Collegiate sport (e.g., Callary, Werthner, & Trudel, 2013; Vallée & Bloom, 2016; Yukelson & Rose, 2014); Olympic/Paralympic sport (e.g., Dixon, Lee, & Ghaye, 2012; Lara-Bercial & Mallett, 2016; Mallett & Lara-Bercial, 2016; Ritchie & Allen, 2015; Ritchie, Allen, & Kirkland, 2018); Professional sport (e.g., Bennie & O'Connor, 2010; Cruickshank, Collins, & Minten, 2013; Gomes, Araújo, Resende, & Ramalho, 2018); and Masters sport (e.g., Medic, Young, Starkes, & Weir, 2012). Many or even most athletes in these contexts would certainly be characterised as highly competitive and committed to preparation for, and achievement of, high level performances. However, Collegiate and Masters sport athletes' level of performance might be considered relative to their particular context rather than of the highest level of expertise for their sport. Furthermore, a relative newcomer to researchers' attention is Adventure Sports (e.g., Cooper & Allen, 2018, 2020; Simon, Collins, & Collins, 2017). The competitive versions of these sports such as Winter Olympic sports are comparable to contexts in previous high performance sport research (e.g., Din, Paskevich, Gabriele, & Werthner, 2015; Lyons, Rynne, & Mallett, 2012; Simon et al., 2017). However, those athletes performing to the highest level of expertise in non-competitive Adventure Sport settings such as mountaineering or kayaking might challenge the notions of 'who are high performance athletes' and 'what are high performance sport contexts'. The diversity of contexts and definitions of 'elite' athletes indicate a far from homogenous group (Swann, Moran, & Piggott, 2015) and yet they are frequently considered under the umbrella of high performance sport. When seeking to derive insight from our review of literature about this coaching domain it is important to consider this diversity and the situated nature of coaching.

Turning our attention to coaches working in this domain, it is important to consider that working with high performance athletes does not guarantee the coach engages in quality coaching or indeed could be considered an expert coach. Coaches may, in fact, be considered 'experts by association'. Coaches are often employed based on their athletic success (Gilbert, Côté, & Mallett, 2006; Trudel & Gilbert,

2006) and appointed without adequate training (Mallett, Rossi, Rynne, & Tinning, 2016). Similar practices are likely in the recruitment and appointment of coaches into high performance contexts (Mallett & Lara-Bercial, 2016) and perhaps exacerbated by the practice of 'fast-tracking' former elite performers into high performance coaching roles. Such practices have been questioned with particular concerns including coaches' limited actual coaching practice (Blackett, Evans, & Piggott, 2018; Rynne, 2014), lack of reflection and self-awareness resulting in uncritical adoption of coaching practices (Blackett, Evans, & Piggott, 2017; Watts & Cushion, 2017), and the limited evidence of a relationship between coaching success and coaches own playing experience (Ewing, 2019; Schempp, McCullick, Grant, Foo, & Wieser, 2010). Equally, however some coaches fast-tracked into these contexts and roles, along with other coaches in this domain, are indeed high performing coaches, demonstrating quality coaching. The point here is that expertise and quality coaching is not guaranteed by virtue of who a coach works with or the context they work in.

Despite diversity in the contexts, athletes, and coaches deemed to be high performance, a commonality of this coaching domain is the emphasis on preparation for and performance at the highest level compared with others in the sport. The coach plays a central role in this coach-athlete-performance relationship (Abraham, Collins, & Martindale, 2006; Lyle & Cushion, 2017; Mallett & Lara-Bercial, 2016). Although not exclusively, coaches' are frequently responsible for guiding athletes' preparation and performances in the international sporting arena and they are held accountable for producing winning outcomes (Kristiansen & Roberts, 2010; Mallett & Côté, 2006; Mallett & Lara-Bercial, 2016). Coaches' tasks go beyond direct interventions with athletes to include indirect task related activity (e.g., programming, management of staff, research), administrative tasks (e.g., budgets, reports), and public relations activities (e.g., media, liaising with stakeholders, sharing with coaches) (Lyle & Cushion, 2017; Rynne & Mallett, 2012). Applying criteria that assist in establishing boundaries between coaching domains, performance coaching has been characterised as involving a planned, progressive, and individualised process, with intensive commitment to preparation and formalised competition, long and short term objectives including specific competition objectives, and extensive interpersonal contact between coach and performer (Lyle, 2002; Lyle & Cushion, 2017). The coaching process will, however, differ in focus, scale, and intensity in other coaching domains such as participation coaching for children, adolescents or adults and performance coaching for emerging or performance athletes (Lyle, 2002; Lyle & Cushion, 2017). Furthermore, operationalisation of the coaching process in the high performance domain is set amidst a context which has been characterised for its dynamic, complex, unpredictable and even chaotic nature (Purdy & Jones, 2011).

With such diversity in this domain, it is no wonder that several researchers have suggested that 'structured improvisation', seeking to bring order to chaos (Bowes & Jones, 2006; Cushion, 2007; Cushion, Armour, & Jones, 2003), is useful when considering coaching high performance athletes (Mallett, 2010). It is also perhaps unsurprising that coaches in this domain have been characterised as detailed planners, who are organised and deliberate and yet adaptable and fluid in their practice

and usually engage in highly complex decision making (Mallett, 2010). Furthermore, to effectively operationalise coaching, coaches are likely to require a range of in-depth knowledge resources and the capability to integrate this knowledge within their practice (Abraham, Muir, & Morgan, 2010; Côté & Gilbert, 2009; Lyle, 2002; Lyle & Cushion, 2017; North, 2017). In summary, despite representation as a single coaching domain (coaching high performance athletes), there is substantial diversity among athletes, contexts, and coaches all of which should be taken into account when considering the research that follows. In the next section we review the research on coaching high performance athletes seeking to provide some structure through which to understand coaching of, for, and with high performance athletes.

Foundations and Practices of Coaching High Performance Athletes

Researchers continue to work to better understand coaching high performance athletes and, although not mutually exclusive, continue to examine coaching in Olympic and international sport (e.g., Consterdine, Newton, & Piggin, 2013; Hansen & Andersen, 2014; Lara-Bercial & Mallett, 2016; Purdy & Jones, 2011; Ritchie & Allen, 2015) and high performance clubs, teams, and individuals (e.g., Abrahamsen & Pensgaard, 2012; Bennie & O'Connor, 2010; Cruickshank et al., 2013; Junggren, Elbæk, & Stambulova, 2018; Mills & Denison, 2013). Coaching in professional sport falls under these two contexts. Furthermore, some participant samples are not defined by a specific context and instead include a mix of national level and international athletes (e.g., Keegan, Harwood, Spray, & Lavallee, 2014; Santos, Jones, & Mesquita, 2013).

Participants in the research reviewed for this chapter were most often coaches and, to a lesser extent, athletes. Relatively few studies included both coaches and athletes (for exceptions see Din et al., 2015; Junggren et al., 2018; Lara-Bercial & Mallett, 2016) and even fewer included other stakeholders such as performance director, specialist coaches, support staff (for exceptions see Cruickshank et al., 2013; Fletcher & Streeter, 2016). With regards to research design, most research was cross-sectional with only a few studies adopting longitudinal (e.g., Abrahamsen & Pensgaard, 2012; Hall, Gray, & Sproule, 2016), ethnographic or case study approaches (e.g., Junggren et al., 2018; Lyons et al., 2012; Purdy & Jones, 2011). The most common method employed was semi-structured interviews. This almost always involved a single interview with each participant (for exceptions see Barker-Ruchti, Rynne, Lee, & Barker, 2014; Mills & Denison, 2013). Quantitative questionnaires, generally with athletes, have also been employed (e.g., Abrahamsen & Pensgaard, 2012; Gillet, Vallerand, Amoura, & Baldes, 2010). Only a few studies employed other methods such as observations (e.g., Hall et al., 2016; Purdy & Jones, 2011) or adopted multiple methods (e.g., Consterdine et al., 2013; Lyons et al., 2012; Muir, 2018; van Puyenbroeck, Stouten, & Vande Broek, 2017).

Access for researchers to the high performance coaching domain can be challenging and may provide an explanation for the prominence of interviews as the favoured method of research. Interviews provide a useful glimpse into this coaching domain, particularly if researchers are interested in coaches' and athletes' perceptions of coaching processes and practices. Insights from this self-report method, however, may be limited by the accuracy of participants' memory and recall as well as more deliberate impression management and self-presentation strategies. In addition, coherence between coaches' verbal recollections of what they do and their actual behaviour in practice has been questioned (Muir, 2018; Partington & Cushion, 2013). Although there is some research to suggest that this is not evident for all coaches (e.g., Cooper & Allen, 2020; Grecic, MacNamara, & Collins, 2013). The over reliance on a single method for evidence collection has been problematised and researchers reminded that interviews are just one method for gathering rich information (Culver, Gilbert, & Sparkes, 2012; Sparkes & Smith, 2009). Greater use of longitudinal or ethnographic designs and employing multiple methods will be useful to further our understanding of the situated and layered nature of coaching high performance athletes (North, 2017).

As discussed earlier in the chapter, there is marked diversity across contexts, athletes, and coaches within the high performance coaching domain. In addition, considering the characteristics of the research described above and its inherent limitations, next we cautiously present an overview of the research findings. Although our review suggests some commonalities, these are presented at a more general level and as such risk appearing to devalue the detail, subtleties and diversity integral to this coaching domain. That is not our intention. Instead, we have organised the discussion into five themes as a means to make sense of the diverse recent research examining coaching high performance athletes. These themes are: Vision; Philosophy; Quality Relationships; High Performing Culture; and Coaching Strategies.

Vision: A Sense of Purpose and Direction

From our review of the research, it was evident that a clear sense of purpose and direction expressed through a detailed vision of what is necessary to win was the foundation of coaches' work with high performance athletes. The capacity to see into the future provided a platform from which coaches were able to simplify the complexity of their sports, undertake thorough action planning, constantly review and monitor progress to adjust where necessary. Not only did this vision provide direction and a sense of purpose it also assisted coaches to navigate the uneven terrain of the journey associated with the pursuit of successful performance in sport at the highest level (Lara-Bercial & Mallett, 2016; Mallett & Lara-Bercial, 2016). Mallett and Lara-Bercial's research with serial winning Professional and Olympic coaches found that coaches all expressed a clear vision that included an assessment of key performance elements that would underpin future successful performance,

innovation to 'future proof' performances, and consideration of the many parts of the process, seeing how they would fit together and simplifying the inherent complexity to prioritise those key to success. Coaches in other research also emphasised the importance of clear goals (e.g., Dixon et al., 2012; Fletcher & Streeter, 2016; Gomes et al., 2018; Hodge, Henry, & Smith, 2014; Mills & Denison, 2013). For example, the endurance coaches of international athletes in Mills and Denison's study appeared very much in control of the targets and goals for athletes' training. Somewhat in contrast, Hodge et al. found that the coaches of the New Zealand All Blacks international rugby team expected players to set their own goals and challenges, believing this was more beneficial for players' motivation than those imposed externally. Indeed, this formed a central part of the coaches' strategy to nurture the holistic development of the players beyond rugby captured in their phrase 'Better People make Better All Blacks'. In their case study of a British high performance swimming club, Fletcher and Streeter found the vision, initially driven by the coach, was a shared club vision that focused on individual and collective improvement. Overtime the vision had evolved going beyond swimming performance, to place greater emphasis on the swimmers' wider lives.

Another consistent finding from the review was the coaches' plan for how to enact their vision. From the research it was clear coaches had a long-term plan and an idea of how the plan would unfold over a period of time, bringing necessary elements together in the process. The plan was not a static entity but rather a clear and detailed set of expectations affording on-going review and adjustment where needed to maintain momentum and progression towards the achievement of specified goals (Din et al., 2015; Fletcher & Streeter, 2016; Mallett & Lara-Bercial, 2016; Nash, Sproule, & Horton, 2011; Ritchie & Allen, 2015). For example, Din et al.'s study of coaches and athletes who together had won medals at Winter Olympic Games found that the coaches communicated a vision and accompanying detailed, meticulous and responsive plan that focused on "teaching athletes what they needed to do to perform on demand against the world's best rather than pitching the idea of winning Olympic gold medals to their athletes" (p. 596). The plan was individualised and whilst it provided a path to competitive success, it also included many adaptations and changes. Ritchie and Allen's (2015) examination of Olympic track and field coaches' perceptions of their role and practices during major events found that the coaches' detailed preparation and planning prior to the event was critical for optimal performance on the day of competition. Supporting these findings, Purdy and Jones (2011) study of a group of international rowers, found that the rowers were unhappy with the coaches' inability to clearly convey their vision. As a result, the rowers began to doubt the competency of the coaches and the resulting friction negatively affected the training environment and the rowers' attention to training tasks.

In summary, this research indicated that coaches expressed a vision for future performance, key ingredients for success, and deemed the vision critical for coaching high performance athletes. This vision, therefore, appears to be a cognitive representation of what is possible and importantly *how* it is possible. Furthermore, the vision these coaches described appeared to be more encompassing than just the

individual athlete or team performance, extending to include all key stakeholders, their roles and contributions. Similar concepts have been proposed regarding athletes' potential such as coaches' mental models for athlete performance (e.g., Côté, Salmela, Trudel, Baria, & Russell, 1995) and improving a team's performance through developing a shared mental model (e.g., Richards, Collins, & Mascarenhas, 2012). There appears to be links with expertise and the integration of professional, interpersonal and intrapersonal knowledge (Abraham et al., 2006; Côté & Gilbert, 2009; Lyle & Cushion, 2017) as well as Mason's (2002) concept of noticing, a foundational element of orchestration (Jones, Bailey, & Thompson, 2013; Jones & Wallace, 2005). Coaches can only intervene, halt proceedings or change course to get things 'back on track', if they notice the need to act in the first place. Noticing relies on coaches consciously attending to moments of importance or disruption. However, people are 'sensitised' or 'primed' to notice certain things. In this sense, coaches' vision and their mental model of their sport, provides the framework against which expectations are monitored. Ritchie and Allen's study (2015) and Santos et al.'s (2013) examination of national and international coaches in Portugal are two examples where orchestration and noticing were central concepts in the research. Although providing somewhat contrasting perspectives on coaching, these studies provide some insight into this aspect of coaching high performance athletes. Future research might consider how the vision can be conceptualised, what distinguishes a useful from less useful vision, how it is and could be developed, and under what circumstances it might be adapted, adjusted, or even abandoned.

Philosophy: Developing the Person

Coaches' reasoning, reflecting, strategising, actions and behaviours are underpinned by their personal resources[1] (Muir, 2018; North, 2017). Among the various concepts that can be drawn upon to explore coaches' resources, one in particular has received more attention than most within the research on coaches working with high performance athletes—that of philosophy (Bennie & O'Connor, 2010; Carless & Douglas, 2011; Dixon et al., 2012; Gomes et al., 2018; Junggren et al., 2018; Lara-Bercial & Mallett, 2016; Mallett & Lara-Bercial, 2016). Through our review of the research for this chapter we noticed commonalities in the way coaches' philosophies were reported. The central features reflected humanistic ideals for coaching (Lombardo,

[1]In the work by North (2017) and Muir (2018) resources are conceptualised as a family term that covers a wide range of causal powers, potentials and liabilities that coaches' draw on to reason, reflect, strategise and carry out actions. In this regard, resources encompass a broad variety of concepts already established in coaching and broader learning literature including among others: abilities, attitudes, behaviours, beliefs, biases, capabilities, characteristics, competencies, dispositions, emotion, frames of mind, habits of mind, knowledge, memory, motives, personal perspectives/theories, personality, philosophy, points of view, skills, understandings, values, volition and will.

1987), specifically, a focus on personal development; care and consideration for athletes; and respect and honesty.

With regards to a focus on personal development, Bennie and O'Connor's (2010) study with coaches and athletes from three professional sports teams in Australia found that coaches sought to develop players both 'on and off the field of play' and not solely focused on sporting performance outcomes. Hodge et al. (2014) found the philosophy of coaches in their study emphasised supporting players to become more self-reliant and resilient. Almost inseparable from a personal development focus, studies showed that coaches' reported care and consideration for the athletes they worked with. For example, Carless and Douglas (2011) explored the philosophy of a professional golf coach finding her philosophy was based on care for the person and focused on 'listening first' to determine what they needed. Professional cricketers in Smith, Young, Figgins, and Arthur's (2017) study reported that their coaches considered the individual through "first, an individual approach to the players' training and development; and second, a more general approach to dealing with the players in an individual way." (p. 8). Coaches and athletes in Lara-Bercial and Mallett's (2016) study also reported that the coaches were genuine and caring in their support of athletes both professionally and personally. They also found that coaches espoused and enacted high moral standards including honesty, loyalty and respect for athletes. Furthermore, even when hard decisions had to be made these coaches indicated that they considered the impact on athletes and, from the athletes' perspective, knowing that coaches focused on their 'best interests' supported them through challenging times. Gomes et al. (2018) found that professional Portuguese coaches reported valuing respect between coaches and athletes and showing respect was a means to build relationships with athletes.

In summary, the research reviewed described coaches' well-developed philosophy as an important foundation for their work with high performance athletes. It described how coaches' values and beliefs, an integral part of their philosophy, guided their reasoning, strategising, actions and behaviours. However, it is important to acknowledge concerns about the way that philosophy has been used within the research as a 'catch all' metaphorical dumping ground that assumes a shared understanding of its properties and application (Cushion & Partington, 2014; Lyle & Cushion, 2017). Concerns have also been raised about the accuracy of coaches' self-reports (i.e., via interviews) and the congruence between coaches' espoused theories for practice and their theories in use (Gomes et al., 2018; Harvey, Cushion, Cope, & Muir, 2013; Muir, 2018). Some studies examined coaches' *and* athletes' perceptions (Mallett & Lara-Bercial, 2016) *and* employed observations (Junggren et al., 2018) to explore, more thoroughly the relationship between intentions and actions. As has been argued elsewhere, more research is needed and researchers should look to employ a conceptual framework, common vocabulary, and multiple perspectives to interrogate coaching philosophies (Lyle & Cushion, 2017).

Quality Relationships: Relationships, Collaboration, and Managing Stakeholders

Researchers recognise that coaching is an interpersonal process that involves at the very least a coach and an athlete (Lyle & Cushion, 2017; North, 2017). It is perhaps not surprising then that increasingly the relationship between the coach and athlete (s) is viewed as a critical feature of coaching (Jowett, 2017; Jowett & Shanmugam, 2016; Lyle & Cushion, 2017; North, 2017), including coaching high performance athletes (Gould & Maynard, 2009; Mallett & Lara-Bercial, 2016; Ritchie & Allen, 2015). Our review of the research in this domain suggested that: (1) coaches and athletes believe the formation of trusting, stable and enduring working relationships built on mutual respect and support provides a foundation from which performance success was achieved; (2) some coaches and athletes reported the importance of developing collaborative ways of working and; (3) coaches reported that they recognised and deliberately fostered relationships with and amongst the support team and other key stakeholders (Bennie & O'Connor, 2010; Din et al., 2015; Dixon et al., 2012; Fletcher & Streeter, 2016; Gomes et al., 2018; Hodge et al., 2014; Junggren et al., 2018; Lara-Bercial & Mallett, 2016; Mallett & Lara-Bercial, 2016; Ritchie & Allen, 2015; Smith et al., 2017).

Largely without exception, researchers examining coaching high performance athletes identified the salience, even foundational nature, of coach-athlete relationships. For example, Lara-Bercial and Mallett (2016) found that coaches and athletes believed that quality coach-athlete relationships were fundamental to athletes' success, in part, because this contributed to a psychosocial environment that allowed athletes to "concentrate on the task at hand and to train and perform to the best of their ability" (p. 235). Coaches and athletes in Din et al.'s (2015) study indicated that open and honest communication, even when this involved difficult conversations, was a critical foundation for the relationship. Similarly, cricketers in Smith et al.'s (2017) study reported that coaches were honest in their communication which lead players to respect the coach.

In several studies researchers found explicit collaboration between coaches and athletes (Din et al., 2015; Fletcher & Streeter, 2016; Hodge et al., 2014; Junggren et al., 2018; Lara-Bercial & Mallett, 2016). Rather than coaches leading and athletes following, coaches were working *with* high performance athletes, actively engaging them in the process. An example of this collaboration was the Dual Management approach Hodge et al. found, where a group of players and coaches would regularly meet, sharing decision making and leadership. Similarly, Fletcher and Streeter and Junggren et al. also found shared leadership and responsibility were part of the ethos of the high performance swimming clubs in their studies. Junggren et al. found that this collaboration went even further. The coach and athlete were considered an inseparable unit from which "their relationship, interaction, and knowledge-sharing produce 'emergent effects' related to the development and performance of both athletes and coaches. . . [Suggesting that] the coach and the athlete need one another to develop, grow and succeed" (p. 1117). In contrast, Purdy and Jones (2011) found

that the rowers in their study expressed dissatisfaction with the coaches' use of negative tone and inability to explain the relevance of the training. Rather than coaches working to deliberately foster the rowers' ownership, instead the rowers 'took' ownership of their development and relied less on the coaches. Furthermore, Mills and Denison (2013) suggested that although the endurance coaches in their study were "well meaning, clever, thoughtful, reflective and ultimately considerate coaches" (p. 143), these coaches also believed that their control over the detail and structure of athletes' training was critical for athletes to succeed.

High performance contexts invariably include a range of personnel forming the support team such as assistant and specialist coaches, sport scientists, manager, medical staff and performance director as well as other key stakeholders including media, agents, and athletes' families. Another key finding from our review was that managing the team that supports the athletes was considered by coaches and athletes as crucial to ensuring conditions were favourable for athletes to thrive (Din et al., 2015; Fletcher & Streeter, 2016; Gomes et al., 2018; Hodge et al., 2014; Lara-Bercial & Mallett, 2016; Ritchie & Allen, 2015; Waters, Phillips, Panchuk, & Dawson, 2019). Features that coaches and athletes in this research considered important for effective management included: (1) building and managing relationships with each member and stakeholder; (2) establishing roles and systems; (3) encouraging support personnel to take responsibility for their contribution to the vision; (4) clear, open communication and cooperation among personnel; (5) encouraging debate and discussion; (6) monitoring and reconciling differing opinions; (7) coaches 'managing up', recognising the political landscape and influencing superiors; (8) adapting to circumstances and the needs of wider contexts; and (9) in some cases, head coaches taking a more strategic approach, adopting a management rather than hands-on-coaching role. For example, Din et al. found that coaches' directive leadership behaviour provided clear and concise communication with athletes, sport scientists, and staff with the intention of ensuring everyone knew their distinct role and was accountable for their contribution to preparation. They also found that coaches were decisive 'conductors', managing and leading the group of athletes, sport scientists and support staff to become a unified team and 'bring the best out of everyone'. This meant making final, often tough, decisions when necessary and keeping specialists on task and aligned to the vision and plan. In one of the few studies that has included the sport scientists' perspective, Waters, et al. found that quality relationships between athletics sprint coaches and biomechanists were critical to their work. Participants reported that where these relationships were considered dysfunctional, a key feature was a lack role clarity. In addition, Hodge et al. found that the coaches also focused on how players connected with people around them, such as teammates, family, and fans. They believed that good connections and performances came from behaving respectfully, being self-aware and self-reliant.

In summary, the research supports the view that coaching in the high performance domain is highly relational (Mallett & Lara-Bercial, 2016) and coaches and athletes consider building and maintaining quality relationships as fundamental for their success. In addition, the relational nature of coaching extends beyond the

coach-athlete relationship to include collaborations with and among athletes and management of support teams and stakeholders. Much of the research reviewed in this chapter describes relationships and their characteristics in broad terms and as such the conceptual understanding of relationships in this coaching domain is largely under developed. An exception is researchers' examinations of power, where, drawing from different theorists, they have identified the complex, social, relational, oppressive and productive nature of power in coaching (e.g., Mills & Denison, 2013; Purdy & Jones, 2011).

In addition to the conceptualisations of power, the work of Jowett and colleagues (see Jowett, 2017; Jowett & Shanmugam, 2016) including examinations of conflict (e.g., Wachsmuth, Jowett, & Harwood, 2018a) provides researchers with another conceptualisation of the coach-athlete relationship. It is important to note, however, that while many of the participant samples in research utilising Jowett's model, to date, have included performance, and to a lesser extent high performance, athletes (e.g., Felton & Jowett, 2013, 2015; Hampson & Jowett, 2014), very few have explicitly focused on this group (e.g., Jowett & Cockerill, 2003). Therefore, conclusions from this research for this domain should be considered with some caution. Other concepts that may also prove useful to further our understanding of quality relationships in this coaching domain include benevolence (Martela & Ryan, 2016) (e.g., Lara-Bercial & Mallett, 2016) and relatedness within self-determination theory (Ryan & Deci, 2000). The recent application of the concept of care to sport coaching (Cronin & Armour, 2019), in particular, within Collegiate sport (see Fisher, Larsen, Bejar, & Shigeno, 2019 for a review) and recently in high performance sport (Dohsten, Barker-Ruchti, & Lindgren, 2020) provides another framework from which to examine relationships in this domain. Researchers should look to employ clear conceptual frameworks enabling connections to be made across research findings and advance our understanding the nature of quality relationships in this domain.

High Performing Culture: High Expectations, Accountability, and Drive for Improvement

A consistent finding in the research examining coaching high performance athletes was the facilitation of a 'culture of high performance or excellence' which was viewed as a central driver for athletes' performance and crucial to sustained athletic success (Cruickshank & Collins, 2012; Cruickshank et al., 2013; Din et al., 2015; Fletcher & Arnold, 2011; Fletcher & Streeter, 2016; Hodge et al., 2014; Lara-Bercial & Mallett, 2016). This research suggests that coaches were viewed as the cultural leaders who sought to develop and sustain the *high performing* culture, however, other key stakeholders such as Performance Directors may also be important cultural leaders. Based on their study of a professional English Rugby Football Club, Cruickshank et al. (2013) suggested the culture was deliberately engineered but

was achieved subtly rather than being imposed by 'cultural leaders'. This involved "the careful facilitation of stakeholders' actions and beliefs. . . [that focused on] the consistent uptake of performance-optimising behaviour" (p. 287). The research reviewed also suggested that leadership was shared among coaches and athletes, however, this is not always the case (e.g., Barker-Ruchti et al., 2014; Mills & Denison, 2013).

Three common features of the high performing culture were identified: (1) clear expectations; (2) personal accountability and; (2) a drive for continual improvement. Researchers described coaches who conveyed expectations for how athletes' should approach and engage in training and competition as well as how they should behave away from these environments (Cruickshank et al., 2013; Din et al., 2015; Gomes et al., 2018; Hodge et al., 2014; Lyons et al., 2012; Nash et al., 2011). For example, Smith et al. (2017) found that cricketers reported their coaches conveyed performance expectations that included continued improvement, effort in training and exemplary behaviour in non-performance areas. In addition, Lyons et al.'s (2012) ethnographic study of an Olympic Ski Cross coach's work with three athletes found that athletes acknowledged expectations from external stakeholders, however, as these expectations aligned with the athletes' goals and the athletes' considered their own goals were more significant, they were able to some extent, dismiss external expectations. Purdy and Jones (2011) found that rowers also had expectations for how their coaches should work with them. They found that a lack of congruence between the athletes' expectations for the coaches and the coaches' actions was a source of frustration and tension that impacted on their training.

Our review also found that coaches sought to develop athletes' personal responsibility and accountability (Fletcher & Streeter, 2016; Hodge et al., 2014; Lyons et al., 2012; Nash et al., 2011) as well as challenging athletes whose actions were not consistent with expectations (Din et al., 2015; Gomes et al., 2018). An important feature appeared to be accountability that was individualised for the athletes' needs (Hodge et al., 2014; Junggren et al., 2018; Lara-Bercial & Mallett, 2016) and supported through close monitoring of athletes' performances which allowed athletes to track their progress (Lara-Bercial & Mallett, 2016). Furthermore, Junggren et al. found that similar to other high performance athletes, swimmers had individual development plans, however, these swimmers were also encouraged to take responsibility for their training and apply what 'felt right to them'. This was supported by collaboration with the coaches who sought to assist swimmers to "filter and combine different pieces of knowledge that fit into the swimmer's individual perspective" (p. 1114).

Another consistent finding was coaches' and athletes' reports that a drive for continual improvement in performance was a central feature of the culture (Cruickshank et al., 2013; Din et al., 2015; Dixon et al., 2012; Fletcher & Streeter, 2016; Gomes et al., 2018; Hodge et al., 2014; Junggren et al., 2018; Lara-Bercial & Mallett, 2016; Mallett & Coulter, 2016). Hodge et al. found that coaches focused on improving players' strengths and encouraging an attitude to training of trying to be the best they could be. The coaches in Junggren et al.'s study encouraged swimmers to 'test even minor details' of their training and performance. Din et al described a

"devotion to analysis and an unending search for the details that would make the difference between a good performance and a podium performance" (p. 599). Furthermore, the successful Olympic coach in Mallett and Coulter's case study described striving for improvement as a coach, seeing his own development as a means to assist the improvement of the athletes he coached. Lara-Bercial and Mallett found that although the coaches in their study possessed self-belief in their coaching attributed to their previous achievements and work ethic, they also had a 'healthy' self-doubt in their ability to be successful again which led them to continue to pursue avenues to be successful in the future. Junggren et al. found that the coaches viewed knowledge-sharing as a central value of the swimming club's culture where swimmers' and coaches' both had the 'right to contribute' and open-mindedness and learning from everybody were valued and evident in practice. This even went as far as embracing disagreements and differences of opinion as a positive contribution to development. However, although there may have been disagreements with the detail there was agreement with the underlying purpose—the process of continuing to improve.

In summary, in the research reviewed, coaches and athletes reported that a high performing culture was crucial to sustained performance improvement and success and provided some indication of more general characteristics of this culture, specifically clear expectations, accountability, and drive for continual improvement. There was frequent use of terms which have become commonplace in popular science and everyday sport (e.g., culture, high expectations, cultural leader, being the best they can be, leaving no stone unturned). Consequently, the results from such studies and their subsequent interpretations should not be taken as unproblematic prescriptions for 'effective' coaching practice (Potrac, Jones, & Cushion, 2007). For example, researchers might consider the potential impact continual striving has on coaches' (and athletes) well-being. Furthermore, much has already been written about the need to critically consider prevailing ideologies, power dynamics, subcultures, traditions, hidden curriculums and micro-politics in sport coaching cultures (cf. Jones, Potrac, Cushion, & Ronglan, 2011).

The concept of culture is a useful example. If defined at all, a broad view of culture was provided where culture is an understanding, that is shared by everyone in the organisation or group, in relation to the behaviours and ways of working required for consistent competitive results (Hodge et al., 2014; Junggren et al., 2018; Lara-Bercial & Mallett, 2016). In contrast, Fletcher and Streeter (2016) were one of the few to conceptualise culture, drawing on notions of organisational culture from Jones, Gittins, and Hardy's (2009) high performance environment model. Within this model culture relates to the extent to which organisations balance a focus on competing agendas: achievement, well-being, innovation, and internal processes. Junggren et al. (2018) adopted a different approach to culture, using Schein's (2010) conceptualisation of organisational culture and its three layers: cultural artefacts, espoused beliefs and values, and basic assumptions, to examine coaching practices in a Danish swimming club. Both approaches may provide useful starting points from which to clarify and interrogate the concept of culture. To develop further our understanding of culture within this domain, there is a need for future research to

more critically engage with the concept, to more clearly define its meaning and explore how it shapes coaches', athletes' and other key stakeholders' resources, reasoning, reflecting, strategies, actions and behaviours (Muir, 2018).

Coaching Strategies: An Optimally Challenging and yet Supportive Learning-Focused Environment

When reviewing the research for this chapter, it became clear that the strategies coaches employ with the aim of maximising athletes' preparation and performance are diverse and numerous. Some examples include: forms of practice (playing versus training forms) (Hall et al., 2016); use of planned disruptions (Kegelaers, Wylleman, & Oudejans, 2020); optimising team functioning (Collins & Durand-Bush, 2016); conflict management (Wachsmuth, Jowett, & Harwood, 2018b); use of humour (Ronglan & Aggerholm, 2014); facilitating athletes' autonomous decision making (Richards et al., 2012), reflection on action (Hansen & Andersen, 2014) and self-regulation (Collins & Durand-Bush, 2014); video-based feedback (Magill, Nelson, Jones, & Potrac, 2017); and in-competition roles (Mouchet & Duffy, 2020; Ritchie & Allen, 2015). Due to space limitations in this chapter, we have focused on one sub-category of coaching strategies that has received significant attention from researchers—the psychosocial environment of training and competition and the actions of coaches that shape it.

Researchers examining the coach-created psychosocial environment (i.e., motivational climate) in high performance sport found: (1) continued demonstration that the coach plays a central role in shaping the psycho-social environment (Hodge et al., 2014; Keegan, Harwood, et al., 2014; Keegan, Spray, Harwood, & Lavallee, 2014; Lara-Bercial & Mallett, 2016; Lyons et al., 2012); (2) features of the climate that were task-involving[2] and autonomy supportive[3] were more prominent than features that were ego-involving and controlling (Abrahamsen & Kristiansen, 2015; Abrahamsen & Pensgaard, 2012; De Backer, Boen, De Cuyper, Høigaard, & Vande Broek, 2015–study 2; Hodge et al., 2014; Keegan, Harwood, et al., 2014; Kristiansen, Ivarsson, Solstad, & Roberts, 2019; Lara-Bercial & Mallett, 2016; Lyons et al., 2012; Nash et al., 2011; van Puyenbroeck et al., 2017); 3) perceptions of an ego-involving climate were frequently moderate (Abrahamsen & Kristiansen, 2015; Kristiansen et al., 2019; van Puyenbroeck et al., 2017); 4) task-involving or autonomy supportive climates were preferred by athletes and associated with

[2]Achievement goal theory (Ames, 1992; Nicholls, 1984) distinguishes between task-involving (i.e., emphasis on individual's self-referenced ability, learning and effort) and ego-involving (i.e., emphasis on normative ability and outperforming others) climates.

[3]Self-determination theory (Ryan & Deci, 2000) distinguishes between autonomy supportive behaviours (i.e., acknowledge athletes' agency and perspectives and facilitates athletes' active engagement in their development) and controlling behaviours (i.e., coaches seek to control participants through physical or psychological means).

'desirable' outcomes such as self-determined motivation and actual performance (Gillet et al., 2010; Keegan, Harwood, et al., 2014; Lyons et al., 2012), stronger team identification and task and social cohesion (De Backer et al., 2015—study 2), lower perceptions of the coach as a stressor (Kristiansen et al., 2019), athletes' proactive behaviour (taking charge, voicing opinions, upward influence) (van Puyenbroeck et al., 2017); and athletes' learning and adaptation, personal growth, well-being, and enjoyment (Lyons et al., 2012); (5) strategies and actions which shaped the climate's task-involving and autonomy supportive nature included: facilitating individualised learning; challenging athletes to solve problems; employing 'healthy' competition focused on stretching individual's performance capability; closely monitoring athletes to allow individuals to track their progress; coaches were demanding of effort and attention to tasks and yet supportive recognising individuals' needs and circumstances; coaches' behaviours had a degree of stability and dependability which supported athletes; and the training environment felt relaxed and yet focused on the task at hand (Din et al., 2015; Fletcher & Streeter, 2016; Hodge et al., 2014; Lara-Bercial & Mallett, 2016; Nash et al., 2011).

Several studies also identified the dynamic nature of the psychosocial environment. More specifically, that ego-involving features maybe more prominent at different times or to different athletes (Abrahamsen & Kristiansen, 2015; Abrahamsen & Pensgaard, 2012; Keegan, Harwood, et al., 2014; Kristiansen et al., 2019) and that coaches' strategies varied depending on the athletes and circumstances (Dixon et al., 2012; Lara-Bercial & Mallett, 2016; Lyons et al., 2012). For example, Abrahamsen and Pensgaard found that athletes' perceptions of the climate changed over the season becoming less task-involved and more ego-involved later in the season. Somewhat in contrast, Keegan, Harwood et al. found that athletes' reported that prior to competition, coaches promoted a mastery focus and could be positive and pressure avoiding. In addition, Abrahamsen and Kristiansen found that even within a highly task-involving climate athletes may still experience stress at certain times due to greater salience of ego-involving aspects of the climate such as pre-season where athletes are focused on team selection. Similarly, Kristiansen et al. suggested that athletes' status in the team may result in them experiencing the climate differently. Specifically, injured or marginal players (i.e., those fighting for or less secure in their place on the team) appeared more sensitive to the ego-involving cues within the environment. With regards to autonomy support and control, Lyons et al. noted that the coach 'shifted along the continuum' between autonomy supportive and controlling coaching behaviours. Furthermore, whilst coaches in Lara-Bercial and Mallett's study reported they preferred a more collaborative (task-involving and autonomy supportive) way of working with athletes, they also recognised that they moved to more directive practices when appropriate to the context, situation, individuals and time-constraints.

Although not based on conceptualisations of task/ego-involvement (Ames, 1992; Nicholls, 1984) or autonomy support/control (Ryan & Deci, 2000), other research examining coaches' interpersonal strategies also suggested that coaches employ a range of strategies dependent on the athlete and context. For example, Consterdine et al. (2013) found that the Olympic athletics coach in their study paid deliberate

attention to his language, pitch and intonation, body language, which he tailored to each athlete with the intention of general positive communication and encouraging athletes to take personal responsibility for their actions. Furthermore, the researchers reported that the coach also challenged athletes and was both calculating and caring in how he worked with athletes in order to move athletes closer to the desired outcomes. Similarly, in their examination of Norwegian cross-country skiing coaches' actions to stimulate athletes' reflection, Hansen and Andersen (2014) found that coaches tended to individualise their actions and use democratic interaction behaviours to stimulate athletes to consider key features of their training. However, the researchers also found that this shifted from providing the solutions when athletes were struggling to challenging athletes' reflection further when the athletes were performing well. Somewhat in contrast to these findings, several studies (e.g., Din et al., 2015; Mills & Denison, 2013; Purdy & Jones, 2011) have found that coaches employed more controlling ways of working with athletes. For example, the coaches in Mills and Denison's study felt they should be in control of training plans and that they knew more than the athletes. Mills and Dension problematised these practices, questioning how this prepares athletes to make decisions in the chaos of competition. Furthermore, Cruickshank and Collins (2015) examined the 'dark side' of leaders' behaviours in their study with professional coaches and Olympic sport programme directors. They found that all participants reported using Machiavellian behaviours (i.e., cunning, manipulative, deceitful) to shape relationships and further the team's interest and performance. However, the researchers noted that the behaviours were employed deliberately to lead to specific outcomes and often involved shaping the conditions so that use of undesirable behaviours was viewed by others as less undesirable or even acceptable.

In summary these studies suggest a psychosocial environment that emphasises task-involvement and support for athletes' autonomy providing an optimal balance between challenge and support. That is, training that challenges athletes and yet remains supportive with a certain amount of stability to enable athletes to thrive**.** Although not exclusively, conceptualisations of the psychosocial environment have been based on achievement goal theory (AGT) (Ames, 1992; Nicholls, 1984) or self-determination theory (SDT) (Ryan & Deci, 2000). In comparison to research in other domains (e.g., children or adolescents), much less is known about the coaching strategies and resulting motivational climate in this coaching domain, therefore, further research is needed (Harwood, Keegan, Smith, & Raine, 2015; Keegan, Spray, et al., 2014; Occhino, Mallett, Rynne, & Carlisle, 2014). In addition, transformational leadership behaviours (Bass, 1985) were recently examined in studies with professional cricketers (Smith et al., 2017) and football managers (Mills & Boardley, 2016). From a conceptual and theoretical perspective, it is important to note that transformational leadership (and the contrasting transactional leadership) is not a theory and researchers may find it useful to consider the extent to which the interpersonal strategies might be incorporated within or extend existing theories such as AGT and SDT. Furthermore, each of these conceptualisations tends to pit one set of interpersonal strategies against another (e.g., task-involving versus ego-involving), leading to suggestions that one represents 'good' coaching and the

other 'poor' coaching. This polarisation of strategies does not recognise the dynamic nature of coaching or, as some of the research in this chapter demonstrates, that coaches appear to knowingly employ a range of interpersonal strategies to meet the needs of athletes varying in accordance with circumstances.

Implications for Coaching

At the beginning of the chapter we mentioned that we did not want to lose sight of the diversity among athletes, contexts, and coaches, nor did we want to trivialise or ignore the complex, behavioural, cognitive and social nature of coaching. And yet, through our review of the research we were able to identify a number of common themes about the process and practices of coaching high performance athletes. Rather than suggest that all coaching in high performance sport should confirm to these themes, instead we offer an integrative perspective on coaching high performance athletes. This conceptual framework acknowledges the relative (it depends) nature of coaching whilst also providing structure to make sense of the 'reality' of coaching high performance athletes and locate the findings of research more broadly.

The conceptual framework (see Fig. 9.1) draws on earlier work of Abraham, Muir and colleagues[4] who suggested that '*high performing*' coaches are constantly seeking to maximize their effectiveness through challenging *personal* 'theories of practice' (i.e. ideas) through reference to *formal* 'theories of practice' (i.e. understanding). As has been described earlier, the desire to continually improve through an openness to on-going learning, and willingness to critically reflect overtime enables the '*high performing*' coach to: (a) present a personal, reasoned explanation for their strategies and goals; (b) explain and provide reasons for actions taken to meet their goals; and (c) evaluate the personal and collective effectiveness of their strategies (Thompson, 2000).

The central premise underpinning the framework is that '*high performing*' coaches' reasoning, reflecting, strategising, actions and behaviours (i.e. their practice) are based on their existing beliefs, values, knowledge and perspectives (i.e. self) about the needs and wants of their athletes (the 'who'), the demands of their sport (the 'what') and of skill acquisition and learning (the 'how') within their embedded context (i.e., the context, culture and politics within which they operate). Thus, Abraham, Muir and colleagues suggested '*high performing*' coaching practice rests on the coach's ability to draw on knowledge from several overlapping domains to develop optimal learning environments for athletes. It involves a continuous process of decision-making about when and how to intervene in order to maintain momentum and progression towards the achievement of specified goals.

[4]cf. Abraham et al. (2010), Abraham & Collins (2011), Muir, Morgan, Abraham, and Morley, (2011), Muir, Till, Abraham, and Morgan (2015).

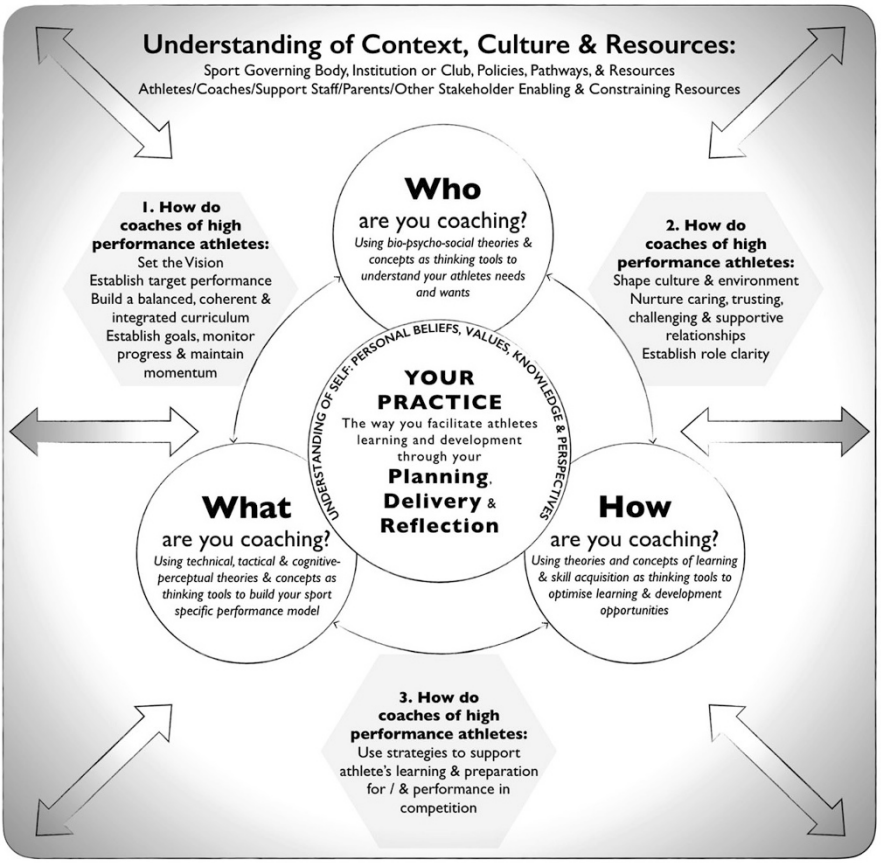

Fig. 9.1 A conceptual framework to explore coaches' resources, reasoning, strategies actions and behaviours (adapted from Muir, 2018)

Muir (2018) used the framework as a 'thinking tool' to explore the resources, reasoning, actions and behaviours of forty coaches that work with Olympic and national age group athletes across ten sports over an 8-year period.[5] The study illustrated 'how' coach learning and development can be more meaningfully embedded in coaches' everyday practice contexts. By starting with coaches lived experiences, learning situations were developed to stimulate reflection on existing practices and provoke coaches to consider their underpinning reasoning and resources.

[5]The framework has also been embedded within the European Sports Coaching Framework (Lara-Bercial et al., 2017), the International Council for Coaching Excellence standards for higher education sports coaching degrees (Lara-Bercial et al., 2016), and the Chartered Institute for the Management of Sport and Physical Activity (CIMSPA), Professional Standard 'Coaching in High-Performance Sport', and has been adopted by several national governing bodies of sport (e.g., the Football Association, British Triathlon, England Boxing, the British Sailing Team).

Concepts, theories and frameworks were then drawn upon in a more contextual and applied fashion to support the needs of individual coaches and the demands of their coaching role and context. This process necessitated a close cooperation and collaboration between the coach developer and coach. The implication being that learning, and development is not something that can be 'done' to coaches; rather, it is about working alongside coaches to identify and resolve meaningful questions that generate personal and professional growth. Such an approach can more appropriately acknowledge and build on individual's existing resources and those of their embedded context.

Working through this process supported coaches to:

- Explore the relationship between their intentions (goals) and actions (behaviours)
- Explore the reasoning and strategies that underpinned their actions and behaviours
- Explore how their existing beliefs, values, knowledge and perspectives (resources) shaped and influenced their reasoning, reflecting and strategising (Muir, 2018).

Much of the work centred on how coaches used their knowledge and understanding of their athletes, the sport, and learning to:

1. Set the vision, establish what is required to win (target performance), build a curriculum that creates a balanced, coherent, focused and integrated set of experiences that support high performance athletes to maintain momentum and progression towards their desired goals.
2. Shape the culture and environment by nurturing caring, trusting, challenging and supportive relationships with athletes and other key stakeholders to maintain quality relationships and role clarity.
3. Support athletes' learning and development across varying locations (i.e. on or off the training 'pitch'[6]) and events (e.g. training, competing, review meetings, planning discussions, pre-training or competition briefings and post-training or competition debriefs etc.).

It is here where we can see the process and practices of coaches' work with high performance athletes, that we have identified in this chapter.

[6]The expression 'on the pitch' is used to represent the various locations within which athletes train and compete (e.g. pool, court, sea, mat, ring and track etc.), whilst 'off the pitch' is intended to represent all other locations and spaces within which coaches and athletes interact (e.g. meeting rooms, via the telephone, e-mail or other forms of text messaging, travelling to and from venues, in and around the institutional facilities or other public spaces—cafés etc.).

Key Points

Reflecting on the research examining this coaching domain, we suggest that there is much more to explore, understand and explain about coaching high performance athletes. Although reflective of the findings contained in the research reviewed, the themes presented above provide a relatively limited account of coaching high performance athletes imbued with broad ranging principles, metaphors and philosophical maxims. Further research that seeks to undercover what these means in practice is needed. Throughout the chapter we have offered directions for future research. Next we offer four more general reflections and suggestions for researchers:

1. Limited conceptualisation of coaching high performance athletes

   Greater conceptualisation of aspects of coaching under investigation and clarity and consistency in the use of 'high performance' when describing athletes, coaches, and contexts. Much of the research reviewed for this chapter explored aspects of coaching that are relatively under developed conceptually (e.g., vision, philosophy, culture). To further our understanding of coaching high performance athletes, researchers should employ clear conceptual frameworks to interrogate aspects of coaching. Furthermore, the use of terms such as 'elite' and 'high performance' without any additional explanation of context or participants can lead to confusion with regards to the extent to which coaching high performance athletes is truly the focus of the research and therefore limits insights that might be gained. To reduce such confusion, providing a clear description and even criteria for selection of the population participating in the study is critical. In addition, research has often focused on those deemed 'successful' and regularly emphasises winning. Researchers are encouraged to consider whether employing other or multiple criteria in participant selection (e.g., stakeholder perceptions) could provide additional insight into this coaching domain.
2. The 'rosy picture' of coaching high performance athletes

   Greater consideration of the challenges and 'dark sides' of coaching high performance athletes. Although not exclusively, the research reviewed in this chapter paints a relatively 'rosy picture' of high performance sport and this coaching domain. However, coaching is frequently messy, imbued with challenges and setbacks and even potentially negative and damaging practices, however, relatively few are discussed or examined in the research (for exceptions see Cruickshank & Collins, 2015; Purdy & Jones, 2011; Santos et al., 2013; Stirling & Kerr, 2013). Research that continues to explore coaches' and athletes' experiences (the desirable and less desirable) and how they negotiate challenges will provide valuable insight to enhance our understanding and explanations of coaching as well as giving a realistic view of coaching that coaches can relate to.
3. Coaching strategies as continuums and tools

   Greater in-depth examination of coaching strategies as dynamic and varied dependent on athletes, context, coach, and circumstances. Perhaps constrained, to some extent, by conceptualisations such as the motivational climate and

coaching or leadership styles there has been a tendency to present one strategy as superior to another (e.g., task-involving vs. ego-involving; autonomy supportive vs. controlling; playing form activity vs. training form activity; questioning vs. instruction; transformational vs. transactional). However, some of the research reviewed in this chapter challenges these dichotomies, instead suggesting that coaches use a range of strategies when working with high performance athletes. Many of the concepts were not conceptualised as dichotomous and they frequently occur to a lesser or greater extent together. Therefore, although coaches may tend towards and prefer certain strategies over others, we suggest a more accurate representation of how coaches work with athletes is needed, where there is greater recognition of the coaching strategies as continuums which coaches shift along or even as discrete tools employed dependent on the context, situation, individuals and time available.

4. Micro-level analysis of coaching strategies, actions and behaviours

   Greater in-depth and longitudinal examinations of the micro-level practices coaches employ. Much of the research reviewed in this chapter focused on what might be described as meso-level analyses of coaching high performance athletes. Greater in-depth investigations have potential to add to our understanding of the dynamic nature of this coaching domain (e.g., Consterdine et al., 2013; Hall et al., 2016; Purdy & Jones, 2011). For example, Hall et al.'s study of a national rugby team across a season found that the use of playing form versus training form activities varied across training days and the season. They also found that coaching behaviours varied with the different activity forms and between training and competition. Further, research that examines coaches' strategies, actions and behaviours in-depth and over time is needed to develop our understanding of which strategies are used, when, in what circumstances, with whom and why.

Conclusion

In this chapter we sought to provide an overview of the research examining coaching high performance athletes. Recognising the diversity within this coaching domain (i.e., athletes, contexts, and coaches) and in approaches adopted by researchers we attempted to look across disciplinary boundaries to develop themes that represent commonalities in the process and practices within this coaching domain. These themes captured: a clear informed vision for what is possible and detailed plan for implementation; a bringing to life of the coach's philosophy based on values relating to care and consideration for athletes' personal and performance enhancement; facilitated by building and maintaining quality relationships with athletes and among key stakeholders; developing a high performing culture with clear expectations about how things should be done and a desire for improvement; and use of coaching strategies with a prominence of task-involving and autonomy supportive strategies that support athletes' performance progression within challenging sessions which prepare athletes for the demands of competition. In offering an integrative

framework we sought to suggest how these commonalities are integrated in the process and practices of coaching. And also, to recognise the relational (it depends) nature of coaching. In doing so, we hope to provide a sense of structure within which coaches and researcher might employ disciplinary-based theory and concepts to understand, reflect, and examine further, the improvisation and realities inherent in day-to-day coaching of, with and for high performance athletes.

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